PROXIMAL ANTECEDENTS OF EFFECTIVE SCHOOL LEADERSHIP PRACTICES

by

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A dissertation submitted in partial fulfillment
of the requirements for the degree

of

Doctor of Philosophy

in

Educational Leadership

MONTANA STATE UNIVERSITY
Bozeman, Montana

December 2022

ACKNOWLEDGEMENTS

At the end of this long journey, I appreciate the opportunity to acknowledge some of the many people who have made this possible. First and foremost, I would like to thank my partner, Christi Roberts, for her ongoing support and thought partnership. Secondly, I would like to thank my committee and especially my chair, Dr. Bill Ruff. Without their encouragement, critical feedback, and ongoing support, this would not have been possible. I would also like to acknowledge the support of my three children: Alex, Emily, and Ryan. While they may never call me Dr. Ransom, I hope they truly believe that anything is possible.

I would also like to thank the study participants who volunteered their time and expertise. Not only were they essential for this study, but they play an essential role in our educational system, and I am grateful for both. The importance of high-quality school principals cannot be understated. I am grateful for all those who dedicate themselves to the education of our future generations.

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ABSTRACT

School principals have a significant impact on student achievement. While much is known about what effective principals do, relatively less is known about the antecedents of those practices. Specifically, a leader's cognitive abilities have been identified as a gap in the research, as well as holding promise as an antecedent that could lead to improving principal practices.

The purpose of this study was to examine the relationship between a leader's cognitive skills, framed as Cognitive Personal Leadership Resources (CPLRs) by Leithwood (2012), and principal practices. CPLRs are divided into three categories: problem-solving, knowledge of effective school and classroom conditions, and systems-thinking. Utilizing a Social Cognitive Theoretical (SCT) framework, the influence of perceptions of contextual affordances and demands and leaders' self-efficacy were also considered.

Findings from this study indicate the critical importance of CPLRs, especially problem-solving, to the enactment of principal practices. Study participants spent most of their time deciding which actions to take, both proactively and reactively, in solving problems. Ultimately, the interaction of all three CPLRs (problem-solving, knowledge of effective school and classroom conditions, and systems-thinking) with perceptions of contextual affordances and demands, and self-efficacy lead to a theory of action that guided their actions. Conflicting priorities made the decision-making processes more difficult. Additionally, there were several other skills that study participants highlighted as being important related to the implementation of leadership practices.

CHAPTER ONE

INTRODUCTION

What school principals do can make a significant impact on student success. While much is known regarding which principal practices make a difference, less is known about the antecedent factors leading to those practices. Emerging frameworks outside the field of educational leadership describe the interaction between distal antecedents (i.e., past experience, personality, general mental ability), proximal antecedents (i.e., problem-solving ability, social skills), and the context in which leadership takes place. However, a number of researchers (Leithwood & Steinback, 1995; Robinson, 2010; Sun, Chen, & Zhang, 2017) have noted both the need and opportunity to better understand proximal antecedents because they are more malleable and have been researched much less than distal antecedents.

When considering behavioral change, Social Cognitive Theory (SCT) posits a bidirectional influence between behavioral antecedents and behaviors themselves. SCT conceptualizes those factors into three categories: personal factors, context, and behavior. The concept of self-efficacy plays a central role in this interaction. Using an SCT framework, the purpose of this study was to examine the relationship between the proximal antecedents of cognition, self-efficacy, and context, with effective principal practices. Improved understanding of the relationship between these antecedents and principal behavior has the potential to uncover additional methods for improving principal practice.

Background

The 1966 Coleman Report (Coleman et al., 1966) instigated a dramatically increased focus on improving public education in the United States, and has been credited with igniting the debate on whether schools can actually change student outcomes when faced with varied student backgrounds and out-of-school factors (Ladson-Billings, 2006; Wong & Nicotera, 2004). Since then, research has shown that schools can impact student success, regardless of out-of-school factors (Bembry et al., 1998; Hattie, 2015; Hoy, 2012). An increasingly large body of research has shown that, among within-school factors, the school principal may be the second most important, behind only the classroom teacher (Hallinger & Heck, 1998; Heck & Hallinger, 2014; Leithwood & Louis, 2012; Leithwood, Harris, & Hopkins, 2019).

These findings have led to an increased focus on the school principal within state and national policies and accountability systems (Hitt & Tucker, 2016; Leithwood, 2010; Seashore-Louis et al., 2010). In turn, this increased focus from accountability systems has contributed to an acceleration in research to identify what school leaders do that impacts student achievement (Murphy, Vriesenga, & Storey, 2007; Wang, Bowers, & Fikis, 2017). This body of research has identified a number of leadership behaviors that have been found to impact student achievement (Day et al., 2011; Leithwood & Seashore-Louis, 2012; Liu & Hallinger, 2018; Sun & Leithwood, 2015; Sun & Leithwood, 2017; Leithwood, Sun, & Schumacker, 2017). However, this increased political and research focus has not led to significant changes in principal practice (Goldring et al., 2015; Murphy et al., 2016; Spillane & Hunt, 2010; Sebastian et al., 2017).

Research examining the causes for this lack of change has identified a number of possible factors: lack of time for principals to implement effective practices (Hallinger & Murphy, 2012;

Grisson, Loeb, & Mitani, 2013; Goldring et al., 2015; Murphy & Johnson, 2016); lack of understanding of the practices themselves (Goldring et al., 2015; Hallinger & Murphy, 2012; Leithwood, Harris, & Hopkins, 2008; Stein & Nelson, 2003); lack of prerequisite knowledge and skills (Goldring et al., 2015; Spillane & Louis, 2002; Stein & Nelson, 2003); and contextual factors like school improvement status (Hallinger, 2018; Leithwood, Harris, & Hopkins, 2019); district support (Leithwood & Jantzi, 2008; Seashore-Louis et al., 2010); and deep-seated norms around what principals should do (Goldring et al., 2015; Murphy et al., 2016). However, comprehensive research examining these and other antecedents of educational leadership practice has been limited (Leithwood & Jantzi, 2005; Sun, Chen, & Zhang, 2017).

Grissom and Loeb (2011) contend that the focus on leadership behaviors or principal practices, and specifically the debate between Instructional Leadership (IL) and Transformational Leadership (TL), has limited research into the other antecedents that impact school leadership. Leithwood and Steinbach (1995) argue that such behavior-based theories are of limited practical value because "the reductionism they entail so poorly reflects the complexity of administrators' real worlds" (p. 8). Robinson (2010) added, "knowledge of effective leadership practices is not the same thing as knowledge of the capacities required for enactment" (p. 2).

While research into the antecedents of leadership behavior has been ongoing in the broader leadership field for decades (Zaccaro, LaPort, & Jose, 2013), a comprehensive framework of how various antecedents interact to influence leader behavior and organizational outcomes is still being developed (Antonakis, Day, & Schyns, 2012; Tuncdogan et al., 2017; Zaccaro et al., 2018). These emerging frameworks are organized around the concept of distal and

proximal antecedents (Tuncdogan et al., 2017; Zaccaro et al., 2018). Distal antecedents include factors such as: personality, intelligence, and early life experiences. These are often viewed as being "fixed" or having limited potential to be changed (Antonakis, Day, & Schyns, 2012; Mumford et al., 2000). Additionally, the frameworks attempt to illustrate the influence of distal antecedents on the development of proximal antecedents (Zaccaro et al., 2018). The vast majority of research on leadership antecedents has focused on these distal antecedents, especially personality traits (Ramchandran et al., 2016).

Proximal antecedents can be separated into two general categories: those external to the leader and those internal to the leader. External proximal antecedents include context and followership, while internal proximal antecedents include cognitive skills, social capacities, knowledge, and motivation. As opposed to distal antecedents, proximal antecedents are viewed as being more easily changed (Antonakis, Day, & Schyns, 2012; Mumford et al., 2000). The category of internal proximal antecedents has been termed "capacities" (Zaccaro et al., 2018), "competencies" (Boyatzis, 2009), and "personal leadership resources" (Leithwood, 2012). They are also commonly referred to as a person's knowledge, skills, and abilities.

Among the antecedents with limited research, internal proximal antecedents have been identified as holding significant promise in predicting leader effectiveness. Leithwood (2013) posits that as much as 50% of the variance in school-leader effectiveness may be due to this category of antecedents. In the broader leadership literature, these competencies have been shown to predict outstanding leadership performance (Amdurer et al., 2014). In this category, Zaccaro et al.'s (2018) framework includes cognitive skills, social capacities, motivational orientation, self-efficacy, and knowledge and expertise. Boyatsiz (2009) differentiates between

cognitive, social, and emotional capacities. In school leadership, Leithwood (2012) divides these internal proximal antecedents into cognitive (problem solving, school knowledge, and systems-thinking), social (perceiving emotions, managing emotions, and acting in emotionally appropriate ways), and psychological (optimism, self-efficacy, resiliency). The overlap across the three models is clearly evident.

Of the three categories Leithwood (2012) identified, he contends that "cognitive resources are the most responsive to direct and short-term intervention" (p. 52). Sun, Chen, & Zhang (2017) state that, "among the antecedents of the first category [internal antecedents], the least examined are the leaders' cognitive capacities" (p. 23). Referring directly to the connection to leadership practices, Leithwood and Steinbach (1995) state that "what administrators do depends on what they think—their overt behaviors are the result of overt thought process" (p. 7). As such, in the conclusion of their review of the antecedents of educational leadership, Sun, Chen, & Zhang (2017) contend that leaders' internal characteristics may "serve as a relatively more stable mechanism from which to explain and better predict leadership effects" (p. 22).

For the purpose of this study, Leithwood's (2012) framework was used as it focuses specifically on school leadership. Within Leithwood's (2012) framework, the proximal internal antecedents described by Zaccaro et al. (2018) are labeled Personal Leadership Resources (PLRs). Among the three categories of PLRs defined by Leithwood (2012), there is evidence to suggest that the cognitive category may be a fruitful area for future research as there is an identified gap in the literature, it has potential to predict leadership effectiveness, and because of its potential ability to be changed. For simplicity, this category will be called Cognitive Personal Leadership Resources (CPLR).

Problem Statement

Changing how principals operate has proven to be extremely difficult. Despite the well-documented findings regarding what school principals do that impacts student achievement, the increased political pressure to implement those practices, and the increased focus on principal preparation and training programs, principal practices remain much the same as they were forty years ago (Goldring et al., 2015; Murphy et al., 2016; Sebastian, Camburn, & Spillane, 2017). After a comprehensive review of school leadership, Murphy et al. (2016) lament: "given considerable acknowledgment regarding the importance of instructional management [effective principal practices] and widespread, multi-action initiatives to ratchet up its importance in schools, why do researchers consistently document marginal improvement at best?" (p. 462). While a number of possible reasons for this lack of implementation have been identified, little comprehensive or theoretically guided work has been done to analyze the effects of various antecedents on school leadership practices (Leithwood & Jantzi, 2005; Sun, Chen, & Zhang, 2017). This is especially true for PLR antecedents, even though a number of researchers have identified their potentially large impact on leadership practices (Leithwood & Jantzi, 2005; Sun, Chen, & Zhang, 2017).

Purpose Statement

Given the important role that principals play in creating effective schools, research into ways of improving principal practices offers great value to society as a whole. Research regarding the antecedents of effective principal practices offers the potential to improve

implementation of those practices. The purpose of this study is to explore the relationship between CPLRs and effective principal practices.

Significance

Results from this study have the potential to increase the implementation of effective principal practices. Identification of CPLRs that influence effective principal practices adds to the body of knowledge regarding the antecedents of principal practice and have the potential to inform professional standards documents and public policy regarding the training and development of principals. Unlike the criticism leveled at the former standards for principal practices (Interstate School Leadership Licensure Consortium [ISLLC]), the current Professional Standards for Educational Leaders have been described as being "informed by an extraordinary amount of research into educational leadership over the past 10 years" (Murphy, Seashore, & Smylie, 2017, p. 21). While comprehensive in nature regarding what effective principals should do, only 3 of the 84 indicators reflect the construct of PLR and none represent the category of CPLR.

These standards are used to guide the development and accreditation of principal preparation programs across the United States (Murphy, Seashore, & Smylie, 2017) and often serve as the foundation for state principal licensure programs. Additionally, they are often used as the framework for principal performance evaluations. Research highlighting the relationship between these antecedents and effective practice may provide a missing component to these standards documents and the overall efforts to improve principal practices. This research would

be of interest to principal preparation programs, hiring practices, and ongoing principal professional development efforts.

Research Question

While the primary focus of the study lies in examining the relationship between CPLRs and effective school leadership practices, the complex interaction of behavioral antecedents and behaviors necessitates the examination of additional mediating variables. Thus, the research question for this study was: How are CLPRs, school leadership practices, context, and self-efficacy perceived to connect within a Midwestern school district?

Research Structure

Because of the nature of social science research, and especially research within educational contexts, this study took a nonexperimental design (Creswell & Creswell, 2018). Additionally, researchers have identified the need to move beyond single-variable studies and consider the multivariate nature of interactions that better reflect the complex nature of leadership (Lord & Hall, 1992; Zaccaro, 2012; Zaccaro et al., 2018). While this may be approximated through a quantitative analysis of many variables, a qualitative design offers the opportunity to better capture the complexity described above. Ultimately, a collective case-study design was selected to examine the phenomena in detail while providing the opportunity to contrast the different focus variables of the study.

A collective case study allows a researcher to "jointly study a number of cases in order to investigate a phenomenon" (Stake, 2000, p. 437). Examining multiple school leaders within the

same district provides the opportunity to contrast the specific variables of this study. This common link provides the opportunity to examine the interaction between the variables from multiple perspectives (Stake, 2000) and focuses on the phenomena, rather than the individual cases. Additionally, a collective case study provides a more comprehensive view of the phenomena being studied, thus better capturing the complex nature of leadership.

The research design utilized three phases. Phase one included site selection, instrument preparation, and piloting the questions to ensure their trustworthiness in accurately acquiring the perceptions of the concepts being studied. Phase two involved administering the screening survey to identify participants. During phase three, qualitative data were collected through multiple interviews and artifact collection.

Population and Sampling

The research question for this study is not specific to a certain context (i.e., rural/urban or school-improvement status) or a particular participant characteristic (i.e., years of tenure or ethnicity), but rather, principals' perception of contextual affordances and demands. While a multiple case-study approach with participants from different school districts was considered, it was determined that using one district would provide a better analysis of the contextual variable being studied. As noted in the literature (Zacarro et al., 2018), it is the principal's perception of the context that is important, rather than the context itself. Having all participants within the same context allows for a contrast in perception, rather than the context itself.

Thus, a single district was selected that had a sufficient pool of administrators to obtain three or four individual cases without making the identification process infeasible. This number of cases meets the four goals of purposeful sampling outlined by Creswell (2003): it represents

the context, captures heterogeneity, reflects the theoretical framework of the study, and establishes comparisons within the context. Of those, establishing comparisons is of primary importance for this study so that principals with different levels of the study variables can be examined.

Data Collection

Initially the screening tool (see Appendices B and C) was used to measure principals' CPLRs, self-efficacy, and contextual beliefs. Based on a self-assessment tool created by the Institute for Educational Leadership (2014), the screening tool questions were piloted to ensure their trustworthiness in accurately acquiring the perceptions of the concepts being studied. Results from the screening tool were then used to select the study participants who provided the maximum variation across the variables being studied.

Ultimately, qualitative data were collected through multiple interviews and artifact reviews. Two interviews were conducted with each principal utilizing a combination of Behavioral Event Interview (BEI) and artifact Stimulated-Recall (SR). Between those two interviews, additional artifact collection and an interview with the building instructional coach was conducted.

Data Analysis

To conduct a valid, comprehensive analysis, qualitative researchers must immerse themselves in their data (Savin-Baden & Howell-Major, 2013). The general process includes organizing the data into segments (Johnson & Christensen, 2017), reading and recording memos that lead to identifying codes from the text, classifying the codes into themes, and interpreting

the themes (Cresswell & Poth, 2018). For this study, analysis procedures use Yin's (2003) suggestion of starting with a general analytic strategy to define priorities about what to analyze and why, but also recognize that data collection and analysis should take place simultaneously (Merriam, 2009). In this case, data from phase two were analyzed to identify a purposive sample for the study. Additionally, insights gained from each data source in phase three influenced subsequent data collection.

Initially, data were prepared by transcribing all of the interviews and organizing all data by case (i.e., collecting interviews, artifacts, and screening data together). Each case was then analyzed individually before the comparative analysis. Within each case, an iterative process of reviewing the various data sources also occurred. First, the two principal interviews were analyzed to determine initial themes within the data. Analysis of the subordinate interview, artifacts, and screening survey were used to check the initial themes and then to identify other possibilities. Any other possible themes were then used to revisit the principal interviews.

Ethical Issues

There are a few ethical considerations for this type of research. First and foremost is the ethical consideration of honesty that must be observed by the researcher. This has been described as "the social contract among scholars" (Locke, Spirduso, & Silverman, 2007, p. 25). It is the duty of the researcher to ensure the presentation of the information collected for this study is accurate and represents the thoughts and feelings of the participants. This was ensured using member checking during the study.

The other primary considerations are confidentiality and informed consent. Confidentiality was ensured by using pseudonyms for all participants, schools, and the district.

Any other identifiable data were not used (i.e., specific incidents that may be known to have occurred at a specific school or district). Participants were then asked to review their portion of the findings with this lens to ensure their confidentiality has not been breached.

All participants were asked to read and sign an informed consent form before participating in the study (see Appendix A). This form outlines the purpose for the research, types of information collected, procedures, time commitment, risks or benefits of participation, confidentiality, freedom to withdraw, and how the results will be used. These were then verified in-person during the first interview.

Frameworks

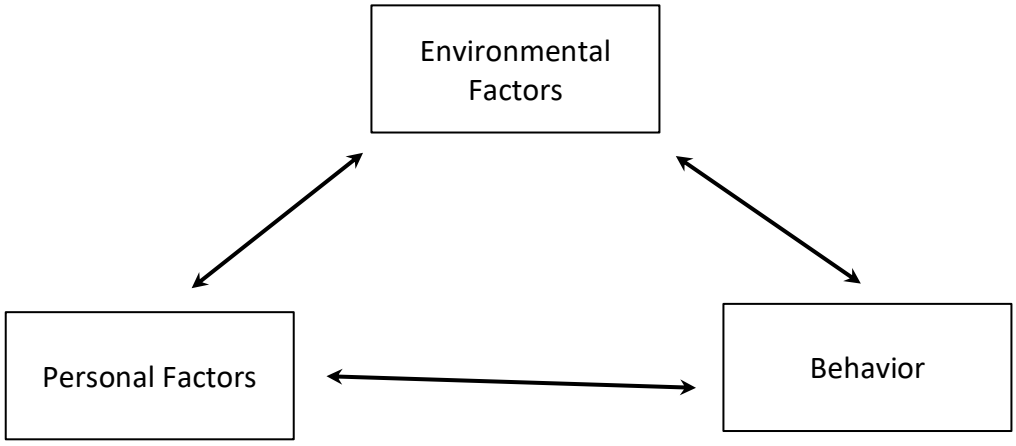
Theories and theoretical frameworks provide an important lens when considering problems and possible research designs (Schunk, 2016). As discussed previously, there is no comprehensive framework describing the antecedents of school leadership practices. This study relies on a social cognitive theoretical framework (Bandura, 1986, 1997, 2001, 2005) in order to explain the overlap between the antecedent frameworks in the broader leadership literature, principal practice, and behavioral change as the backdrop to this study.

Social Cognitive Theory

Developed by Albert Bandura (1986, 1997, 2001, 2005), SCT seeks to describe human behavior through the reciprocal effects of context, behavior, and personal factors, especially cognitive processes. (See Figure 1.1.) It has been categorized as the combination of both behavioral and cognitive theories (Black & Mendenhall, 1990) within the context of the social environment. Two key components of the theory are that of personal agency (Zimmerman, 2000)

and self-efficacy (Bandura, 1986; 1997). Personal factors in the theory include a recognition of the influence of genetics (Bussey & Bandura, 1999), cognitive processes, and the impact of emotion on decision-making (Pajares, 1996). Bandura (2001) specifically defines cognitive processes as "emergent brain activities that exert determinative influence" (p. 4).

Figure 1.1. The Reciprocal Effects of Social Cognitive Theory



Note: Adapted from *Social Foundations of Thought & Action: A Social Cognitive Theory* (Bandura, 1986, p. 24).

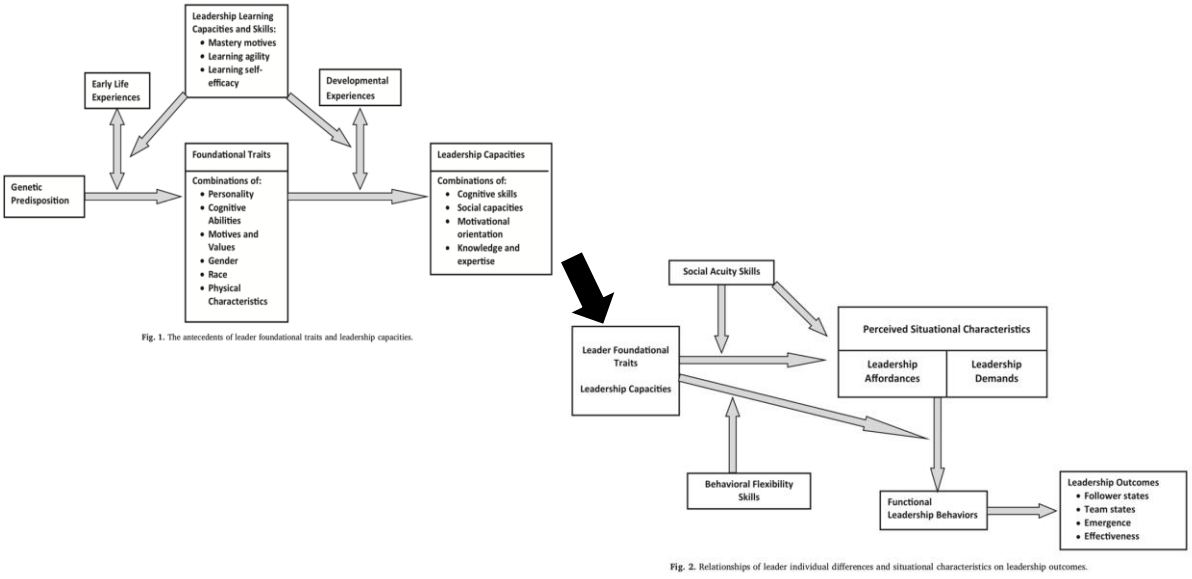
Social Cognitive Theory and Leadership Antecedents

SCT does not articulate all possible behavioral antecedents, but rather generally describes the bidirectional interaction between behavior, internal factors, and environmental factors. However, SCT has been applied to the study of leadership antecedents over the last two decades after a seminal article from Michael McCormick (2001). In that article, the author used SCT to frame how leadership behavior, cognition and other personal resources, and the environment interacted to influence one another. While self-confidence had long been correlated to leadership

success (McCormick, 2001), this article was the first to attach a specific theoretical rationale for those results through the connection to SCT, and especially the concept of self-efficacy.

Outside the field of education, the last two decades have seen the development of an increasingly more sophisticated framework describing the various antecedents of leadership practice and how they interact to influence both practice and organizational outcomes (Antonakis, Day, & Schyns, 2012; Tuncdogan et al., 2017; Zaccaro et al., 2018). Zaccaro et al. (2018) present the most recent and comprehensive framework. See Figure 1.2, which attempts to combine the various strands of leadership antecedent research.

Figure 1.2. Leadership Antecedent Framework



Note: Taken from *Leader Individual Differences, Situational Parameters, and Leadership Outcomes: A Comprehensive Review and Integrations* by Zacarro et al., 2018, pg. 6.

While probably beyond the scope of any one study (Zaccaro et al., 2018), this framework provides the broader organization of antecedent variables used in this study and highlights the

central role of PLRs, called “Leadership Capacities” in the framework. While a number of definitions for this category of antecedents exist, Zaccaro et al. (2018) define them as the “KSAs [knowledge, skills, abilities] and leadership styles that predispose individuals toward particular leadership behaviors in different leadership contexts” (p. 9). As with previous models (Tuncdogan et al., 2017), these PLRs represent proximal antecedents that bridge between distal antecedents (i.e., personality, cognitive ability, and life experiences) and leadership behavior.

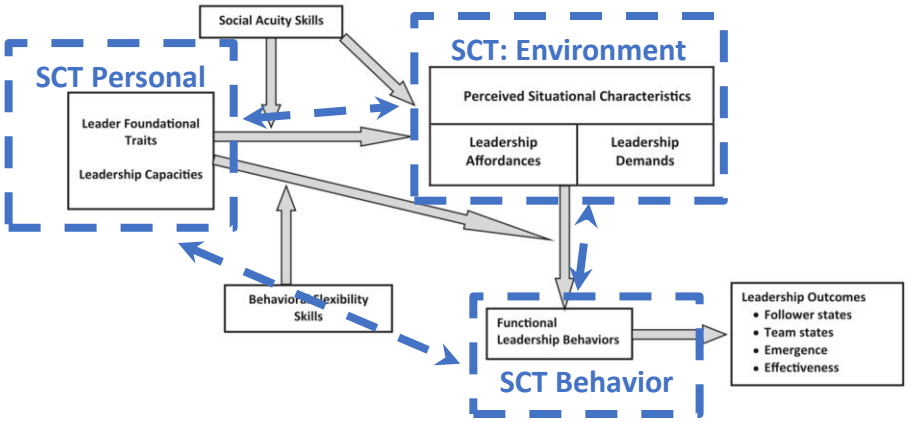
The overall framework provided by Zaccaro et al. (2018) aligns with the three main constructs of SCT. The Self component of SCT matches the internal proximal and distal antecedents listed in the framework. The Environment component of SCT matches the Perceived Situational Characteristics. Discussed in more detail in the Literature Review section, Zaccaro et al. (2018) contend that the important finding related to context is the way the leader perceives its affordances and demands. Lastly, the behavioral component of both frameworks align. (See Figure 1.3.)

Social Cognitive Theory and Behavioral Change

As this study sought to examine leadership antecedents with the purpose of identifying factors that might improve the implementation of effective principal practices, an examination of the utility of SCT to explain behavioral change is important. While originally constructed as a theory regarding how people learn (Schunk, 2016), SCT has been applied as a framework for understanding behavior and behavioral change in a wide array of fields (Zimmerman & Schunk, 2003). Its widespread application can be seen in the recent review of behavioral and behavioral-change theories (Davis et al., 2015). In that review, the authors found 82 different theories that

had been used across all of social and behavioral sciences between 1960 and 2012. Of the 82 possible theories, SCT was the third most prominent, accounting for 11% of all the studies.

Figure 1.3. Overlap of Social Cognitive Theory and Leadership Antecedents



Note: Overlap of the reciprocal determination of Social Cognitive Theory (SCT) from *Social Foundations of Thought & Action: A Social Cognitive Theory* (Bandura, 1986) and the leadership antecedents outlined in: *Leader individual differences, situational parameters, and leadership outcomes: A comprehensive review and integration* (Zaccaro et al., 2018).

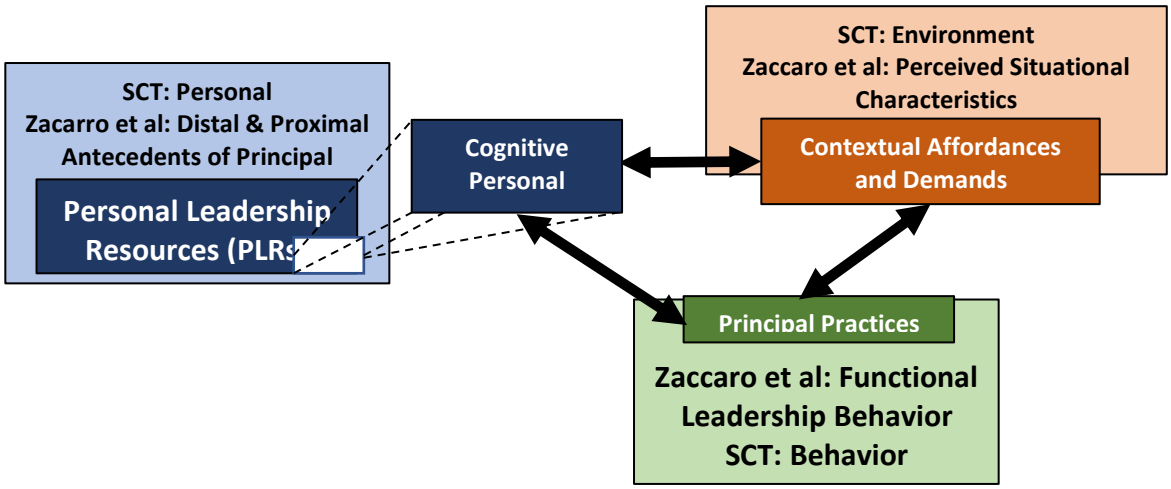
Conceptual Framework

Illustrated in Figure 1.4, the conceptual framework for this study is nested within the broader framework by Zacarro et al. (2018) and recognizes the complex interaction among the various antecedents that have been previously identified in the research. While foundational traits have consistently been demonstrated to impact leadership behavior (i.e., personality [Bono & Judge, 2004]) and cognitive abilities (Judge, Colbert, & Ilies, 2004), they are generally considered to be unchangeable. Since the purpose of this study is to better understand the relationship between antecedents and leadership behavior in order to support the change of behavior, only proximal variables were examined.

Additionally, Leithwood (2004) posited that at least some of these foundational variables are surface traits and it may be that the competencies underlying them are more valuable in identifying and training leaders. He provides two examples. Whereas leaders' intelligence has consistently been correlated to leader effectiveness (Antonakis, Day, & Schyns, 2012; Tuncdogan et al., 2017), this may be a surface trait for a leader's problem-solving capacity. Leaders' past experiences have also been consistently correlated to effectiveness (Zaccaro et al., 2018). However, that may be a surface trait for "domain specific knowledge" (Leithwood, 2004; p. 44). Again, domain-specific knowledge can be learned, rather than the slow acquisition of leader experience. Another example may include the consistent finding that the personality trait of extraversion is predictive of effective leadership practices (Bono & Judge, 2004). However, this may be viewed as a surface trait for social-emotional competencies. Thus, examining the proximal antecedents of personal leadership capacities may be more valuable in identifying malleable factors that impact effective leadership practices.

It is beyond the scope of this study to examine all the proximal antecedents identified by Zacarro et al. (2018). Thus, those chosen were selected based on SCT and previous researchers' identification of factors showing the most impact or potential impact on leadership behaviors. Among PLRs, these include leader cognitive skills and self-efficacy. Contextual factors represent the leader's perception of affordances and demands based on organizational values toward effective leadership practices and existing pressure for school improvement. Figure 1.4 represents these variables in the context of both Zacarro et al.'s (2018) framework and SCT.

Figure 1.4. Conceptual Framework



Assumptions, Limitations, Delimitations

There are several factors to consider in relation to the validity and limitations of the study. First, using the underlying construct of bidirectional effects presented in SCT (Bandura 1986, 1997, 2001, 2005) may limit the overall interpretation of the data. SCT contains three major assumptions: reciprocal influence between the variables, personal agency, and that cognition leading to learning is different than actions taken from that learning. Most importantly, personal agency assumes that, while context and personal characteristics may influence behavior, people still have the ability to choose their actions. Thus, causal implications are limited.

Second, there are several additional antecedents that have previously been shown to impact leadership behavior. For example, Leithwood's (2004) framework includes: experience, perceiving emotions, managing emotions, optimism, and resilience. As noted by Zacarro et al. (2018), it would not be feasible to study all of these factors simultaneously. As such, this study is

limited to primarily examining the effects of three; namely CLPRs, perceptions of contextual demands and affordances, and self-efficacy.

Third, while a case-study design provides the opportunity to better explore the broader context in which the phenomena take place, it also limits the applicability of any findings. In this study, the findings are limited to the bounds set for the case.

Definitions

Context—For the purpose of this study, measurement of context is limited to the principal's perception of contextual affordances and demands. The focus on principals' perceptions follows the framework outlined by Zacarro et al. (2018). Leadership affordances are the perceptions of leaders regarding what opportunities the context provides relative to the leader's capabilities and goals. Leadership demands are defined as "contextual information that signals or cues which leadership strategies and activities are necessary for performance success in a particular situation" (Zacarro et al., 2018, p. 31). This also reflects the core tenet of Social Cognitive Theory, which contends that human behavior is shaped by their agency to choose rather than only respond to environmental factors (Bandura, 1986).

Personal Leadership Resources (PLRs)—For the purpose of this study, personal leadership resources are the knowledge, skills, and capacity inherent to a school leader. As defined by Leithwood (2019, p. 10), "this concept was intended to include the non-behavioral, non-practice related components of leadership, (including traits) which significantly influence the nature of leaders' behaviors or practices."

Cognitive Personal Leadership Resources (CPLRs)— Leithwood (2004) generally describes this category as intelligence and experience. Zacarro et al. (2018) define this category as including "problem solving skills, creative thinking, strategic thinking, wisdom, metacognitive skills, cognitive flexibility, and judgment and decision-making skills" (p. 9). For the purpose of this study, Cognitive Personal Leadership Resources are defined using the categories presented in the Self-Assessment Tool for School Leaders (The Institute for Educational Leadership, 2013): problem-solving, knowledge about school and classroom conditions, and systems-thinking.

Leadership Self-Efficacy (LSE)—For the purpose of this study, Leadership Self-Efficacy will be defined as the school principal's belief in his or her capabilities to successfully lead a school to the attainment of the school goals (Tschannen-Moran & Gareis, 2004).

Principal Practices—The broader leadership literature tends to use the term "behavior" to describe the actions a leader takes. In the field of education, those behaviors are generally termed "practices." Thus, for the purposes of this study, principal practices will be used. These practices are defined as "the exercise of influence on organizational members and diverse stakeholders toward the identification and achievement of the organization's vision and goals" (Leithwood, 2004).

Summary of Chapter One

While much is known about which principal practices most impact student learning, there has been little increase in the implementation of those practices over the last thirty years (Goldring et al., 2015; Murphy et al., 2016; Spillane & Hunt, 2010; Sebastian et al., 2017). There

is relatively less known about the antecedents of leadership behavior, especially CPLRs, which have been identified as holding significant promise for improving principal practice (Leithwood & Jantzi, 2005; Sun, Chen, & Zhang, 2017). Utilizing an SCT framework to explore behavioral change necessitates the inclusion of leader self-efficacy and context to better understand the relationship between CPLR and effective principal practice. Chapter Two explores the literature relevant to effective principal practices and leadership antecedents.

CHAPTER TWO

LITERATURE REVIEW

The following review outlines the existing research regarding the key variables in this study: school leadership practice and the antecedents of those practices. Following Social Cognitive Theory (SCT) (Bandura, 1986, 1997, 2001, 2005), leadership antecedents are discussed in terms of those internal (self) and those external (context) to the leader. In this review, internal antecedents are focused on those identified in previous reviews as showing significant promise, but not yet comprehensively researched. Leithwood (2012) terms this category of antecedents as Personal Leadership Resources (PLRs). Among the PLRs, cognitive and social skills show the most promise for improving the implementation of effective principal practices (Hitt & Tucker, 2016; Leithwood, 2014). The construct of self-efficacy is reviewed as it plays a central role in SCT (Paglis Dwyer, 2019) and has been identified as another key PLR related to leadership effectiveness (Sun, Chen, & Zhang, 2017).

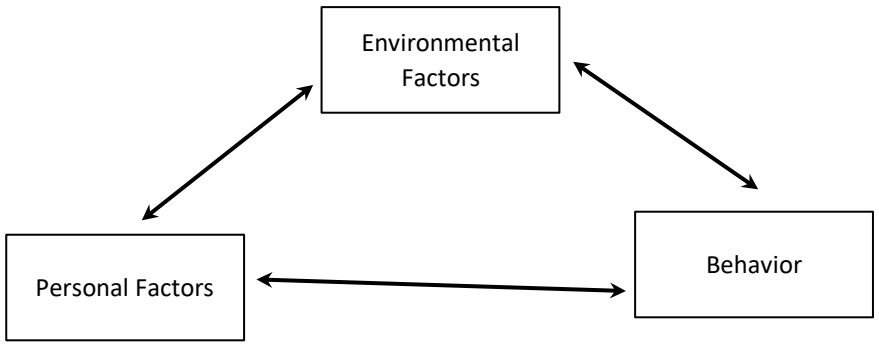
Theoretical Framework

Theories and theoretical frameworks provide an important lens when considering problems and possible research designs (Schunk, 2016). As discussed previously, there is no comprehensive framework describing the antecedents of school leadership practices. The following section describes SCT (Bandura, 1986, 1997, 2001, 2005) and its foundation in explaining the overlap between the antecedent frameworks in the broader leadership literature, principal practice, and behavioral change as the backdrop to this study.

Social Cognitive Theory

Developed by Albert Bandura (1986, 1997, 2001, 2005), SCT seeks to describe human behavior (Wolters & Benzon, 2009) through the reciprocal effects of context, behavior, and personal factors, especially cognitive processes. (See Figure 2.1.) It has been categorized as the combination of both behavioral and cognitive theories (Black & Mendenhall, 1990) within the context of the social environment. SCT gives a central role to how individual beliefs influence development and change (Pajares, 1996). One of the key tenets of SCT is that learning not only occurs through the consequences from actions (behaviorism), but also through the human ability to acquire knowledge through observation (Schunk, 2016). Personal factors in the theory include a recognition of the influence of genetics (Bussey & Bandura, 1999), cognitive processes, and the impact of emotion on decision-making (Pajares, 1996). Bandura (2001) specifically defines cognitive processes as "emergent brain activities that exert determinative influence" (p. 4).

Figure 2.1. The Reciprocal Effects of Social Cognitive Theory



Note: Adapted from *Social Foundations of Thought & Action: A Social Cognitive Theory* (Bandura, 1986, p. 24).

Schunk (2016) describes the precursors of SCT as imitation, latent learning, and social learning. The primary difference between those precursors and SCT was that behavior was not

solely motivated by a person's cognition about his or her direct experiences (Wolters & Benzon, 2009). As shown in Figure 2.1, a person's behavior is also influenced by their environment. Additionally, a person's future behavior can also be impacted by reflection on other people's experiences (Wolters & Benzon, 2009; Schunk, 2016). Thus, the theory is comprised of a number of internal and external factors that influence and are influenced by a person's behavior.

The reciprocal influence of the three main factors is termed "triadic reciprocity" and is the first of three main assumptions within the theory (Wolters & Benzon, 2009). The second is that a person has the capacity to control their own behavior based on their desire to achieve a goal (Wolters & Benzon, 2009; Bandura, 1993). The third assumption is that cognition leading to learning is separate from actions that may be taken as a result of that learning (Wolters & Benzon, 2009; Bandura, 1993). These assumptions lead to the main features of the theory: intentionality, forethought, self-reactiveness, and self-reflection (Bandura, 1993). Ultimately, these features allow people to initiate and sustain effort, develop plans, strategize, set goals, anticipate results, and regulate their feelings and behaviors (Bandura, 1993). This also describes the process used by individuals to implement or modify behavior based on the desired attainment of goals (Zimmerman & Schunk, 2003). This is a key component in behavioral change research (Bandura, 1998).

Described in detail below, self-efficacy (SE) is a critical factor in SCT. SE refers to a person's belief regarding their capability to perform a specific action (Bandura, 1986; 1997). SE has been shown to be related to the tasks people choose to engage in, how much effort and persistence they use, and overall achievement of goals (Pajares, 1996; Schunk & Pajares, 2005, 2009). SE is related to the contention within SCT that people determine expectations based on

past experiences (Bandura, 1997) and that those expectations lead to more or less effort to obtain their goals (Bandura & Cervone, 1986).

According to Schunk (2016), SCT has a number of limitations. For example, there is no conceptualization of how human development, over time, shifts the factors within the theory. One might assume that cognition changes with age and experience, but this has not been explored within the theory. Additionally, social influences may have a stronger influence with younger people than older (Schunk, 2016). A second limitation is that the theory does not examine many different types of cognitive processes, such as attention, memory, reasoning, and problem solving. When considering SCT as a theory for learning or behavioral change, these cognitive processes are important considerations (Schunk, 2016). Lastly, it has been noted that there is little research on SCT outside of Western cultures (Schunk, 2016).

Selection Criteria and Approaches Used to Review Literature

The purpose of this study is to explore the antecedents of effective leadership practices. An exploratory literature review process identified the extant literature on both effective leadership practices and their antecedents. This process narrowed the variables for the study based on those that had limited existing research and those critical to the theoretical framework. Ultimately, this process led to a focus on effective principal practices, perceptions of contextual affordances and demands, self-efficacy, and Cognitive Personal Leadership Resources (CPLRs). Additionally, the review focused on any existing research connecting the identified variables.

The primary method used to conduct this review was exploring identified keywords through the primary databases in the field. This included EBSCO host, ProQuest, Education

Source, SpringerLink, JSTOR, and SAGE. Included material came from peer-reviewed journals or dissertations. Previous reviews were examined to identify possible gaps, and key words selected from those reviews were then used for further exploration. The literature review led to a number of key themes related to the variables in the study: the existing debate on effective school leadership practice frameworks, cognitive personal-leadership resources as an area of limited research and potentially high impact on school leadership practices, the context in which leadership takes place, especially the leader's perception of that context, and leader self-efficacy.

Development of Current Understandings about the Antecedents of Effective School Leadership

Defining School Leadership

While leadership has been a topic of research for most of the last century, there is little consensus on the actual definition of the term. This is perhaps captured best by Stogdill (as cited by Northouse, 2019), who noted that there are as many definitions of leadership as there are people studying it. Within educational settings, there are not only multiple leadership theories and proposed frameworks (e.g., Instructional Leadership, Transformational Leadership, Balanced Leadership), but also multiple terms used to describe the concept as a whole (e.g., Educational Leadership, Educational Administration, School Leadership). Additionally, there is the need to define the difference between "leader" and "leadership."

The most cited authors in the field (Hallinger & Kovačević, 2019) differ in the term they favor to describe general leadership in education. Kenneth Leithwood favors the term "school leadership," while Phillip Hallinger most often uses the term "educational administration." Karen Seashore-Louis uses "educational leadership," among others, and Michael Fullan focuses

on “change leadership.” While some of the terms are used synonymously (e.g., educational administration and educational leadership), others narrow the focus of what is being studied. In this study, the term “school leadership” is used as it evokes a focus on the school level, rather than the district, state, or national level. Additionally, whereas the broader leadership literature tends to use the term “behavior,” research in schools often uses the term “practice.” Thus, “leadership behavior” is used when talking about the broader literature and “school leadership practices” when describing those specific to the school context.

The definition of leadership is much less arbitrary. Perhaps the most cited text in the broader field of leadership is Northouse’s (2019) *Leadership*. He defines leadership as “a process whereby an individual influences a group of individuals to achieve a common goal.” (p. 5). Specific to education, Leithwood (2004) defines leadership as “the exercise of influence on organizational members and diverse stakeholders toward the identification and achievement of the organization’s vision and goals.” Others incorporate specific school leadership components into their definition. For example, in a recent review of leadership in educational settings, Daniëls, Hondeghem, and Dochy (2019) use the following:

> Leadership in education is a process of influencing teachers and other stakeholders and is not necessarily limited to a single person. The process of influence ideally leads to an effective learning climate which all stakeholders (such as pupils, teachers, parents, society) experience as an added value and keeps all the organisational processes in the school (among others, monitoring the instructional process, managing personnel and allocating resources) running smoothly (p. 111).

In their review of key leadership practices, Hitt and Tucker (2016) use Leithwood’s (2004) definition for leadership and clarify the important difference between leader and leadership. Whereas leadership is an interaction that occurs between individuals, leaders are those who

"influence and mobilize others in the pursuit of a goal" (p. 533) or create the interaction of leadership.

As with Hitt and Tucker (2019), Leithwood's (2004) definition of leadership will be used in this study. This vision of leadership extends beyond just the person (leader) to the interaction that takes place between leader and follower and more closely aligns with the bidirectional interaction presented within Social Cognitive Theory. Additionally, it extends the concept of a leader beyond the individual school leader (i.e., principal) to include other members of the school community who influence and mobilize their colleagues. This definition is more clearly aligned to current research on how school leadership most powerfully impacts student achievement through shared and distributed structures (Leithwood, Harris, & Hopkins, 2019).

Historical Context of School Leadership

Using a bibliometric review analysis technique, Hallinger and Kovačević (2019) sought to map the structure and history of the research regarding school leadership. This review considers the beginning of the field to be in the late 1950s and characterizes the 60s and 70s as a period of experimenting with applying theoretical frameworks from the social sciences, identifying research problems, and experimenting with research methods. There is some evidence of early educational leadership work from the beginning of the twentieth century (Lunenburg, 2003), but most researchers use the timeline outlined by Hallinger and Kovačević (2019) when framing their study. Additionally, most would agree with the statement that the "first meaningful shift in the field occurred within the late 70s and early 80s with the effective schools movement and the identification of the importance of 'strong instructional leadership'" (Hallinger & Kovačević, 2019, p. 3).

It was during this time that the first leadership theory specific to education was developed and termed Instructional Leadership (IL) (Hallinger & Kovačević, 2019). With the purpose of ensuring high-quality classroom practices, the initial conceptualization of IL focused on the school principal as the sole source of leadership whose role it was to ensure high standards of practice, supervise staff, coordinate the school's curriculum, and monitor progress (Barth, 1986). The focus on the individual school principal is understandable given the broader context of leadership research at that time. Prior to and during this time, the "great man" theory was still prevalent in leadership research (Hitt & Tucker, 2016; Northouse, 2019). This theory focused on the inherent qualities of the individual leader and later evolved into "trait theory" (Kirkpatrick & Locke, 1991).

While IL remains one of the most important theories in the field of school leadership, researchers have shifted the theory to include more shared and distributed leadership practices (Spillane, 2005). Additionally, the broader leadership field shifted from examining "traits" to "behaviors" because of significant research indicating the link between leadership behaviors and organizational effectiveness (Derue et al., 2011). However, as noted later in this review, research in "trait" theory has remained consistent and found to have statistically significant correlations to effective leadership practices over the last fifty years (Leithwood, Harris, & Hopkins, 2019; Zaccaro et al., 2018).

It is also important to note that, during the 1980s, there was the development of contingency/situational leadership theory within the broader field of leadership research. This theory began as an opposition to trait and behavioral leadership theories by asserting there were no "best" traits or behaviors and, instead, leadership depended on the context within which it was

practiced (Gumus, Bellibas, Esen, & Gumus 2016). Although situational leadership remained in the background of educational leadership studies during its first few decades, contextual factors are now considered an important component in understanding how leadership works in schools (Leithwood, Harris, & Hopkins, 2019; Hallinger, 2018) and in other contexts (Zaccaro et al., 2018).

Hallinger and Kovačević (2019) describe the 90s as a period of shifting the field of educational leadership toward school improvement and the emergence of Transformational Leadership (TL) Theory due to the shift in educational policy towards accountability. This continued into the first decade of the twenty-first century with the integration of the fields of school leadership and school improvement (Hallinger, 2003, 2005; Leithwood, Harris, & Hopkins, 2008; Leithwood & Sun, 2005; Robinson, Lloyd, & Rowe., 2008). Partially in response to the increased accountability context, IL was criticized for its top-down vision of leadership (Leithwood, 2012; Nedelcu, 2013; Poplin,1992) and the fields of Shared and Distributed Leadership began to be developed (Hallinger, 2003). Initially developed by Marks and Printy (2003), Shared Leadership focused on the active collaboration of both principals and teachers around instruction, curriculum, and assessment.

Transformational Leadership (TL) Theory was originally conceptualized by Burns (1978) in the early 1970s, but was then more fully developed by Bass and Avolio (1993) in noneducational settings. It was adapted for educational settings in the 1990s and has been most fully developed in that context by Leithwood and colleagues (Leithwood, 1992; 1994; Leithwood & Jantzi, 2006; Leithwood & Sun, 2012). Rather than solely focusing on the

instructional core of schools, TL adds the role of improving organizational culture and inspiring teachers to collaboratively improve school outcomes (Hallinger, 1992).

According to Hallinger and Kovačević (2019), the most recent decade is characterized by a consolidation of the field (i.e., considering the common elements of various leadership frameworks to create an Integrated Leadership theory) and internationalization, with leadership findings being applied and evaluated across the globe. It has been noted by several researchers (Grissom & Loeb, 2011; Robinson, Lloyd, & Rowe., 2008; Sebastian et al., 2018) that the history of school leadership has been most defined by the debate between Instructional and Transformational Leadership Theories. The current work in consolidating the field has broadened the debate from just IL and TL and begun to integrate (or re-integrate) various other factors that have been shown to impact school leadership. During this time, a number of researchers have attempted to move beyond the debate of TL versus IL through the conceptualization of an integrated leadership theory (Boberg & Bourgeois, 2016; Bruggencate, Luyten, Scheerens, & Sleegers, 2012; Day, Gu, & Sammons, 2016; Urick, 2016a, 2016b; Urick & Bowers, 2014). Additionally, there has been an integration (or re-integration) of various other components that have been shown to impact school leadership (i.e., context and personality traits).

Key School Leadership Theories

Instructional Leadership Theory

Beginning in the 1970s with the Effective Schools movement, researchers began to identify practices of "effective" principals (Hallinger & Heck, 1998). The focus of these

practices on instruction led to a general label of Instructional Leadership (IL). Over time, other practices were identified and a number of frameworks sought to codify what was meant by the term (Hallinger, 2005; Printy, Marks, & Bower, 2010). However, researchers continue to lament the lack of agreement about what actually constitutes "Instructional Leadership" (Dwyer, 1984; Leithwood, 2004; Leithwood, 2013; Neumerski, 2013), and this lack of agreement leads to principals' lack of clarity (Horng & Loeb, 2010; Urick & Bowers, 2017).

Instructional Leadership was originally conceptualized by Hallinger and Murphy (1985) to provide a framework for quantitative researchers to examine the effect of principal practices. Boyce and Bowers (2018) characterize this attempt as being largely successful given the large number of studies using the model. However, this preponderance of usage has also been criticized as limiting the understanding of other variables involved in the leadership process (Grissom & Loeb, 2011). A number of studies have indicated that IL has a stronger effect on student achievement than other leadership styles (Heck & Hallinger, 2009; Louis, Leithwood, Wahlstrom, & Anderson, 2010; Robinson, Lloyd, & Rowe., 2008). The most common framework in use was developed by Hallinger (2003). He defines IL as having three dimensions (defining the school mission, managing the instructional program, and developing the school learning climate) divided into ten different leadership functions.

IL has been criticized for focusing too strongly on the school principal as the sole source of leadership in schools (Aas & Brandmo, 2016; Marks & Printy, 2003). The work of Marks and Printy (2003) began to shift the construct of IL away from being solely focused on the principal to examining leadership as a shared practice: "Instructional leadership, as we reconceptualize it, replaces a hierarchical and procedural notion with a model of 'shared instructional leadership'"

(p. 371). A similar construct was also being examined by Spillane, Halverson, and Diamond (2001, 2004), but was termed "distributed leadership."

Additionally, the field of IL has been criticized for lacking an agreed upon framework of leadership practices (Neumerski, 2013; Watson, 2005). In some cases, it is viewed as a very narrow focus on leadership functions directly related to teaching and learning (Murphy, 1988). At the other end of the spectrum, IL has been viewed as all leadership that contributes to student learning, including management behavior (Donmoyer & Wagstaff, 1990; Murphy, 1988). Recent quantitative research (Boyce & Bowers, 2018) has attempted to consolidate the varying branches of IL by identifying underlying factors common to all frameworks.

Transformational Leadership Theory

In the 1980s and 1990s, researchers began to recognize additional practices that seemed to impact student learning that had not been identified in the IL framework (Leithwood, 1994; Leithwood & Jantzi, 2000; Marzano et al., 2005), especially those needed to lead schools through the improvement process (Marks & Printy, 2003). Additionally, the shift in national policy toward more school accountability placed an increased emphasis on the need for school leaders to lead school reform efforts (Murphy, Vriesenga, & Storey, 2007; Oplatka, 2009, 2010; Wang, Bowers, & Fikis, 2017). In response to these factors, Leithwood (1992) adapted the well-established business model of Transformational Leadership to fit the school context.

Transformational Leadership (TL) was originally conceptualized by Burns (1978), but Bass (1985) is credited with fully developing the framework used in noneducational settings. This framework includes two main factors: transactional and transformational leadership, with the concept of laissez-faire or non-leadership as an additional factor. While transactional

leadership is primarily conceptualized as promoting work from subordinates via rewards, transformational leadership posits that the role of the leader is to motivate and inspire followers to work based on shared goals, rather than their own self-interest. Bass and Avolio (1993) describe this process as building greater worker capacity and increasing their level of motivation toward organizational goals in order to increase productivity.

Leithwood's (1992) original application of the theory to education contained seven components: individualized support, shared goals, vision, intellectual stimulation, culture building, rewards, high expectations, and modeling. Leithwood and Jantzi (1990, 2000, 2005, 2006) and Leithwood and Sun (2012) later developed a more comprehensive model that framed six leadership dimensions and four management dimensions. These leadership dimensions include: building school vision and goals, providing intellectual stimulation, offering individualized support, symbolizing professional practices and values, demonstrating high performance expectations and developing structures to foster participation in school decisions. The management dimensions include: staffing, instructional support, monitoring school activities, and community focus.

TL theory has been criticized outside of the field of education for its focus on charismatic leadership and thus connected to the "great man" theory of leadership (Northouse, 2013; Yukl, 1999). Interestingly, TL in schools has been characterized as a bottom-up approach to leadership (Hallinger, 2003). However, other criticisms have spanned both education and noneducation settings and include construct validity (i.e., placement of the contingent reward factor within the transformational rather than transactional construct [Eliophotou Menon, 2014]) and the statistical overlap between many indicators (Tejeda, Scandura, & Pillai, 2001), that behaviors and results

are confounded, and that there is a limited causal model for how the behaviors described in the theory are mediated by other factors (Berkovich, 2016).

Shared and Distributed Leadership

Another result of the push back against the top-down nature of Instructional Leadership was the development of both Shared and Distributed Leadership Theories. Both theories were developed around the same time and have many similarities. However, no agreed upon definition exists for either (Harris, 2013).

Shared Instructional Leadership (SIL) was first conceptualized by Marks and Printy (2003). While still focusing on the development of the instructional program in schools, SIL shifts the role of the principal from the sole decision-maker to a facilitator whereby many decisions are made through groups of staff (i.e., school leadership team) (Marks & Printy, 2003; Printy, Marks, & Bowers, 2010). Rather than being an "inspector of teacher practice," principals are tasked with facilitating continual teacher improvement through collaborative investigation of best practices (Hitt & Tucker, 2016, p. 534).

Distributed Leadership has a similar focus on decentralized leadership (Hulpia & Devos 2010; Mayrowetz, 2008; Scribner et al., 2007). Spillane (2006) states that distributed leadership involves multiple individuals, while Harris and De Flaminis (2016) consider leadership by groups. Robinson, Lloyd, and Rowe (2008) posit that distributed leadership involves two different ideas: (1) distributing leadership as varying tasks (i.e., delegation) and (2) distributed leadership influence. Recent research (Hallinger, 2018; Leithwood, Harris, & Hopkins, 2019; Mascall, Leithwood, Strauss, & Sacks, 2008) has also highlighted the critical component of context when examining the most effective ways to distribute leadership. For example, in

reviewing the literature on distributed practice, Leithwood, Harris, and Hopkins (2019) claim that the most productive ways to distribute leadership vary from context to context based on the needs and levels of expertise of the school.

Shared Instructional Leadership and Distributed Leadership have been considered both extensions or adaptations of Instructional Leadership and also their own separate theories of leadership. However, it has been noted that, while they show promise, they lack extensive empirical support and an established measurement tool (Mayrowetz, 2008; Reitzug, 2008). Both IL and TL frameworks include the concept of sharing or distributing leadership. In their review summarizing the overall research on school leadership, two of the seven "strong claims" Leithwood, Harris, and Hopkins (2019) make support the importance of this type of leadership practice, regardless of the theoretical framework.

Towards an Integrated Framework of Leadership

Much of the debate in educational leadership over the last two decades has compared the impact of IL and TL (Grissom & Loeb, 2011; Robinson, Lloyd, & Rowe, 2008; Sebastian et al., 2018) with mixed results. The work of Marks and Printy (2003) showed how TL and IL theories are related, proposed that both are necessary for effective school leadership, and that principals who utilize both sets of practices have the greatest impact on student achievement. Others have labeled this combination of IL and TL as Integrated Leadership and that combined construct has also been shown to be positively associated with student achievement (Bruggencate, Luyten, Scheerens, & Sleegers, 2012; Urick, 2016; Day, Gu, & Sammons, 2016; Robinson, Lloyd, & Rowe., 2008; Shatzer et al., 2014).

Recently, an increased awareness of the operational role the principal plays has been highlighted (Grisson & Loeb, 2011; Grissom, Loeb, & Master, 2013; Sebastian, Allensworth, & Stevens, 2014). Building on the work of Grissom and Loeb (2011), Sebastian et al. (2018), showed the direct connection of these operational tasks, defined as Organizational Management (OM), on student achievement. OM includes factors such as developing a safe school environment, hiring personnel, and maintaining campus facilities. In fact, they found that OM had a greater impact on student achievement than IL. The authors characterized their findings not that OM should replace IL as the focus for principals, but that it should be included in the conceptualization of what effective principals do. A broader construct of effective school leadership has been proposed by others (Bryk et al., 2010; Hitt & Tucker, 2016). These findings mirror those found within business leadership research stating the need to combine both leadership and management in order to be effective (Toor, 2011).

In their bibliometric review of the field, Hallinger and Kovacevic (2018) label the last decade of research as a consolidation and internationalization of the field. A much more complex and detailed picture of what effective school leadership looks like and the factors impacting those practices has emerged. While there remains a significant debate between the constructs of Instructional Leadership, Transformational Leadership, Shared Leadership, and other leadership theories, Leithwood, Harris, and Hopkins (2019) claim there is also much consensus on many specific principal practices that impact student achievement. For example, Hitt and Tucker (2016) conducted a systematic review and synthesis of various leadership frameworks and found that most contained similar principal practices. Additionally, a number of quantitative empirical studies (Marks & Printy, 2003; Leithwood, Sun, & Schumacher, 2017; Liu & Hallinger, 2018)

have shown the common underlying practices that impact student achievement. Ultimately, a number of recent meta-analytic reviews from Leithwood and Sun (2012, 2015, 2017) have also empirically shown the impact of those practices on student achievement and school-level outcomes.

Focusing on a set of practices that have been proven to impact student achievement, rather than a specific leadership theory, can be considered a pragmatic approach to examining school leadership practices. While the measurement tool designed by Leithwood and colleagues (Leithwood, 1992; 1994; Leithwood & Jantzi, 2006; Leithwood & Sun, 2012) was originally constructed using a TL theory lens (Leithwood, 1992), Leithwood and Jantzi (2006) describe its modification to include factors identified as impacting student achievement, rather than focusing only on the tenets of TL theory. In fact, in one of his most recent papers, Leithwood (2018) describes this framework as an "integrated model" (p. 11). Thus, it benefits from being associated with TL theory, the most widely researched theory in the broader field of leadership (Judge & Piccolo, 2004), while also being specific to the context of school leadership and those factors that have been shown to impact student achievement.

School Leadership Theories Conclusion

While the debate between IL and TL has dominated the research on school leadership (Grissom & Loeb, 2011; Robinson, Lloyd, & Rowe., 2008; Sebastian et al., 2018), there is much agreement across different frameworks on a set of basic principal practices that have been shown to be effective in improving student learning (Leithwood, Harris, & Hopkins, 2019). Outside of the traditional IL and TL paradigms, these include practices related to organizational management and reflect the broader leadership research showing that both management and

leadership practices are necessary for successful organizational outcomes (Toor, 2011). While the framework developed by Leithwood and colleagues (Jantzi & Leithwood, 1996; Leithwood & Jantzi, 1999, 2000, 2006) was initially developed based on Transformational Leadership theory, it has since been modified to incorporate other school-specific practices that have been shown to impact student achievement.

School Leadership Antecedents

As noted earlier, a significant focus in the field of educational leadership has been on identifying specific leadership practices that lead to improved student performance. A number of researchers (Grissom & Loeb, 2011) contend that this focus on principal behaviors has limited research into other factors related to school leadership. Leithwood and Steinbach (1995) argue that such behavior-based theories are of limited practical value because "the reductionism they entail so poorly reflects the complexity of administrators' real worlds" (p. 8). Examining leadership practices from a broader perspective, researchers have also explored the context where those practices take place as well as the antecedent factors that might impact the development of those practices in leaders.

In the educational leadership literature, leadership antecedents have been defined as factors that give rise to leadership behaviors (Sun, Chen, & Zhang, 2017). In previous reviews of that literature, these factors have been divided into two categories: internal to the leader (characteristics) and external (context and followers) (Boyan, 1988; Leithwood & Jantzi, 2005; Sun, Chen, & Zhang 2017). Bridging these two categories is the exploration of past life

experiences, which, while external to the leader in the past, have developed or created internal characteristics in the present (Avolio, 1994).

No complete theoretical or conceptual framework exists within the field of educational leadership to describe how those two categories of variables interact to influence leader behavior (Leithwood & Jantzi, 2005; Sun, Chen, & Zhang 2017). In the broader literature on leadership antecedents, Zacarro et al.'s (2018) framework provides a more complete outline of both internal and external factors. Internal factors are represented by foundational traits (i.e., cognitive ability, personality) and leadership capacities (i.e., social skills, self-efficacy). External factors are primarily conceptualized as the perceived situational characteristics within the model. This is defined as the way leaders perceive how the context of their work impacts their ability to impact organizational outcomes. In the broader literature, internal antecedents are also called leader individual differences and have been the longest-standing research topic in the field (Zaccaro, LaPort, & Jose, 2013). This topic of research seeks to identify which factors make some leaders more effective than others.

The study of educational leadership antecedents has been an ongoing research topic for the last sixty years (Sun, Chen, & Zhang, 2017). Following the progression of leadership theory, these studies focused primarily on inherent traits in the early years (i.e., personality, intelligence) and gradually came to include additional factors outside of the leader (context and followers). Specific to Transformational Leadership (TL), the original theorists hypothesized a number of antecedents, especially childhood experiences, set traits, and personal characteristics. For example, Bass (1995) theorized family circumstances, childhood experiences, and cultural background as areas that should be explored to better understand how TL develops.

Previous Reviews of Antecedents for Transformational Leadership

As one might imagine, many possible school leadership antecedents have been identified and explored to various degrees. In his review of educational leadership antecedents from the 1950s to 1980s, Boyan (1988) found relatively few empirical studies on the topic; but identified the following antecedents: personal variables, professional preparation, enhanced reasoning, learning quickly, linguistically fluent, strong concerns with educational programs for students, encompassing higher conceptual complexity, a deeper understanding of administrative complexities, concerns with educational values, possessing a dominant marketing orientation, cooperating with teachers on values, engagement in strong and purposeful activities, aspirations for success and promotion, strong ability to relate to others, security in interpersonal relationships, being stable emotionally in the face of upsetting situations, and having longer tenure.

In their comprehensive review of Transformational Leadership (TL) in schools, Leithwood and Jantzi (2005) explored two questions connected with the concept of leadership antecedents: What gives rise to transformational school leadership and what circumstances either foster or hinder (moderate) the impact of transformational school leadership? They found a total of ten antecedents that reported a meaningful influence on TL behavior: organizational bureaucracy, organizational values, school reform initiatives, leaders' proactivity, formal training experiences, prior student achievement, family educational culture, organizational culture, shared school goals, and coherent plans and policies.

The most recent review of literature in this area was conducted by Sun, Chen, and Zhang (2017). After summarizing the findings from previous reviews, the authors examined the

research on antecedents of TL behaviors from the most current research in the field. Additionally, they compared findings from the studies in the US and China to explore any possible cultural influence. In total, they identified seven antecedents with meaningful impacts on TL behavior: self-efficacy, values, emotional intelligence, traits, cognitive capacities, organizational features, and leaders' colleagues' characteristics.

However, each of the past reviews laments the incompleteness of the research in this area. Boyan (1988) calls the research "scarce," while Leithwood and Jantzi (2005) state: "Beyond the few antecedents touched on in the review, there is little evidence of either comprehensive or theoretically guided research on the antecedents of transformational leadership, an area warranting future research." (pg. 185). Twelve years later, Sun, Chen, and Zhang (2017) echoed that conclusion: "there has been little comprehensive or theoretically guided research on the antecedents of transformational leadership" (pg. 3). Specific to turnaround school leadership, Hitt et al. (2018) add: "The specific personal resources, actions, behaviors, or characteristics effective leaders rely upon to enact effective leader practice has been understudied, but not nearly to the inconsequential degree that turnaround leader resources have been examined" (p. 58). From an Instructional Leadership perspective, Robinson (2010) echoes this conclusion: "While there is considerable evidence about the impact of instructional leadership on student outcomes, there is far less known about the leadership capabilities that are required to confidently engage in the practices involved" (p. 1). Even outside of the field of education, Avolio (2010) states that scant research exists identifying the antecedents of Transformational Leadership behavior.

Key Antecedents from the Broader Research on Leadership

Despite the lack of comprehensive research regarding TL antecedents in general, specific antecedents have been identified as having a consistently strong impact on leadership behavior and are worth noting in more detail. These specific antecedents include: extraversion, general mental ability, emotional intelligence, self-efficacy, and leaders' perceptions of contextual affordances and demands.

Extraversion and General Mental Ability. Ramchandran et al. (2016) state that "by far, the largest body of literature on the antecedents of transformational leadership examines personality traits as potential antecedents" (pg. 327). While this field of study connects back to the old theories of Trait Leadership, a large number of empirical studies have consistently found a strong connection with specific personality traits and effective leadership practices (Zaccaro et al., 2018). Conducting a large meta-analysis, Bono and Judge (2004) determined that the trait of extraversion was consistently and most strongly related to TL practices. Extraversion refers to a personality trait that has a tendency toward being more outgoing, social, and having more social skills (McCrae & Costa, 1999).

A second consistent finding of past research is the correlation between general mental ability or cognitive intelligence and effective leadership (Judge, Colbert, & Ilies, 2004). While only a few studies have specifically examined the connection between general mental ability and TL (Ramchandran et al., 2016), the research on general leadership effectiveness is compelling. A comprehensive review of other reviews and meta-analyses regarding the antecedents of effective leadership found that general intelligence was the most-often cited set characteristic, with it

being identified in twice as many reviews as the second most common trait (Zaccaro et al., 2018).

Emotional Intelligence. Extroversion and general mental ability are generally viewed as relatively fixed, although some researchers contend they can change over long periods of time (Hounkpatin, Boyce, Dunn, & Wood, 2017; Shiner, Allen, & Masten, 2017). In contrast, emotional intelligence has been viewed as both a trait and a competency that can be learned (Harms & Crede, 2010). Studies have found strong relationships between emotional intelligence and TL practices in both educational and noneducational contexts (Brown & Moshavi, 2005; Saxe, 2011).

Emotional Intelligence includes a number of attributes and competencies ranging from perceiving other's emotions to managing one's own behaviors. Sun, Chen, and Zhang (2017) contend that research findings connecting these competencies with effective TL practices match the theoretical connection between the two constructs. For example, a core purpose of TL is to build a shared sense of purpose, inspire higher values, encourage greater effort, and promote positive change. These purposes naturally require leaders to understand follower values, maintain positive emotions, and manage stress related to change (Sun, Chen, & Zhang, 2017).

Self-Efficacy (SE). Sun, Chen, and Zhang (2017) state that the "steadiest antecedent to TL is leaders' self-efficacy" (pg. 21). All six studies examined in their review reported that SE had moderately high or large impacts on TL. In their large-scale analysis of research connecting leadership to student achievement, Seashore-Louis et al. (2010) state that one of the most powerful ways districts can impact student achievement is by supporting principals to feel more efficacious in their leadership work. Leithwood and Jantzi (2008) found that school leaders' collective efficacy had a strong positive relationship with effective leadership practices. Outside of education, McCormick (2001) connects the concept of leader SE to self-confidence and claims that it is probably the most important factor for leader success. "Every major review of the leadership literature lists self-confidence as an essential characteristic of effective leadership" (p. 23).

Almost all research in the field of self-efficacy uses Bandura's Social Cognitive Theory (Paglis Dwyer, 2019). Within that work, Bandura (2012) defines SE as "a judgement of capability" (p. 29). The concept of SE has been empirically shown to predict successful work performance (Stajkovic & Luthans, 1998) and has been shown to predict better outcomes in health (Bandura, 1997), academic performance (Robbins et al., 2004), and leadership (Hannah, Avolio, Walumbwa, & Chan, 2012). It is important to note the difference between general SE, defined as an "individual's perception of [his or her] ability to perform across a variety of situations" (Judge, Erez, & Bono, 1998, p. 170) and specific task SE, defined as the "beliefs in one's capabilities to mobilize the motivation, cognitive resources, and courses of action needed to meet given situational demands" (Wood & Bandura, 1989, p. 408).

The majority of SE research has either focused on task-specific or general SE as separate constructs (Schutte & Malouff, 2015). Of the few that have examined both constructs at the same time, significant correlations have been found between the two in the area of leadership (Hannah, Avolio, Walumbwa, & Chan, 2012). It is possible for someone to have high levels of general SE and low levels of SE related to a specific task and vice versa. However, researchers have found that higher levels of general SE relate to higher levels of task-specific SE (Elias, Barney, & Bishop., 2013; Luszzynska, Scholz, & Schwarzer, 2005). Additionally, increases in task-specific SE can lead to increases in general self-efficacy (Schutte & Malouff, 2015).

Murphy and Johnson (2016) define a leader's SE as an "estimate of his or her ability to fulfill the leadership role" (p. 74). Within the field of school leadership, Leithwood and Jantzi (2005) describe SE as a "belief about one's own ability, or the ability of one's colleagues collectively (collective efficacy) to perform a task or achieve a goal" (pg. 2). Paglis and Green (2002) more specifically define school leadership SE as "a person's judgment that he or she can successfully exert leadership by setting a direction for the work group, building relationships with followers in order to gain their commitment to change goals, and working with them to overcome obstacles to change" (p. 217).

Bandura (1977, 1986) states that SE impacts actual performance because it influences what activities people choose to do and how much they will persist in those activities after beginning. The bidirectional nature of interactions within Social Cognitive Theory contends that the tasks leaders engage in would also impact their SE level. To that end, McBrayer et al. (2018) found that leadership SE increased when school leaders spent more time on instructional leadership tasks and decreased when they spent more time on managerial tasks. It has also been

contended that the process of school improvement, which can include a difficult political climate, increased accountability, and the need to effectively manage change can decrease a principal's level of self-efficacy (Kelleher, 2016; McBrayer et al., 2018).

Bandura (1986) generally outlines the four sources of SE as mastery experiences, vicarious experiences, social persuasion, and psychological response. Specific to leaders, McCormick et al. (2002) identify frequency of leadership opportunities granted, the effectiveness of past leadership experiences, and the level of self-confidence in leadership skills as contributing to leadership SE. However, in reviewing antecedents of school leader SE, Seashore-Louis et al. (2010) found there was little evidence yet identified regarding the variables that impact school-leader self-efficacy.

There is little evidence that exists examining the sources of principal SE. In one study, Tschannen-Moran and Gareis (2005) identified the perceived quality of the principal's preparation program, financial resources, teacher support, and support from the central office. The central office was also a key source of principal efficacy as identified by Paglis (2010) and by Leithwood and Jantzi (2008). Years of experience were not correlated to principal SE in the study by Tschannen-Moran and Gareis (2005). However, Fisher (2014) found a strong correlation between years of experience and principal SE. Interestingly, the highest levels of self-efficacy were found during the first year of a principal's tenure and much lower levels for years two through ten. After year ten, SE improved but never reached the initial level from year one (Fisher, 2014).

Outside of the field of school leadership, researchers found positive relationships between leadership SE and cognitive ability (Quigley, 2013), emotional intelligence (Harper, 2016;

Semadar et al., 2006), learning goal orientation (Hendricks & Payne, 2007) and previous leadership experience (Chan & Drasgow, 2001; McCormick et al., 2002; Ng et al., 2008). These are important findings in relation to this study, as they indicate links between other internal antecedents and SE.

Context Matters. The context in which leadership takes place has been considered since the 1970s. In the 70s and 80s, Situational Leadership was developed (Daniëls, Hondeghem, & Dochy, 2019). This theory focused on how the dynamics of the situation should play a prominent role in how leaders interact with followers (Thompson & Glasø, 2015). After a significant decline in the 1990s and 2000s, context has again become an important consideration in school leadership research (Daniëls, Hondeghem, & Dochy, 2019; Grissom et al., 2013; Hallinger, 2011, 2018; Supovitz, Sirinides, & May, 2010).

Hallinger (2018) reviews this research and identifies six types of context that have been shown to impact leadership practice: institutional, community, sociocultural, political, economic, and school improvement. The review outlines the various ways these different contexts impact principal practices and range from the ways in which the central office impacts principal practice through mandates and support structures (Fullan, 2004; Goldring et al., 2008) to the broader political context that impacts principal practices through policies (Fullan, 2004; Lee & Hallinger, 2012; Leithwood, 2001). There is also broader research on the impact of school level (elementary/secondary), urban versus rural, school size, and student characteristics on both the types of leadership practices used and leadership effectiveness (Harris & Jones 2018; Lee & Hallinger, 2012; Louis, Leithwood, Wahlstrom, & Anderson, 2010; ten Bruggencate, Luyten, Scheerens, & Sleegers, 2012; Urick & Bowers; 2014).

Hallinger (2018) describes how these contextual factors are often left in the background of leadership studies and contends that, because of the demonstrated influence they have on principal practice, they should be made explicit in school leadership research. Leithwood, Harris, and Hopkins (2019) contend that the impact of context on school leadership is one of the seven strongest claims that can be made from the research. Specifically, the way principals apply effective practices "demonstrates responsiveness to, rather than dictation by, the context in which they work" (p. 5).

Outside of the field of education, contextual factors are also well studied (Ayman & Lauritsen, 2018; Yukl, 2011). Zacarro et al. (2018) compile this research into two categories: leadership affordances and leadership demands. Leadership affordances are the perceptions of leaders regarding what opportunities the context provides relative to the leader's capabilities and goals. Leadership demands are defined as "contextual information that signals or cues which leadership strategies and activities are necessary for performance success in a particular situation" (Zacarro et al., 2018, p. 31). Additionally, the framework labels these factors as "perceived situational characteristics" (p. 6), which reflect a focus on the importance of how the contextual factors are perceived by the leader (Zacarro et al., 2018), rather than an objective, outside measurement. This also reflects the core tenet of Social Cognitive Theory which contends that human behavior is shaped by their agency to choose, rather than only respond to environmental factors (Bandura, 1986).

Personal Leadership Resources. Among the antecedents of effective principal practices, personal capacities or competencies have been identified as holding significant promise in predicting leader effectiveness (Leithwood, Harris, & Hopkins, 2019). In researching what it takes for school leaders to improve schools, Meyers & Hitt (2017) found that surprisingly little research identifies or even hypothesizes what attributes and qualities school leaders need to possess to be successful. Sun, Chen, and Zhang (2017) conclude their review by saying that "among the antecedents of the first category [leader's own qualities], the least examined are the leaders' cognitive capacities" (p. 23). Referring directly to the connection to leadership practices, Leithwood and Steinbach (1995) state that "what administrators do depends on what they think—their overt behaviors are the result of overt thought process" (p. 7). As such, in the conclusion of their review of the antecedents of Transformational Leadership, Sun, Chen, and Zhang (2017) contend that leaders' internal characteristics may "serve as a relatively more stable mechanism from which to explain and better predict leadership effects" (p. 22).

While many of the antecedents that have been found to significantly impact leadership practices are inherent or unchangeable (i.e., general mental ability and extraversion), research has shown that personal competencies can be changed (Boyatzis, Lingham, & Passarelli, 2010; DiFabio & Kenny, 2011; Howard, Healy, & Boyatzis, 2017). Research in the field of business shows competencies are widely used for selection and development of leaders (Herman et al., 2011), but have been used far less frequently in education (Hitt et al., 2018). Leithwood and Jantzi (2005) argue that "more evidence about an expanded array of theoretically defensible antecedents ought to be a significant item on the agenda for future transformational leadership research" (p. 12).

Competencies have been defined as “the underlying characteristics of a person that lead to or cause effective or outstanding performance” (Boyatzis, 2009, p. 750). McClelland (1973) frames competencies as a collection of attributes and qualities that influence ways of thinking and behaving which then influence success in a role. Outside of education, research on the impact of competency development has empirically shown it to predict outstanding leadership and professional performance (Amdurer et al., 2014; Boyatsiz, 1982; Druskat et al., 2005).

Howard, Healy, and Boyatzis (2017) categorized the competencies that predict leadership effectiveness as emotional intelligence competencies, social intelligence competencies, and cognitive competencies. They include specific competencies such as emotional self-control, adaptability, teamwork, empathy, systems-thinking, and pattern recognition. Specific to school leadership, Leithwood (2005) labels similar factors as Personal Leadership Resources (PLRs), which are divided into cognitive, social, and psychological categories. Cognitive resources include problem-solving expertise, knowledge about schools and classroom conditions, and systems-thinking. Social resources include perceiving emotions, managing emotions, and acting in emotionally appropriate ways. Psychological resources include optimism, self-efficacy, and resilience. While using different terminology, both frameworks describe very similar categories and specific competencies.

As previously described, research has identified the important connection between social and emotional competencies and effective leadership (Brown & Moshavi, 2005; Saxe, 2011). Self-efficacy has shown similar connections (Hannah, Avolio, Walumbwa, & Chan, 2012; Leithwood & Jantzi, 2008; Sun, Chen, & Zhang, 2017) and may also be a key component to the psychological competencies of optimism (Chemers, Watson, & May, 2000) and resilience (Eden,

1988, 2001). However, the impact of cognitive capacities on leadership practice has very limited past research (Leithwood & Jantzi, 2005; Sun, Chen, & Zhang,2017). These have been termed Cognitive Personal Leadership Resources (CPLRs) by Leithwood (2012).

Executive Functioning. Although not specifically connected in the literature, Executive Functioning (EF) also conceptualizes similar underlying cognitive competencies that are responsible for successful behavior. While there is not universal agreement on each specific EF, there is significant research showing that high levels of EF have been shown to validly predict real life success in clinical settings (Lezak et al., 2012). Generally, EF refers to one's ability to engage in planning and decision-making, conceptualize one's needs, and engage in purposeful action to achieve those needs (Lezak et al., 2012). There is general agreement that these cognitive functions are "(a) critical to complex, adaptive, self-directed behavior, (b) called into play when confronted with novelty, and (c) representative of higher-order critical functioning" (Ramchandran et al., 2016, p. 328). When compared with the types of behaviors outlined in TL theory, it appears that these processes would be critical cognitive antecedents to those behaviors and be similarly related to the problem-solving capacities outlined by Leithwood (2012) within the Cognitive Personal Leadership Resources (CPLRs) category.

For example, one EF framework with a strong theoretically and empirically derived clinical scale contains nine components (Roth, Isquith, & Gioia, 2005): Inhibition, Self-Monitoring, Plan/Organize, Shift, Initiate, Task-Monitoring, Emotional Control, Working Memory, and Organization of Materials. Inhibition describes a person's ability to regulate their emotions. Self-Monitoring evaluates a person's ability to track their own behavior and its impact on others. Plan/Organize outlines a person's ability to manage current and future task demands.

Shift describes a person's ability to change his/her behavior/thinking based on contextual factors. Initiate outlines a person's ability to generate ideas, responses, and problem-solving strategies. Task-Monitoring refers to a person's ability to evaluate his/her problem-solving strategies. Emotional Control describes a person's ability to modulate emotional responses. Working Memory relates to the capacity of holding information in one's mind with the purpose of responding and task completion. Lastly, Organization of Materials assess orderliness in the environment and tracking personal objects.

These are similar to the problem-solving process described by Leithwood (2012) in his CPLRs: Problem Interpretation, Goals, Principles and Values, Constraints, Solution Processes, Mood. Problem Interpretation refers to the leader's ability to analyze and prioritize the problem. Goals relate to the short-term purpose of the leader. Principles and Values are the long-term purposes of the leader. Constraints involve analyzing the problem to identify possible barriers and obstacles. Solution Process includes the careful planning of details. Mood is the leader's emotional response to the problem. Thus, the use of EF measures may help to evaluate the impact of CPLRs on effective principal practices.

The only study found directly examining the link between Executive Functioning (EF) and leadership behavior (specifically TL) was limited to cognitive control and decision-making (Ramchandran et al., 2016). That study found that both functions interacted to predict TL behavior as a whole. The study also controlled for both general mental ability and extroversion since they have been identified as having a significant impact on TL already. Additionally, the study examined both the main effects of the two EF analyzed, as well as their individual effects beyond the main effects, and found that, together, they were responsible for 17.4% of the

variance in TL and approximately 8.6% beyond that main effect. The study did not examine the connection between specific executive functions and specific components of TL. The authors conclude, "while the known domains of transformational leadership describe leader behaviors, individual executive constructs may serve as fine-sliced, relatively transparent indicators of how these larger domains are operationalized, of which our study has tapped two, namely decision-making and cognitive control" (p. 339). No other studies were found attempting to examine the connection between EF and leadership practices.

Leadership Antecedents Conclusion

Zacarro et al.'s (2018) framework provides the most recent and most comprehensive view of the various antecedents that have been researched in the effort to better understand and predict effective leadership behavior outside of education. Reviews specific to Transformational Leadership (TL) have characterized these antecedents as either internal or external to the leader, but consistently note the lack of comprehensive research outlining the various antecedents and how they might interact to predict leadership behavior. Within the field of school leadership, Leithwood's (2014) framework attempts to incorporate some of these antecedents as personal-leadership resources.

These personal-leadership resources are categorized as cognitive, social, and psychological. While there are a number of research studies connecting the factors within the social (Herbet, 2010; Saxe, 2011; Bass, 2002) and psychological categories (i.e., self-efficacy) (Hannah, Avolio, Walumbwa, & Chan, 2012; Leithwood & Jantzi, 2008; Sun, Chen, & Zhang, 2017), there is very little research examining a school leader's cognitive resources and how they might influence effective principal practices.

Summary of Chapter Two

In summary, there is a large body of research identifying many different antecedents to leadership practices (Zaccaro et al., 2018). However, reviews of the antecedents specific to TL in education have consistently found a limited number of antecedents and a lack of comprehensiveness (Boyan, 1988; Leithwood & Jantzi, 2005; Sun, Chen, & Zhang, 2017). These reviews have categorized the antecedents identified into those internal to the leader and those that are external influences. While recognizing the importance of examining the impact of external factors, a number of researchers have identified the need to further explore the specific internal competencies of leaders (Hitt et al., 2017; Howard, Healy, & Boyatzis, 2017; Sun, Chen, & Zhang, 2017; Robinson, 2010). While different terms have been used to label these internal antecedents (i.e., personal resources, competencies), researchers have identified their potential in predicting leadership behavior (Howard, Healy, & Boyatzis, 2017; Sun, Chen, & Zhang, 2017; Leithwood et al., 2005). Yet, there is still a dearth of empirical research that examines the impact of these competencies on effective principal practices.

CHAPTER THREE

METHODS

This chapter provides an overview of the methodologies selected for this research. An introduction to the selected research design is followed by a description of participant selection, data collection methods, and instruments used. Finally, the chapter concludes with a discussion of the trustworthiness, assumptions, and limitations of the study.

The goal of this study was to examine the relationship between cognitive personal-leadership resources, self-efficacy, principals' perceptions of contextual affordances and demands, and effective principal practices. The study was conducted in three phases: phase one: preparation and piloting the questions; phase two: participant identification and quantitative data collection; and phase three: qualitative data collection. Phase one included site selection, instrument preparation, and piloting the questions to ensure their trustworthiness in accurately acquiring the perceptions of the concepts being studied. Phase two involved administering the screening survey to identify participants. During phase three, qualitative data were collected through multiple interviews and artifact collection.

Positionality

It is important to recognize the personal beliefs of the researcher as they relate to the research being conducted in order to recognize how they might be impactful (Savin-Baden & Howell-Major, 2013). This includes how the researcher is connected to the topic being studied, the participants, and how the research is being conducted.

The research design is impacted by the researcher's interpretive framework and corresponding beliefs (Creswell & Poth, 2018). Described below, I generally subscribe to a postpositivistic worldview, while taking a pragmatic approach to conducting research. It is important to note how each of these belief systems may influence the design and conducting of this research. Postpositivism contends that there is a single reality, testing of theories is important, and that cause-and-effect relationships exist (Creswell & Poth, 2018). While many postpositivist researchers rely primarily on quantitative methods, pragmatism involves both quantitative and qualitative approaches and multiple methods to answer the research questions.

My position in relation to the topic being studied is also important to note. As a former school leader, I recognize that I may carry internal bias related to my personal experience in that role. It is important to continually reflect on how my experience is not the same as other school leaders. This is helped by the fact that I have coached many school leaders across multiple states and many different contexts. This has given me a much broader view of what the role entails. However, it has also led me to exploring why principals do not enact more of the practices that research has identified as being impactful for student achievement. It was critically important for me to be continually aware of how that bias might have been evident in this research. For example, I may have been prone to note evidence that confirms principals are not implementing those practices.

Additionally, it is important to discuss my position in relation to the participants in the study. To answer the questions in this study, I sought a site that had a sufficient number of school leaders to provide variation in participants, but not so large as to be infeasible. While the district selected fits the needs of the study, it is also a district within which I have worked as a consultant

and have some personal relationships with the participants. This proximity can be a benefit or a hinderance. The previous working relationship allowed me access to conducting the research and allows me a much broader understanding of the context. However, I needed to ensure that understanding did not lead to a bias while analyzing the data.

Research Design

Overview of Research Paradigms

Creswell and Creswell (2018) contend that the selection of research methodologies is based on the philosophical assumption of the researcher (called "world view" by the authors) and the research problem that has been identified. These methodologies include the research approach (quantitative, qualitative, or mixed-methods), the research design, and the research methods. Slife and Williams (1995) contend that, while philosophical assumptions are often omitted from research, they should be made explicit as an important part of understanding methodology selection.

Worldviews are also called paradigms (Mertens, 2010) or ontologies and epistemologies (Crotty, 1998). The postpositivist worldview most accurately captures my beliefs regarding the nature of reality and best fits the theoretical framework presented. A postpositivist worldview subscribes to the positivist assumptions that the world is structured around scientific principles: there is one reality, reality is measurable, reliable, and valid, and cause and effect can be predicted (Teddlie & Tashakkori, 2009), while still recognizing that researchers may not be absolutely positive about their results (Phillips & Burbules, 2000). Additionally, postpositive beliefs hold that there are causes and effects that can be empirically tested. Thus, the theoretical

framework presented by Zacarro et al. (2018) can be seen as representing a complex model of cause-and-effect relationships among many different variables.

However, the bidirectional influences described in Social Cognitive Theory (SCT) (Bandura, 1986, 1997, 2001, 2005) between the person, their environment, and their behavior necessitates a deeper exploration of the interaction between the variables. The number of possible antecedents, coupled with the complexity of interactions, is best studied using a pragmatic research design.

Pragmatic Design

Pragmatic research is "an approach that draws upon the most sensible and practical methods available in order to answer a given research question" (Savin-Baden & Howell-Major, 2013, p. 171). Pragmatic methodology works within three underlying principles (Kelly & Cordeiro, 2020). It should highlight actionable knowledge, connect experience to knowing and acting, and be an inquiry based, experiential process. These three principals are present in this study, thus aligning it to a pragmatic methodology. First, results from the study have the potential to impact principal development. Second, an SCT lens requires the exploration of the interconnectedness of experience, knowing, and action. Third, while the theoretical and conceptual framework for the study imply specific relationships between variables, not enough is known about their interactions. Thus, a pragmatic, inquiry-based approach to the research leaves possible methods open as the research progresses.

Although the focus of this study is the interaction between cognitive personal-leadership resources, principals' perceptions of contextual affordances and demands, self-efficacy, and principal practice, there are many other factors that may impact those interactions. Thus, a case-

study approach is an appropriate methodology for answering the research questions (Savin-Baden & Howell-Major, 2013).

Case Study

Yin (2014) and Merriam (2009) outline several essential features of a case study. First, a case study must be bounded, which outlines what is included and what is excluded in the study. For example, a case study may be defined within the parameters of location, time, or group (Johnson & Christensen, 2017). Second, a case study is holistic (Savin-Baden & Howell-Major, 2013), describing the case in its entirety, including the relationships between the parts and the whole of the case. A case study is particularistic, meaning that it is specific in nature rather than general. A case study is contextual, as the context is vital in understanding the case. Lastly, a case study is concrete, relying on in-depth descriptions to help the reader understand the meaning of the case (Savin-Baden & Howell-Major, 2013; Merriam, 2009).

This study is bounded by location and participants. The location is a moderate-size school district in the Midwest. As the study seeks to better understand the relationship between antecedents and leadership practice, and is not specific to a certain demographic, the primary factor considered for location was feasibility. In this case, the researcher had access to the district and it offered a sufficient number of school leaders with similar backgrounds (i.e., the same school level and more than three years tenure), without having too many to realistically study. While the location of the study is a single school district, the unit of analysis is the individual school leader.

Furthermore, this study is holistic, particularistic, contextual, and concrete in the following ways. The study is holistic, as it examined the case from different perspectives:

principals and instructional coaches, as well as multiple data sources: interviews, survey, and artifact analysis. The study is particularistic and contextual as it focused on the specific antecedents of cognitive personal-leadership resources, self-efficacy, and principals' perceptions of contextual affordances and demands. Lastly, this study is concrete as the case narrative includes thick descriptions of the case (Gay, Mills, & Airasian, 2009).

Ultimately, a collective case-study design was selected for this research. A collective case study allows a researcher to "jointly study a number of cases in order to investigate a phenomenon" (Stake, 2000, p. 437). Examining multiple school leaders within the same district provides the opportunity to contrast the specific variables of this study. This common link provides the opportunity to examine the interaction between the variables from multiple perspectives (Stake, 2000) and focuses on the phenomena, rather than the individual cases.

Purposeful Selection of Participants

The first part of phase one was to complete site selection and the necessary approvals and consent for the research to take place. The pragmatic approach used to design this study emphasizes the importance of the research questions in selecting the participants for the study. In this case, the research questions are not specific to a certain context (i.e., rural/urban or school-improvement status) or a particular participant characteristic (i.e., years of tenure or ethnicity). While a multiple case-study approach with participants from different school districts was considered, it was determined that using one district would provide a better analysis of the contextual variable being studied. As noted in the literature (Zacarro et al., 2018), it is the principal's perception of the context that is important, rather than the context itself. Having all

participants within the same context allows for a contrast in perception, rather than the context itself.

Thus, the site selection criteria began by identifying a single district that had a sufficient number of school leaders to reach saturation, but not so many that the identification process would be infeasible. Based on the desire to select participants with contrasting rating levels on the variables being studied, it was determined that three to four participants would be appropriate. It was then determined that a district with ten to twenty school leaders would most likely provide a large enough pool to obtain the desired number of participants, without making the identification process infeasible. At the same time, this number would allow for some anonymity among the participants.

The selected site is a moderate-size district in the Midwest. The district has twelve elementary principals, five secondary principals, and nine secondary assistant principals. In order to identify participants who are as similar in background as possible, it was determined to focus on the twelve elementary principals who had also been in their role for three years or more. This limited the possible population to ten elementary principals.

Identification of participants involved collecting data regarding the school leaders' levels of self-efficacy, cognitive personal-leadership resources, perceptions of contextual affordances and demands, and effective practices. The screening tool (see Appendices B and C) was modified from a self-assessment created by The Institute for Educational Leadership (2014). A full description is provided below. As mentioned previously, having the instructional coach also complete the survey adds reliability to the principal self-assessment.

Results from each survey were compiled to provide data profiles for each building principal. Of the ten possible participants, three were selected who provided the maximum variation within the sample. Ideally these would have represented high CPLRs with high effective practices, low CPLRs with high effective practices, high CPLRs and low effective practices, and low CPLRs with low effective practices. Ultimately, there were no participants identified as having low levels of effective principal practice. Thus, participants were selected to vary among CPLRs, self-efficacy, and perceptions of contextual affordances and demands.

Data Collection Procedures

After the identification of participants, the qualitative data collection process began. This section outlines the procedures and measurement tools that were used in this study.

Screening Process

The screening tool utilized in phase two was primarily derived from the Ontario Self-Assessment Tool for School Leadership (Institute for Educational Leadership, 2013). This tool was based on The Ontario Leadership Framework (Leithwood, 2012), which was developed after extensive review of the empirical research regarding effective leadership practices (Leithwood et al., 2007). Both the self-assessment and leadership framework include sections on effective leadership practices and personal-leadership resources. Practices are defined as "a bundle of activities exercised by a person or group of persons which reflect the particular circumstances in which they find themselves and with some shared outcome(s) in mind" (Leithwood, 2012, p. 5). These practices are organized into five domains: Setting Directions, Building Relationships and Developing People, Developing the Organization to Support Desired Practices, Improving the

Instructional Program, and Securing Accountability. Personal-leadership resources are defined as "leadership traits and dispositions most likely to influence the effectiveness with which leadership practices are enacted" (Leithwood, 2012, p. 4) and are grouped into cognitive resources, social resources, and psychological resources.

The screening tool (see Appendices B and C) utilizes the five domains of effective leadership practices, the three sections of cognitive personal-leadership resources, and the self-efficacy section within the psychological personal-leadership resource domain. Additionally, two questions were added to determine a leader's perceptions of contextual affordances and demands. These questions were derived from Zacarro et al. (2018), which summarizes the importance of individual perceptions of context demands and affordance.

While the Ontario Leadership Framework was developed after extensive research (Leithwood et al., 2007), the Ontario Self-Assessment Tool for School Leaders (The Institute for Educational Leadership, 2013) has not been previously used as a screening tool. Thus, the questions in the tool were examined by current and former school leaders to ensure their trustworthiness in capturing the perceptions of the concepts being studied. Results from participants were also compared with those from their instructional coaches and with information obtained through the interview process to examine consistency of findings.

The screening tool was electronically administered to each possible participant and the instructional coach in their building.

Interview Process

During phase three, qualitative data were collected through multiple interviews from each selected participant and a single interview from the building instructional coach. Collecting data

from a subordinate with knowledge of both the principal's practices and his or her thinking, provides a triangulation of data and a richer description of the case. Additionally, conducting multiple interviews over time captures shifts in thinking and changes in the ways that thinking is expressed. Asking the same question multiple times adds an additional triangulation of data (Seidman, 1991).

Principal Interviews

The initial participant interview (see Appendices B and C) served two main purposes: gathering participant background information and conducting the first Behavior Event Interview (BEI) and artifact Stimulated-Response (SR). Since the purpose of the study was to examine the relationship between the antecedent variables and principal practices, a data collection method was needed that could capture both principal behavior and also his or her internal cognitive processes related to that behavior.

BEIs are a type of incident interviews (Flanagan, 1954) that have been shown to obtain accurate descriptions of work behavior (Motowidlo et al., 1992; Ronan & Latham, 1974) and provide the opportunity to explore participants' cognitive processes surrounding the event. Artifact SR is a specific form of stimulated recall, developed by Bloom (1953) and refined by Wagner et al. (1997). The artifact has the potential to stimulate recall of the situation or process more successfully than free recall (Lyle, 2003; Dempsey, 2010).

For this study, the events and artifacts were selected to reflect the five domains of effective leadership and questions were targeted to explore the participant's cognitive personal-leadership resources, self-efficacy, and perceptions of contextual affordances and demands. The two events that participants were asked to consider were a recent challenging conversation with a

teacher and a time when they had a challenging situation with a student or parent. The two artifacts that were used are the school-improvement plan and the principal's daily or weekly calendar.

The second principal interview took place one to two weeks after the first. The participants were encouraged to identify and reflect on any challenging events that occurred during the intervening time. The participants were asked similar questions to the first interview, but specific to the events from the intervening time (see Appendix E). This served two purposes. First, it provided a recent event that could be analyzed. This had the potential to lead to more detailed information than the first interview. Second, the first interview had "primed" the participant to consider their thinking during these events. This provided the opportunity for them to be more aware of their thought processes, thus leading to more detailed information.

Subordinate Interviews

Between the first and second principal interviews, interviews were conducted with the instructional coach from each building. The purpose of this interview was to provide triangulation, as well as a thick description of the case. The instructional coach was selected as the most likely person to have knowledge regarding the participant's cognitive personal-leadership resources and their relationship with the principal's practices. The coach was asked to reflect on two times when he or she worked with the participant to plan for or reflect on actions the principal had taken. Again, questions were targeted at exploring the principal's use of cognitive personal-leadership resources during those events (see Appendix F).

Data Analysis Procedures

Over the last several decades, qualitative researchers have sought to ensure data analysis methods that were considered rigorous by the research community (Savin-Baden & Howell-Major, 2013). Pietkiewicz and Smith (2014) characterize the process as both complex and time consuming. To conduct a valid comprehensive analysis, qualitative researchers must immerse themselves in their data (Savin-Baden & Howell-Major, 2013). The general process includes organizing the data into segments (Johnson & Christensen, 2017), reading and recording memos that lead to identifying codes from the text, classifying the codes into themes, and interpreting the themes (Cresswell & Poth, 2018). The last step is to represent the data visually through matrices, tables, figures, and diagrams (Savin-Baden & Howell-Major, 2013). The process of coding is how researchers make sense of the large quantities of data utilized in a qualitative study.

The purpose of data analysis is to "bring meaning, structure, and order to the data" (Anfara, Brown, & Mangione, 2002, p. 31). The analysis procedures for this study use Yin's (2014) suggestion of starting with a general analytic strategy to define priorities about what to analyze and why, but also recognize that data collection and analysis should take place simultaneously (Merriam, 2009). In this case, data from phase two were analyzed to identify a purposive sample for the study. Additionally, insights gained from each data source in phase three had the potential to influence subsequent data collection.

Data were initially prepared by transcribing all the interviews and organizing all data by case (i.e., collecting interviews, artifacts, and screening data together). This allowed for an individual analysis of each case before the comparative analysis took place. Within each case, an

iterative process of reviewing the various data sources took place. First, the two principal interviews were analyzed to determine initial themes within the data. Second, an analysis of the subordinate interview and artifacts were then used to check the initial themes and to identify other possibilities. Finally, any additional themes were then used to revisit the principal interviews.

Agar (1980) suggests reading the transcripts and other data several times, immersing yourself in the details before analyzing. While reading and re-reading, memoing procedures took place. After the initial immersion and memoing process, the coding process began using the target variables for the study: effective principal practices, self-efficacy, cognitive personal-leadership resources, and perceptions of contextual affordances and demands. As these initial codes are derived from previous studies, they increase the credibility of the codes. Creswell (2012) refers to the idea of starting with a small number of codes as "lean coding."

However, as Marshall and Rossman (2015) suggest, researchers must keep an open mind for alternative understandings that may challenge their own. In this case, the second part of the coding process used inductive reasoning to determine any new codes beyond the initial set. Ultimately, the process involved reducing the number of codes by grouping similar codes and deleting duplicates.

After each individual case was analyzed, the cross-case analysis was conducted. This analysis utilized a document with three columns where the emerging themes from each case were placed to facilitate a holistic view. These themes were sent to participants as a member check and to gather any additional feedback they may have had. All three responded with their

agreement with the themes and had no additional additions. Ultimately, this process led to the themes presented in Chapter Four.

To assess the dependability of the codes and categories developed in the analysis, a colleague used the codes established in the analysis and Cohen's kappa coefficient was calculated to measure inter-rater reliability. Cohen's kappa is considered a more robust measure than other agreement calculations (Sun, 2011). While not feasible to have peer coding completed on all data sources in this study, the colleague examined all sources from one participant. Cohen's kappa coefficient was calculated to be .825. This sample was sufficient to ensure reliable coding before the comparative analysis across the participants.

Trustworthiness of Methods

Establishing validity and reliability is an important component of all research. Validity reflects the accuracy or truthfulness of the findings (Ary, Jacobs, & Razavieh, 2002) while reliability ensures that the results are repeatable (Savin-Baden & Howell-Major, 2013). There is much debate surrounding the use of those terms in qualitative research (Savin-Baden & Howell-Major, 2013) and often the terms "credibility" or "trustworthiness" are used. Trustworthiness can be determined by addressing issues that deal with the accuracy and integrity of the research findings (Gay et al., 2009; Yin, 2014). When qualitative researchers refer to validity and trustworthiness, they are describing research that is plausible, credible, and defensible (Johnson & Christensen, 2017).

There are a variety of strategies that can maximize a study's credibility and trustworthiness. Creswell and Poth (2018) place these strategies into three categories:

researcher's lens, participant's lens, and reviewer's lens. The authors recommend using at least one strategy from two different categories. Additionally, Stake (2000) recommends the use of triangulation and member checking specifically for case-study research. For this study, trustworthiness will be achieved by implementing five different strategies.

From the participant's lens, member checks were conducted. Member checks are a strategy where the participants verify the accuracy of the data collected and can include initial interpretations of the data to ensure it is being interpreted in the way the participants intended. Two strategies were used from the reviewer's lens. First, a second reviewer independently reviewed the data collected to generate inter-rater reliability surrounding the themes identified in the study. Second, audit trails are a means of documenting the entire research process in a way that can be replicated by another researcher (Creswell & Creswell, 2018). Memoing, field notes, and transcription records were all part of the audit trail in this study.

Within the researcher's lens, reflexivity requires that the researcher locates him or herself within the research (Miller et al., 2012). This means understanding his or her own biases and predispositions that may influence the design of the study and the interpretation of the results. This begins with the positionality statement in this chapter and continues by embedding consistent opportunities to reflect on the possible influence of bias throughout the study (Creswell & Poth, 2018). This occurred after each phase of the research. The second trustworthiness strategy from the researcher's lens that was used in this study is the triangulation of data. For this study, survey data, artifact analysis, and multiple interviews from different perspectives all provide varying sources that can be compared to ensure the accuracy of findings.

Ultimately, the way in which existing theory can be applied to the results has also been noted to increase the validity of the study (Savin-Baden & Howell-Major, 2013). In this case, the existing theoretical framework outlined by Zaccaro et al. (2018) and SCT (Bandura, 1986, 1997, 2001, 2005) provide the basis for that analysis.

Assumptions and Limitations

It is important to note assumptions and limitations within a study to accurately frame the results presented. Assumptions are inherent in the theoretical framework and study design. Limitations come from the study design and include the variables selected for study, the data collection process, the measurement tools used, and the bounded nature of the case study.

SCT (Bandura 1986, 1997, 2001, 2005) contains three major assumptions: reciprocal influence between the variables, personal agency, and that cognition leading to learning is different than actions taken from that learning. The framework of leadership antecedents outlined by Zaccaro et al. (2018) assumes a cause-and-effect relationship. Perhaps the most important of these is the assumption of personal agency. While context and personal characteristics may influence behavior, the theory assumes that people still have the ability to choose their actions. Additionally, a case-study design, as with all qualitative research, relies on the assumption that information reported by participants is truthful.

As this case study is bound by location and time, results are limited to the case itself. Even within the bounding, it is important to note other limitations to the study. First, participants were purposefully selected to be more homogenous in certain demographic characteristics—having at least three years of administrative experience and working in elementary schools—in

order to focus contrastive analysis on the variables in the study. Additionally, all the administrators in this district are Caucasian. This means that results may or may not be applicable to other demographics (i.e., new administrators or administrators of color). Second, the case took place in a moderate-sized school district in the Midwest. Careful consideration needs to be made when considering other possible contexts.

While based on a comprehensive review of the educational leadership literature (Leithwood et al., 2007), the self-assessment tool from which the screening survey used in this study was drawn, has not previously been used as a research measure. Although the questions were piloted with current and former school leaders, a full pilot study was not conducted. Thus, while the tool supported the general identification of participants, its validity and reliability have not been established.

Another important limitation is the focus on the variables in the study. While treating the case holistically and attempting to collect information regarding other contributing factors, the primary goal for this study is to examine the relationship between cognitive personal-leadership resources, effective principal practices, self-efficacy, and beliefs about contextual affordances and demands. This focus limits considerations surrounding the many other antecedent variables that may impact those relationships.

CHAPTER FOUR

RESEARCH FINDINGS

Research shows the impact of school leadership on student outcomes (Hallinger & Heck, 1998; Heck & Hallinger, 2014; Leithwood & Louis, 2012; Leithwood, Harris, & Hopkins, 2019). While much is known about effective leadership practice, there has been little change in actual principal practices over the last thirty years (Goldring et al., 2015; Murphy et al., 2016; Spillane & Hunt, 2010; Sebastian et al., 2017). While there has been an increased focus on what effective principals do, there has been limited focus on the underlying competencies necessary to enact those skills. A large body of research highlights the varying antecedents of effective leadership, but there exists a gap in the research regarding leaders' cognitive abilities (Leithwood & Jantzi, 2005; Sun, Chen, & Zhang, 2017). As defined by Leithwood (2012), these abilities have been termed Cognitive Personal Leadership Resources (CPLRs).

CPLRs consist of three categories. The first is problem-solving and includes spending time analyzing the problem, prioritizing based on student learning and values, and remaining calm during the problem-solving process. The second category, knowledge about school and classroom conditions, focuses on a principal's knowledge of conditions that foster student learning: classroom instruction, school culture, school organization, and the influence of family conditions. Finally, systems-thinking describes a principal's ability to understand the complex connections across the organization and the foresight to engage the organization in likely futures and the consequences of actions.

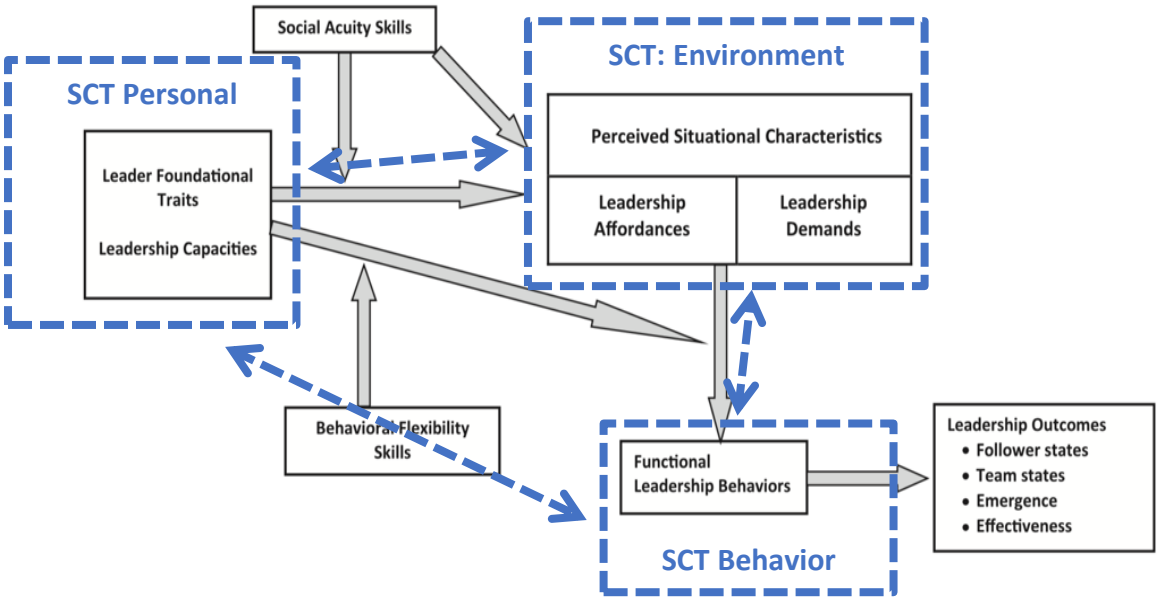
Given the important role that principals play in creating effective schools, research into ways of improving principal practices offers great value to society. Research regarding the antecedents of effective principal practices offers the potential to improve implementation of those practices. The purpose of this study is to explore the relationship between CPLRs and effective principal practices.

Recognizing the complex interaction of leadership antecedents, additional factors were considered *a priori* to conducting the study. While several factors have been identified as influencing leadership practice (i.e., general intelligence, extraversion) self-efficacy and perceptions of contextual demands and affordances were selected. Prior research reviews have concluded that one of the steadiest antecedents to effective leadership is self-efficacy (Sun, Chen, & Zhang, 2017) and it is a central component of Social Cultural Theory (SCT). Context is also a foundational component of SCT and it has been identified as a key, and often missing, component of leadership studies (Hallinger, 2018; Leithwood, Harris, & Hopkins, 2019). Thus, the research question for this study was: How are CLPRs, school leadership practices, context, and self-efficacy perceived to connect within a Midwestern school district?

As mentioned previously, the study utilizes an SCT framework to highlight key components within the leadership antecedent framework outlined by Zaccaro et al. (2018). (See Figure 4.1.) This framework highlights the difference between distal antecedents, which are generally static (i.e., traits) and proximal antecedents that are more malleable (i.e., competencies). SCT theory posits a bidirectional relationship between personal antecedents, context, and behavior.

The complex interaction of these components and the multitude of other possible variables necessitates a deep exploration provided by a pragmatic research design. A collective case-study approach would be the most appropriate methodology to facilitate this deep exploration. A collective case study allows the researcher to "jointly study a number of cases in order to investigate a phenomenon" (Stake, 2000, p. 437) and focus on the phenomena, rather than the individual cases (Stake, 2000).

Figure 4.1. Overlap of Social Cognitive Theory and Leadership Antecedents



Note: Overlap of the reciprocal determination of Social Cognitive Theory (SCT) from *Social Foundations of Thought & Action: A Social Cognitive Theory* (Bandura, 1986) and the leadership antecedents outlined in *Leader individual differences, situational parameters, and leadership outcomes: A comprehensive review and integration* (Zaccaro et al., 2018).

Data were collected from three principals and their instructional coaches at a moderate-sized school district in the Midwest. Participants were purposefully selected using a self-assessment and subordinate survey exploring participants perceptions of their leadership

practices, CPLRs, context affordance and demands, and self-efficacy. Results are displayed in table 4.1. From the original ten potential participants, eight had both the principal and coach complete the screening tool. Means from each category were computed for each participant and their instructional coach.

Participants were selected to provide as much variance as possible. The highest and lowest scores were identified within each category, as well as the second highest and lowest. The number of high and low scores were calculated for each participant to determine which would provide the greatest variance. Participant five had the most with 6, while participant four had the second most with 4. Participants one, two, and three each had 3. Of those, it was decided to select participant one, as two of her three scores were the highest in the group. Thus, participants one, four, and five were identified to participate in the study.

Table 4.1. Screening Results

	Principal Practice		CPLRs		Leader Self-Efficacy		Perceptions of Context			
School	Principal	Coach	Principal	Coach	Principal	Coach	Principal	Coach	Number of highs and lows	Number of highest and lowest
1	3.75	**4.60**	3.50	**4.70**	3.67	4.33	**3.50**	2.50	3	**2**
2	3.75	3.50	3.70	**2.80**	3.67	**3.33**	2.50	**2.00**	3	1
3	4.35	**3.45**	4.40	3.60	4.33	**4.67**	2.50	**3.00**	3	0
4	4.15	3.95	3.70	3.80	**4.67**	**2.00**	**3.00**	**3.00**	**4**	1
5	**3.20**	**4.55**	**3.10**	**4.90**	3.67	**5.00**	**1.50**	2.50	**6**	**4**
6	3.50	4.10	3.50	3.90	4.00	4.00	**2.00**	**2.00**	2	0
7	4.10	3.80	4.10	3.30	4.33	**4.67**	2.50	**3.00**	2	0
8	4.10	3.85	4.00	4.10	4.33	**4.67**	2.50	**1.50**	2	1

Note: Highest, second highest, lowest, and second lowest scores in each category are boldface.

Interview data collected include two interviews with the principal and one with their instructional coach. The principal interviews were spaced approximately two weeks apart to facilitate participant reflection and allow time for the instructional coach interview in-between. The interviews utilized a modified behavior event interview (BEI) and artifact stimulated-response (SR) structure. The instructional coach interview was used to validate topics from the first principal interview, as well as identify other possible topics to be discussed in the second principal interview. Additionally, the principal's daily or weekly schedule was analyzed, as well as their broader school-improvement plan. These also provided the context for the BEI and SR components of the principal interviews.

Analysis of data occurred during and after each phase of the study. As mentioned previously, data from the screening tool were used to select the participants. After each interview, general "codable moments" (Saldaña, 2021) were identified while the information was fresh. Data were organized into cases and one was selected to use for interrater reliability. Cohen's kappa coefficient was calculated to be .825. Each case was analyzed individually before a comparative analysis was conducted.

This process included reading/listening to the interview to identify initial codes. After analyzing each interview and artifact for a specific case, the interviews were all re-read in one setting and coded a second time with the holistic perspective of the entire case. The four *a priori* codes (principal practices, CPLRs, self-efficacy, and principal's perceptions of contextual affordances and demands) were highlighted throughout. After this coding process, themes began to emerge for the case. The analytic memos captured throughout the process were also analyzed when considering these emerging themes.

After the emerging themes from each case were identified, a cross-case analysis was conducted. The emerging themes were placed in a three-column document that facilitated viewing them next to each other. Ultimately, this led to the identification of the themes presented in this chapter. These initial themes were sent to participants as an initial member check. All three indicated their agreement with the themes identified and had no additions or other changes.

Analyzing the data to answer the research question for this study led to the identification of four major themes. The first is that principals spend much, if not most, of their time engaged in problem-solving activities. These may be proactive problem-solving (i.e., school-improvement efforts or planning for a staff meeting) or they may be reactive (i.e., managing student discipline, dealing with a staffing issue, or figuring out a new district initiative). As one of the CPLRs identified by Leithwood (2012), this reinforces the possible importance of this skillset.

The second theme that emerged from the data is how principals use their problem-solving skillset to prioritize practices given the limited time available. Managing time and prioritizing practices were the most often discussed topics across all participants. While time was explicitly stated by the participants as a barrier to effective practices, the third major theme from the data was not explicit. While each participant discussed their process for problem-solving their lack of time and interruptions to their planned practices, they each articulated specific challenges to the process based on conflicting priorities. The challenge was generally not selecting which practice would be more impactful given a clear ranking (i.e., fostering effective professional learning communities is relatively more important than planning for the upcoming staff party), but debating actions that were generally perceived to be equally important or in conflict (i.e.,

burdening teachers with too much, but also wanting to build their capacity or acting as a servant-leader, but not taking on too much themselves).

The fourth theme that emerged from the data was the identification of additional skills and abilities that impact both CPLRs and effective principal practices beyond self-efficacy and perceptions of contextual affordances and demands. These include effective communication skills, the ability to have difficult conversations, strategic planning, and change management. In short, principals spend much of their time problem-solving, that problem-solving often involves how to prioritize practices given their limited time and interruptions to their plans, this prioritization is made more difficult by practices that may be in conflict, and that there are additional skills principals need to enact both CPLRs and effective practices.

The following sections describe the participants of the study and the full description of the data analysis results. While the study focuses on proximal antecedents of effective leadership, the broader framework from Zacarro et al. (2012) captures the known importance of various distal antecedents. Some of these can be seen in the description of participants and will be discussed further in Chapter Five. The data-analysis section describes the four themes introduced previously and the connections with CPLRs, effective principal practices, leader self-efficacy, and perceptions of contextual affordances and demands.

Description of Participants

Jill

The first participant, called Jill for the purpose of this study, has been a principal at her current school for seven years. Prior to becoming a principal, Jill was a teacher and an

instructional coach for two years. Her mom has been a school secretary for almost her entire life. She describes being around education for as long as she can remember and how that shaped her decision to become a teacher. Additionally, she describes serving in almost every role in the district at one time or another: summer maintenance assistant, aide, substitute, English Learner (EL) teacher, third-grade teacher, instructional coach, and finally principal. This is her first principal assignment.

Jill describes her time teaching as having been part of a really strong team of teachers who taught her to develop strong relationships, and to not take things personally, but rather to focus on the student and the situation. She also says that her two former principals gave her "freedom, freedom to make change, freedom to do different things." She completed a master's degree in reading and language arts and ultimately became an academic learning coach. Originally this position was much more focused on student interventions, rather than instructional coaching. She describes missing having a classroom and really developing relationships with students.

Before becoming a principal, Jill served in various leadership roles. These include being the head teacher for the summer school program, building leadership teams, and various other school and district committees. Ultimately, Jill became a principal in her current building years ago. She describes herself being reluctant to pursue educational leadership, because she was "a curriculum geek." However, she now states that she loves being a principal, because it allows her to do curriculum components and she feels like she has a huge classroom again. "I have all of my kids and those families and those connections are back, so I get the balance of both [curriculum work and relationships]."

Jill describes the role of a principal as the balance of inspiring people and instructional leadership. She says this is true for all stakeholder groups: students, parents, and her staff. She focuses on relationships first to help her know how to best support each person. “I have to figure out…the most impactful path for them to get to their end result. And it’s my job, also, to know what their goal is and also help stretch them just a little bit farther, too.” She identifies her biggest internal barrier to being more effective as not being able to say no to things, which take up more of her time. She identifies enrollment-driven staffing as her biggest external barrier as it forces staff movement and frequently integrating new teachers into her building.

Steve

Steve was an elementary teacher for nine years at various grade levels. He completed a master’s degree in curriculum and instruction, but realized it did not offer many career advancement opportunities. He then completed a second master’s degree in school administration. This led to an assistant principal position for a year in a different district and then as principal at his current school. He has been a principal there for 13 years.

When asked directly, Steve describes the role of the principal as “primarily to lead the school and take it in a direction.” He contrasts this with describing how it is not day-to-day management, although he states that is often a lot of what a principal ends up spending his time on. Ultimately, he states the role of the principal is “to see the needs, set a vision, and ultimately move the school toward that vision.” He describes getting feedback from stakeholders on their priorities and the school’s direction and trying to align them. He prioritizes his time to work directly with staff to clarify the vision, answer questions, and connect the work being done to that vision.

Throughout the interviews, Steve described himself as being a "servant-leader and help alongside the people and to help…them grow and become a better professional, better person…" He describes himself as being a problem-solver and having a natural tendency to want to fix things. He often contrasts this with his belief in empowering people to be better.

Steve identifies self-confidence as his biggest internal barrier and describes the connection between that and the pressure from external accountability structures. "I think it [confidence] definitely impacts my decisions as a leader and influences my willingness to take risks." Although he has successfully led a significant shift from traditional instruction to personalized learning at his building, he states that he is not seeing the results for which he had hoped. Steve states that, in the past, student behavioral interruptions were his biggest barrier to being more effective, but this year it is the social-emotional needs of teachers.

Drew

Drew also began his career as an elementary teacher and immediately pursued a master's degree in administrative leadership because "one of the things that you did right away is you went and got your master's degree." At the time, he never thought he would use the degree, but then had a district administrator tell him that he would make a good principal. He describes this as a seminal moment for him, because "when someone expresses that belief in you, you start to look at yourself in a different way."

His leadership work began as a summer school coordinator, which led to an assistant principal position, and then as an elementary principal in a different district. After 19 years in that position, he became principal at his current school. This is his first year in that role.

Drew describes the role of a principal as supporting students, teachers, and families so that the students can be as successful as possible. He describes student learning as the core, but his role as supporting all three of those groups to make that happen. Within that role, he describes communication as being the most important action and the importance of himself being a good communicator. Throughout the interviews, he also frequently describes his work developing and strengthening relationships.

Time was the external barrier Drew identifies as being most impactful to his work. This is especially true in his efforts to build relationships and problem-solve needs. He states, “If only I had more time. But there's so much to do in this role and so many people to connect with, and it's work that many times I'm the only one that can do it.” Drew identifies prioritizing time as his biggest internal barrier. He says, “You're constantly shuffling priorities. If I didn't have to shuffle those priorities, could that make me more effective? Is that the biggest thing? I think so.”

Results of Data Analysis

There were several themes that emerged through the data analysis process. While the *a priori* concepts of CPLRs, perceptions of context affordance and demand, and leader self-efficacy were considered during the identification of themes, they were not found to be the main themes in this study. Rather, they were found to be important components within the themes identified. Ultimately, there were four main themes identified from the data. First, principals spend much of their time problem-solving—either proactively or reactively. Second, prioritizing which practices are most impactful because of limited time may be one of the primary problem-solving activities in which school leaders engage. Third, prioritizing practices is made more

difficult by conflicting priorities. Last, there are additional skills and abilities that impact both CPLRs and effective principal practices.

The Principalship is Problem-Solving

The process of solving problems, both proactively and reactively, was ubiquitous to the experience of the participants in this study. Examples range from planning for broader school-improvement initiatives to addressing a specific student behavioral issue in the moment. One of the instructional coaches framed their work with the principal as primarily being focused on brainstorming about how to fix problems and make improvements. One of the principals described their work as "a puzzle" that had to be figured out and then re-solved on a daily basis. Problem-solving is one of the three CPLRs identified *a priori*. For participants in this study, it was utilized proactively, reactively, and semi-reactively.

Proactive problem-solving involves the process of planning to address existing problems or planning for ongoing improvement efforts. One participant described her work proactively addressing the student-behavioral problems she inherited when she took over as principal. Another participant described his work proactively addressing the staff perception of not having been involved in previous decision-making. All three discussed their work planning for ongoing school improvement.

Participants also described engaging in reactive problem-solving many times every day. For the purpose of this study, these have been defined as any issue that arises that was not planned for and must be addressed either immediately or in the near future. Those that can be addressed in the near future have been termed "semi-reactive problem-solving" and are discussed below. Most often, reactive problem-solving involved managing student-behavioral issues, but

also included covering for staff when a substitute was not available, managing facility needs, addressing crisis situations, and working with upset parents. For example, one of the participants described his work addressing a student who refused to come in from the playground. Another described how she responded to a threatening situation involving the police and a building lockdown.

Semi-reactive problem-solving also occurred frequently for participants in the study. They discussed such examples as addressing new district initiatives, working with upset parents, and managing staffing issues. While not expected, these issues did not require immediate solutions and permitted the principal some time in planning for how to address them. Discussed more below, these situations best highlighted the principal's problem-solving process and the interconnection of CPLRs, perceptions of contextual affordances and demands, and leader self-efficacy.

Prioritizing Practice and Managing Time

The problem most often addressed by principals in this study, was how to prioritize their practices given the limited time available to them and the frequent interruptions of unexpected issues. In essence, this was an internal problem to solve caused by competing priorities and the frequent, unplanned external problems that arose throughout the day. This was both the topic most explicitly expressed by participants and most frequently implied in the descriptions of their daily work. For example, Drew stated:

> Well, I hate that word "time," because it just seems so cliché, right? If only I had more time. But there's so much to do in this role and so many people to connect with, and it's work that many times I'm the only one that can do it. It's just prioritizing some of those things.

Jill framed it this way:

> And so then I get a big list and then yesterday, I'm venting, I can't be a secretary and I can't be a classroom teacher and I...You know what I mean? Or I can't keep doing all these extra things, but when I get to that point, I have to take a step back…I focus on what I can control and what I can't control…And so I need to focus on what we can and ground ourselves to serve our purpose and problem-solve to get us to where we need to go.

As with problem-solving in general, problem-solving to prioritize practices occurs proactively, semi-reactively, and reactively for the participants in this study. The process changes slightly for each category, as does the perceived influence of contextual factors and leader self-efficacy. Proactive problem-solving appears to lead to the development of a theory of action, which combines past experiences, beliefs, values, perceptions of contextual affordances and demands, and the other two CPLR categories (knowledge of school and classroom conditions and systems-thinking) to generate relative priorities in how principals choose to plan for their time. For example, one participant prioritized practices to build relationships with families based on her understanding of family conditions that optimized student outcomes (knowledge of school and classroom conditions). Another participant prioritized building relationships with district office personal as an example of systems-thinking in response to a likely need for support in dealing with a difficult staff situation.

These plans are often interrupted requiring the use of reactive and semi-reactive problem-solving. These processes are constrained by time and seem to be most influenced by experience and personal beliefs about school and classroom conditions that impact student learning. Leader self-efficacy also appears to be less impactful as the situation becomes more reactive.

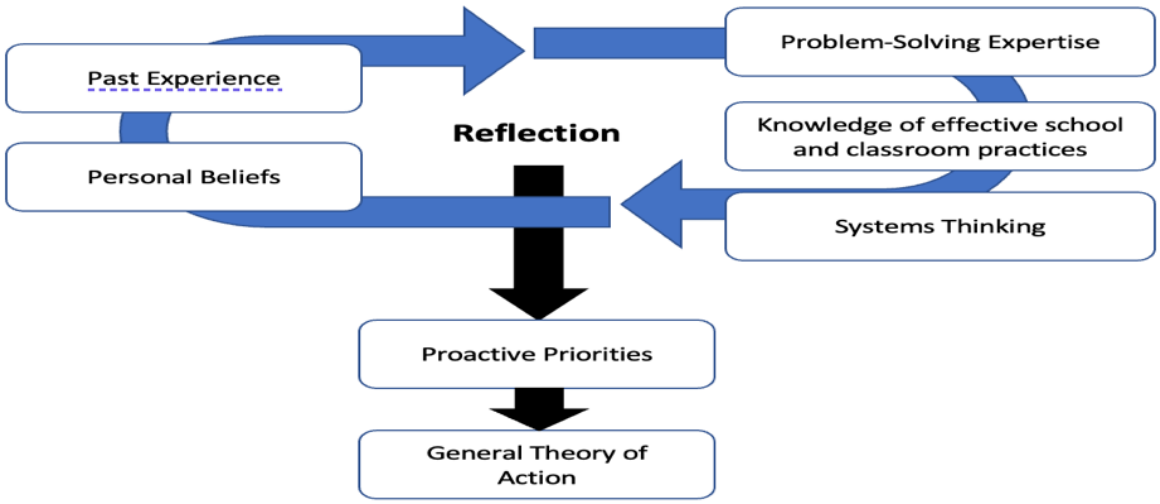
Proactive Problem-Solving

For participants in this study, proactive problem-solving begins with ongoing reflection on past experiences, combined with personal values and all three areas of CPLRs to create proactive priorities, or a general theory of action. (See Figure 4.2.) This general theory of action represents an implicit prioritization of practices that guided the principals in the study to plan for how they will spend their time. Steve describes it like this:

> This job really is tough, and narrowing down what are the highly effective practices. The research says the feedback, the classroom observations and all those things are, obviously, some of the top instructional pieces, but there are so many components to what a principal does that aren't those. And so, having to be intentional about planning and making sure those stay top priority is really essential to making sure they happen.

All three participants describe holding student learning as their primary focus, but each has a unique mix of beliefs regarding which of their own practices will make the most difference in accomplishing that goal.

Figure 4.2. A Principal's General Theory of Action



For example, Jill, describes the work she has done to proactively address student behavior and family connections. She recognizes the importance of both as essential school and classroom conditions required for student success. Based on her past experience and beliefs, she focuses her time addressing those needs through building relationships.

> I would have to say it's like a puzzle piece and it really depends on who. It's the relationship first. I have to figure out developing those relationships, whether it's with the students, with our staff, or with my families, to figure out what avenue and leadership, how can I put it, what's going to be the most impactful path for them to get to their end result. And it's my job, also, to know what their goal is and also help stretch them just a little bit farther, too.

She describes reflecting on her work in both areas and how that has shaped her current practices. For example, she now calls parents before meetings that may be challenging to build a relationship and discuss specific issues before they meet with a larger team.

Jill also believes in the importance of effective teacher teams and building their ongoing buy-in with the school-improvement plan. Her weekly schedule highlights how much time she plans to spend with teams every week, more than on any other type of task. She discusses her efforts to build the staffs' ownership through her teaming structures.

> Instead of having it be me like, "Hey, this is what I'm thinking, and this is what our data has become," it has been more of a continuous process with engagement at various different levels that we have evolved from. It's gone from just myself and the academic learning coach developing that to then developing our committee structure where we have those conversations at committees. And then that committee feedback gets added to it, to now refinement within our PLCs to having that constant feedback…Getting that ownership and seeing their investment after that, the power of asking that.

Her personal beliefs regarding the importance of building relationships and developing teacher buy-in, her understanding of essential school and classroom conditions, and the ongoing problem-solving through reflection has led to a general theory of action that guides her practices

in a general way. These priorities are reflected in her weekly schedule and in the school-improvement plan for the year.

One of Steve's priorities is building buy-in to the school's vision. To accomplish that priority, he focuses on individual teacher interactions.

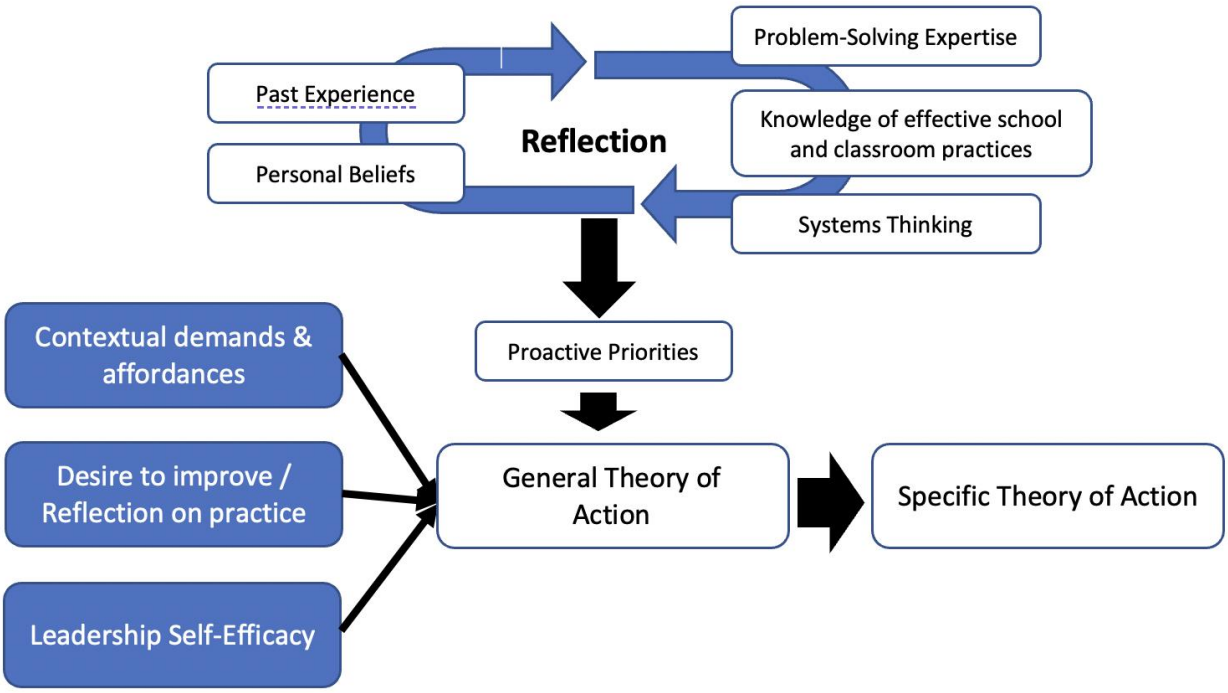
> And then through that, I also try to prioritize my time working directly with staff, whether that's through one-on-one meetings or going to and attending our PLC meetings that are happening weekly. So being able to work directly with staff is an important part of that, I think, so we can clarify vision statements or questions that people may have about why we're moving in a direction and hear what people think the direction is and how the work that we're doing does or doesn't relate to that and be able to clarify any misconceptions.

Steve's understanding of essential school conditions (staff buy-in) is combined with his personal beliefs regarding the importance of individual staff interactions to shape how he prioritizes his time. As with Jill, his weekly schedule highlights how he plans to allocate a majority of his time on these activities.

This general theory of action is further refined as the principal engages in an analysis of their contextual demands and affordances, reflecting on their own practices, and a desire for continuous improvement. Additionally, leader self-efficacy may play a role in shaping a leader's general theory of action into a specific plan. (See Figure 4.3.) Steve describes his personal plan for the year in some detail. This plan is connected to the broader school-improvement plan, but targeted to his personal leadership practice.

> For me myself, I have annual goals that I write, milestones and measures, and step by step processes to get there and schedule it out throughout the year. So, I've aligned my own goal to the grander vision of the school, to help me stay prioritized because the day-to-day operational stuff can draw you off course.

Figure 4.3. A Principal's Specific Theory of Action



As with the other participants, Drew believes in the importance of building relationships, communication, and fostering buy-in. "Relationships are the biggest thing. So, if I could talk to everybody during the day, or make sure that I'm hitting the right people every day, I think I would be more effective." This ongoing reflection highlights his desire to continually improve his practice and shapes how he prioritizes his time.

As a new principal to his current school, Drew's case highlights how perceptions of contextual factors influence a principal's theory of action. Drew describes his work spending time getting to know the culture of the building and recognizing the need to have more teacher input to build buy-in: "…because at [school name] in particular, there's this feeling of, that teachers haven't been involved in decision-making. And they're very sensitive when decisions are made that they haven't been informed about or involved with, so that really takes a lot of time."

Recognizing “there's a divide in this building,” Drew was prepared to engage in difficult conversations. However, his past experience in a different school district, also made him more aware of the need to be politically savvy. “That's something I didn't realize when I was starting. The political aspect of this role and how teachers can influence board members.” This led him to proactively build a strong relationship with the district office personnel and to engage them in discussion before moving into difficult staff conversations.

Jill also describes her perception of contextual needs when she started her principalship in her current building.

> …so between that, there’s garbage all over the halls. It was like, "This doesn’t look like a school." Yeah, no one was on the same page. And so early in my career, I was really honestly, universally, I had to have those conversations and we had to start with classroom environment because people didn’t feel supportive. I mean, there was PBIS but there was no accountability. There was no consistency because they didn’t have the leadership to support them with that, so we revamped things together and I think that’s what brought us together. And then once we got the classroom environment in our school culture where we wanted it, then we could start focusing on the academics, which then, in turn, we did universally.

As with the other participants, this analysis of the current contextual demands and affordances shaped her general theory of action into a specific theory of action for that school year.

General levels of leader self-efficacy seem to have some relation to this overall process. For example, Steve identifies his own self-confidence as his biggest internal barrier to enacting more of the practices that he believes will impact his school. He believes one of his weaknesses as a leader is his knowledge of effective teaching and curriculum work. As indicated by his weekly calendar, he allocates less time engaging in tasks like classroom observation and teacher feedback.

Drew indicates high levels of leader self-efficacy. He illustrates how contextual demands and affordances are connected to self-efficacy.

> So, when [the district office] is supportive of the things that we're doing and what I'm trying to accomplish, that gives me that confidence and support that I need to do some things that may have some ramifications with the staff, but knowing that it's the right work and that it's supported, that makes a big difference. So, support or lack of support has a positive or negative impact. I know that's not very profound but it's true. Or in general community, we're hearing some community feedback, they're happy with Jefferson let's say, well, that gives me the confidence that we're in the right direction.

He later describes how this support, and subsequent self-confidence, impacts his actions as a leader.

> Again, in that other position where the board's unhappy with some things that are happening, or unhappy that the union's unhappy, it really...It can allow more behavior to continue that you're not willing to confront because you're not going to have the support with it. You're going to be viewed as it's your fault that it's happening.

While true for all three participants, Steve highlights how experience shapes leader self-efficacy, which then shapes future leadership practices. He describes how he used to be willing to take more risks in his work, but after having less results than he hoped for, he is now more risk adverse.

> So I think it definitely impacts my decisions as a leader and influences my willingness to take risks. Even though I feel like I have the ability to take some risks. Let me go back. I feel like earlier in my career, under different leadership, I felt much more supported in taking risks. They haven't always turned out as planned, and haven't resulted in that one thing, a test score going up. And so, I'm more apprehensive to take risks now, which is weird because I'm more confident in the decisions.

Ultimately, participants in this study engage in a proactive problem-solving process that combines each leader's unique blend of past experience, beliefs about effective schools, and self-

efficacy with an analysis of contextual affordances and demands to create a theory of action that guides their work.

Reactive Problem-Solving

While a leader's theory of action seems to shape their proactive plans (i.e., their yearly and daily schedules), their ability to problem-solve effectively seems to have a greater influence on their practices when faced with reactive situations. Each participant discusses how the various unplanned events and issues that come up during the course of the day require a re-prioritization of practices. For example, Drew says:

> I don't know if I said this the last time, it's related to time. I think it's not only prioritizing it, and that's part of what I'm going to tell you next, but it's also the unknown things that you didn't see coming, that you didn't know were going to be an issue, whether it's staff-related or parent-related, that all of a sudden, wow, that's just, this is a big priority now. It has a domino effect on everything else. It's all part of that time and scheduling.

In reactive situations (those where immediate action is required), participants engaged in a rapid problem-solving process that involved gathering information for both problem-solving the situation and to determine their involvement. Steve's response to unexpected student behavior exemplifies all the participants:

> I kind of go through the list of like, "Okay. What grade level is it going to be? Is it one of the frequent flyers? Is it somebody that we kind of already know and have some strategies with?" So, I'm thinking through like, "Oh, this kid, this is the plan we have with this kid." So, I'm trying to figure out who it is. If I don't know, because we typically don't share names of students over the radio and stuff like that. So, those are the things I'm thinking of. I'm thinking like, "What do I have on my schedule coming up that...Do I need to cancel? Do I need to have the secretary notify somebody that, 'Hey, Steve's going to be a little late,' or am I headed out of the building to somewhere?" So I'm thinking through my schedule. What are my next steps? And then if it is heightened into that level, what are my next steps and where do I take the student? Do I bring them back to my office? Do I have another quiet space that's away from everything? If they are leaving the grounds, do I have

> my phone, so that I can get ahold of the secretary to call the non-emergency police number if they do leave school grounds or a parent or whatever?

Jill describes this reactive process as almost automatic.

> You go into mode. You know what I mean? When you have a situation like that or something like we're not getting enough subs...We had another situation where we had a student completely start our day, where it sent three of us to the hospital because of an event. And you just go in mode in the sense of like, "Students, staff, what do they need?" You know what I mean? And so don't think about confidence at that time. You just go into decision-making.

The automaticity of this reactive problem-solving process indicates significant past experiences and high levels of self-efficacy. In fact, all three participants described how they don't even think about confidence during this process. Steve describes how his frequent experiences reacting to student behavioral issues have given him a high degree of self-confidence in managing those types of disruptions.

> All the things that pop up randomly, you handle for the first time. I don't know, makes you feel incompetent as a leader, but then after the kid pees on the playground, you're like, "Oh, I've handled that." Like, "Okay, throw another one at me." And so I think I've gained obviously more confidence.

Semi-Reactive Problem-Solving

The process that participants in this study used during semi-reactive situations to problem-solve their time and practices was different than during reactive situations. While still being guided by their theory of action, there appears to be more influence from self-efficacy and past experience. Additionally, the added time available to engage in the problem-solving process highlights a broader range of CPLRs and strategic thinking.

For example, Jill described two semi-reactive situations and her problem-solving process that highlight the importance of self-efficacy and past experience. The first was an upset parent,

while the second was a difficult conversation with a staff member. Jill indicates a much higher level of comfort with the parent situation, and her description of the problem-solving process for that situation indicated less preparation. While she was strategic in meeting with the parent before the broader team meeting, she did not script specific questions or other preplanned activities. Whereas, for the teacher conversation, she gathered a lot more information, scripted questions, got feedback on her planned conversation, and considered more of the connections across the system.

Jill indicated that this is the first time she has had to have such an "intense" conversation with a teacher and that she was a little "nervous" to have the conversation. It seems the lack of past experience is connected to lower levels of self-efficacy and that impacted her choice of taking significantly more time preparing for the teacher conversation, than for the parent one.

Drew describes a similar situation with a challenging teacher. He engaged in a similar process as Jill in gathering more information and taking more time preparing for the difficult conversation. However, Drew also carried his experience with a challenging teacher from another district, so he also spent time communicating with the district office to ensure they would support his decision.

> I'll say, in a previous district, they weren't always ready to support administrators when they wanted to have a conversation like this, and maybe be prepared that, if it didn't get better, that they would follow through with what they said they would follow through on. So, I'll say that in my last district I had a similar conversation with a teacher, wanted some help writing it up, and we talked about this is how I'm going to document the conversation, and then it got bad because it was the union president who was in my building, and it went to the regional director of the union. And I'd say I had some lukewarm support from our central office, but it didn't last. It just got worse. And I ended up feeling like I wasn't supported then after that letter.

This past experience significantly impacted his actions in preparing to address the situation in his current school.

All three participants describe a significant period of gathering information at the beginning of problem-solving. This is true for both reactive and semi-reactive situations but is more pronounced for the latter given the additional time available for the process. It is possible that this additional time also allows for more time to reflect on past experiences. All three participants explicitly described how their past experience was impactful in their thinking during the problem-solving process. For example, Jill frequently repeated the mantra of focusing on "what you can control" and how that is just a part of life for her.

> Unfortunately, that's just life in general, you know what I mean? That would be certain situations that come up, like you come home and a family member's ill. And you have to take care of them. So there is always going to be something that's impactful to the work that we are doing. But let's focus on what we can control and focus on our work and how can we do that and move forward.

When describing his thoughts while engaged in a difficult staff conversation, Drew articulates telling himself "you've got to be clear." He discusses how he learned that lesson previously.

> As I'm saying this, I'm like, "You got to be clear, Drew." Because in the past, I know myself that sometimes I'll try to minimize it. I'll say, "I know it's going to get better," or, "I understand that why you might act this way." There's none of that for this meeting. It's like, "This is not acceptable. It needs to stop. I don't expect it to happen again." So, it's just being very clear, and direct.

Steve describes his internal dialogue when being presented with a concern from the staff as really focusing on not taking over.

> Well, I was trying to think, how could I solve the problem? Honestly, that's what I was thinking in my head, "How could I solve it?" But then reminding myself that, "No, that doesn't do anybody any good if I fix the problems, because then I'm just the problem fixer, not helping to find solutions for people to empower them."

This reflection on experience appears to be more prevalent for participants in this study during semi-reactive problem-solving as opposed to reactive situations.

It is clear from the participants that they spend much of their time solving problems, which requires them to consistently prioritize and re-prioritize how they spend their time. This happens proactively, reactively, and semi-reactively. It appears that those decisions are influenced by a personal theory of action that is based on experience and understanding of school and classroom factors. Higher or lower levels of self-efficacy may also impact which actions are then taken by the principal after this process.

Prioritizing Practices is Made More Difficult by Conflicting Priorities

The principals in this study describe utilizing problem-solving strategies to tackle the lack of time they face and prioritizing in which practices to engage. While it is relatively easy to prioritize building relationships over completing paperwork, it is much more difficult for participants in the study to prioritize providing support versus holding people accountable. Each participant communicated their own conflicting priorities, which seem to be related to their own high-priority values.

For example, Steve describes the conflict between engaging in servant-leadership and empowering others. He sees himself as a servant-leader, but also prioritizes empowering staff members to build their capacity.

> I think for me, well, just the more I learn and grow and believe in empowering people to be better as professionals, be better as human beings, and how to facilitate that is my natural a bit. My natural bent is to want to fix things. I'm a problem-solver and a helper and a servant-leader, and so I want to do all the things I can. But realizing that, again, that just limits it to me and the problem just can continue

> to happen unless I put the power into other people's hands to own their own experiences.

These conflicting priorities present a challenge for Steve when deciding which actions to take.

Drew describes the conflict for himself between making staff feel comfortable giving input and fostering ownership in their work. "My struggle with my relationships is I want people to feel comfortable to share things with me, so if they're irritated about something, I want them to be able to tell me. But I also don't like people to vomit on me, either, so it's that balance."

Both Drew and Steve describe the conflicting priorities of transparency and confidentiality. This is combined with the conflict between transparency and buffering staff from information overload. Drew describes it like this:

> It's saying that and there's always going to be, no matter what, people that feel that they should know, whether that's parents or staff. You know, those aren't always fun because we're not going to ever see eye to eye on that. Now that you bring that up, there were some staff that were upset and it didn't go away. I wasn't able to change their perspective on that. But so be it. I mean, the tough part about these things is you're trying to protect the identity and confidentiality of students.

Steve's instructional coach states it this way: "I think that he wants to be transparent, but there comes a point when there's almost too much information. It's almost too much information overload. And so I think that over the years, he's just decided this is one of those times where I can tell them everything."

Similar to Steve, Jill describes the conflict between supporting teachers and also holding them accountable. Additionally, she discusses the conflict between over burdening staff and building their capacity.

> Leadership-wise, what step do I need to take to…build their capacity? Because there's situations that have to come up that I need to do that immediately. But then there's other situations where it's just like, "I'm just picking it up for you because

> you're stressed," so I have to remind myself all the time why do I continuously say yes and what is that purpose and what can I do to help build others, too?

These conflicts appear to align with the participants high-priority values and their self-identified leadership barriers. Jill's first conflict between supporting teachers and holding them accountable aligns with her primary focus on building relationships. The second conflict between overburdening staff and building their capacity aligns with her primary stated barrier: saying no. Drew prioritizes relationships and communication, which directly align with his conflict between staff comfort and staff ownership. Steve states that he struggles with not taking on too much, which aligns to his conflict with servant-leadership and empowerment. These deeply held values may foster and bring conflicting priorities to the forefront.

Other Key Skills Connecting CPLRs and Effective Principal Practices

There were five other skills or abilities prevalent across all three participants related to CPLRs and effective principal practices. Broadly, those were communication skills, engaging in difficult conversations, strategic planning, change management, and reflection. None are captured in the CPLRs framework or effective leadership practices framework, but all appear to be significant when considering how principals can be effective in their work.

Communication Skills

Perhaps the most widely discussed topic by all three participants was that of communication. Participants frequently discussed such communication skills as listening, effective questioning, and clear messaging. These were discussed in relation to building relationships, messaging the school vision, problem-solving, giving teachers feedback, and gathering input. Drew frames it this way:

> I'd say the big thing is you're communicating constantly with your teachers about how students are doing. That probably takes the most time of my day. I have to be a good communicator. I have to connect with teachers, find out what they need. It could be very student-specific at times. It can be very program or general types of things about how I can support that teacher and help him or her to be more successful. Sometimes it's we get parents involved with things, too, or a parent will reach out to us, and we're coordinating those aspects of whatever the need may be. But I would say it's that human piece of communication, collaboration, face to face, written, email, those types of things. That's the biggest thing.

As was mentioned previously, questioning is a critical first step in the problem-solving process for the participants in the study. This ranged from student behavior interruptions to addressing school culture. Participants in the study asked frequent questions to gather the information they felt they needed to make the best decisions. For example, Steve says, "I think immediately addressing it and asking questions to clarify, and to get maybe more to a root cause, as opposed to just the initial problem that may be presented."

Both Drew and Jill highlight the critical importance of listening in their work. Jill states, "There's so many different situations that come to mind that are difficult, or you're not necessarily on the same page. And what I've learned over time is to really listen to the parents." Drew phrases it this way:

> I want to make sure that I am listening to them and understanding their perspective. So, sometimes I may have a perspective to share also, and so I'll share that, but I really want to be a partner with people, so that's what I'm thinking about in those moments. How can I support them? How can I acknowledge their perspective and share, then, what I'm doing without making them feel like they're not being listened to?

All the participants describe various communication skills used to understand both the context and the people within the situation, as part of their problem-solving process.

Engaging in Difficult Conversations

All three participants talked about the ability to engage in difficult conversations and the use of problem-solving and strategic thinking to accomplish that task. While this is a subset of the communication skillset, it was so prevalent that it warranted its own sub-theme. The participants described difficult conversations with staff, parents, and even superiors. They also described a detailed problem-solving process to prepare themselves for these events and generally indicated a lower level of self-efficacy in this area.

Jill describes difficult conversations with both parents and staff. These are both described above, along with the problem-solving process used, and the difference in self-efficacy relative to each. Drew utilizes a similar process in his example of having a difficult staff conversation. Drew's example highlights the impact of contextual affordances on practices. He describes a similar previous conversation where his past district did not support holding the teacher accountable (she was the teacher's union president). He now spends time ensuring his current district will support the decision, before having the conversation.

Both Jill and Drew describe the importance of difficult conversations in relation to broader school culture. Drew states:

> Well, there's a divide in this building. We've talked about it. And so, as I'm becoming more familiar with the divide and the players in there, that was certainly part of it. What I had to wrestle with is she's one of the best teachers I've ever seen and I think that's how the previous principal looked at her too, and so I think she was able to do some things that were unprofessional because she could make up for it in this other realm. And so, that was something for me to decide, like, "I don't care how good you are. If you have to leave this building, if I need to transfer you, that's worth it to me. I'll miss having a great teacher, but your impact on the culture, I can't have that." And my hope was, is that she would talk to other people and let them know like, "Yeah, I got talked to about this. This was a big deal," so that people could see that this is different.

Jill describes similar connections:

> I would say it was connected in the sense of holding someone accountable and having other staff...So as a result, that person said she is going to resign, and then shared that with her. I think people recognized other staff, so by me taking that next step, even without saying anything helps all of them know that I am holding everyone to a high standard.

These examples reflect a high level of understanding effective school conditions and systems-thinking, both CPLRs. Being able to engage in difficult conversations appears to be a necessary skill when enacting the leader's theory of action.

Strategic Planning

While problem-solving and systems-thinking are codified within CPLRs and are necessary prerequisite steps to strategic planning, strategically planning to address problems is not outlined as a CPLR. Each participant strategically planned to implement the solutions identified in each problem-solving process in which they engaged. For example, Jill describes the ongoing strategic planning that she engages in with her coach.

> So, I think throughout the year, there's a different focus on how we can support them. Does that make sense? Hey, this is a time where we just need them to power through because X, Y, Z is coming up. Or these are just essential questions. Like, "Hey, we need to have these conversations with the most forward coming up." Good cop, bad cop at times. Like, nope, sometimes it's just me. I'm going to support you. You're going to share this. And then I'm going to come back and support and follow up. Or, this is something that needs to just come from me.

The problem-solving and systems-thinking processes in CPLRs also connect with understanding contextual demands and affordances. This quote from Drew, highlights that type of thinking:

> Then I began to see those connections to the superintendent and how they were indirectly involved in some of those things. I didn't see that connection at first. You know they're there, but it doesn't directly seem to impact you because the

> superintendent rarely had interactions with them. But then I started to become more aware of those behind-the-scenes things, and then I think it's overtime, especially with gaining my district administrator license, seeing the board connections and how that context really affects a principal ...You know, the community is a part of that too. We know that our own school community has an impact on us, but you really start to see the broader piece of it.

This led him to proactively build relationships with district leadership, institute ongoing communication structures with those stakeholder groups, and immediately address those connections when faced with a challenging teacher situation. This highlights how participants in the study not only sought to understand the context, but also engaged in strategic thinking to leverage the context in order to enact their plans.

Change Management

Interestingly, while all three participants and their coaches describe a robust process of problem-solving and strategic planning, they articulate a challenge with effectively managing change initiatives. Jill's instructional coach describes it this way:

> One thing, it's a strength and a weakness, and she and I share it for better or for worse. We are great at planning all of these ideas for immediate and long-term change, but then actually taking those ideas and breaking them down into manageable steps to make sure we attain that long-term goal is something that I think we could both use some work on. And I don't think that's unique to us. I think in education today, or at least in the buildings that I have worked in, you try to do some of that long-term planning, but then the immediate needs of the days trump that longer-term process and almost make it difficult to stick to a long-term plan.

Steve describes it this way:

> I think we have lots of ideas and lots of visions of what we want to accomplish, but then, seeing that end product has been hard for that. I don't know if it's a follow-through or what, but I think that's the other part that is hard to make this work feel effective is we know we need to bring test scores up and we have ideas and strategies and we talk about implementing them, but then the busyness, whatever it is, the drama, the kid behaviors. Like yesterday, I'm dropping a kid off at the office

> to go get another kid and then I'm getting handed a kid on my way to...That kind of stuff.

These quotes highlight the overlap with managing change initiatives and the frequent interruptions that principals face in their work. While this occurs on a short-term scale with small interruptions that might disrupt plans for the day, it is more impactful when longer-term events happen. For example, Steve describes a detailed process of strategically planning to implement his school-improvement plan and how that was then disrupted by a cyber-attack the district experienced.

> Trying to think through how can I limit down what we're going to do, so we are able to focus on it and it's targeted and it's not, "Oh, we're doing 48 different things." But what are the one or two practices we're going to implement and put into place, so that it's manageable. And then, granularly looking at what are the ways we're going to implement that? When are we going to do the PD on it? How are we going to follow up on it? When's the walkthrough schedule going to happen to provide feedback on it? So, then detailing all that stuff out.
>
> But then we had a cyber-attack in the district, and so that completely shifted everything we were doing with that because it was heavily focused on technology…like a lot of the resources we've been using have a technology component or have online resources that the teachers would normally be using. And so, when they're not able to use those things, it's like it throws off, "Oh, we got to push back the walkthroughs because a lot of the things we had already said, or components that we wanted to see weren't there."

All three participants mention the impact of the pandemic and high levels of teacher stress as barriers to their efforts in implementing their change initiatives.

Reflection

Both a skill and a disposition, reflection was a frequent topic of all three participants. Steve describes reflecting in the evening on student discipline issues. Jill states she was going to "reflect all weekend" about her school-improvement data and what she can do. All three

articulate reflecting on the topics discussed in the first interview before attending the second one. Perhaps most prevalent were the participants' descriptions of how their reflection led to their theory of action. This involved reflecting on their past work with a focus on what they could do differently next time. This personal focus was critical to shaping their theory of action.

Jill describes this process after an emergency situation:

> …make sure that you reflect with those stakeholders at the end to help prepare in an event that might happen again or what could we have done differently to support people and in planning for difficult conversations. So I reflect on either previous conversations, or looking through different notes, or talking with the staff.

Drew describes his reflections on past student discipline issues and difficult teacher conversations and how those reflections impacted how he now addresses similar issues. As noted previously, these reflections on past experiences led to their internal mantras: "focus on what can be controlled," "don't take over the problem," and "be really clear and direct."

Interestingly, Drew notes how over-reflection might hinder his work. "I'm reflective by nature and I think sometimes that's really a place where I can get bogged down is how many lessons I'm taking from something previous and applying it maybe, narrowly, to a situation that looks the same." While it seems that reflection was a key component relating to the connection between CPLRs and principal practice, it is worth noting this potential roadblock.

Evaluation of the Results

While not surprising, one of the key findings in examining the connection between CPLRs and effective principal practices is the impact of limited time. Principals in the study were consistently using problem-solving skills to prioritize their practices. This process was influenced by the other two areas of CPLRs: knowledge of school conditions and systems-

thinking, as well as self-efficacy, perceptions of contextual affordances and demands, and the principal's beliefs and values. Additionally, several other skills not captured within the CPLRs framework were evident in enacting both the CPLRs themselves and effective principal practices.

One of the overarching findings from the study is that all of the factors explored interact in complex ways to influence principal practice. While Zacarro et al.'s (2018) framework creates a linear progression from distal to proximal antecedents, the proximal antecedents interact in complex, nonlinear ways. This reflects the bidirectional interaction presented in Social Cognitive Theory (Bandura, 1986, 1997, 2001, 2005). It appears that these factors may interact to create an initial theory of action that guides principals' planned actions, but they then interact again as principals are faced with interrupting events that require them to problem-solve and reprioritize their work.

There were two unanticipated outcomes that were not part of the original research design. First, the additional related skills and competencies noted above were not anticipated. However, it was apparent that the principals in the study utilized communication skills, strategic thinking, change management, and reflection as often as the competencies captured within the CPLRs' framework. Second, while prior experiences are a key component of Zacarro et al.'s (2018) framework for the antecedents of leadership practice, they seemed to influence CPLRs and effective principal practices more than was anticipated through the leader's theory of action.

The primary weakness discovered in the data was that all participants enacted high levels of problem-solving skills. As one of the key themes from the data, this limits conclusions that might be drawn if some participants had had lower levels of problem-solving skills.

Additionally, all three participants were highly reflective in their own practice. The data do not provide the opportunity to contrast participants with lower levels of problem-solving or reflective practices, which may more completely capture the influence of those factors on principal practices.

Summary of Research Findings

While time management may be highlighted as a critical need for school principals, participants in this study demonstrate the importance of problem-solving skills to prioritize effective practices given the limited time available to school leaders. CPLRs, self-efficacy, perceptions of contextual affordance and demands interact with experience and personal values in complex ways to create a general theory of action that guides a principal's actions. Additionally, these same factors recombine to assist the principal in reprioritizing practices based on the frequent interruptions to their planned actions. Ultimately, several additional skills and competencies not captured within the CPLRs' framework are also necessary for school principals to enact the CPLRs and effective principal practices.

CHAPTER FIVE

CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS

School principals have a significant impact on student achievement (Heck & Hallinger, 2014; Leithwood & Louis, 2012; Leithwood, Harris, & Hopkins, 2019). While much is known about what effective principals do (Day et al., 2011; Leithwood & Seashore-Louis, 2012; Liu & Hallinger, 2018; Sun & Leithwood, 2015; Sun & Leithwood, 2017; Leithwood, Sun, & Schumacker, 2017), relatively less is known about the antecedents of those practices (Leithwood & Jantzi, 2005; Sun, Chen, & Zhang, 2017). Specifically, a leader's cognitive abilities have been identified as a gap in the research, as well as holding promise as an antecedent that could lead to improving principal practices (Leithwood & Steinback, 1995; Robinson, 2010; Sun, Chen, & Zhang, 2017).

The purpose of this study was to examine the relationship between a leader's cognitive skills, framed as Cognitive Personal Leadership Resources (CPLRs) by Leithwood (2012), and principal practices. CPLRs are divided into three categories: problem-solving, knowledge of effective school and classroom conditions, and systems-thinking. Problem-solving includes problem interpretation, developing solutions, identifying constraints, and maintaining confidence. Knowledge of effective school and classroom conditions involves understanding systems that optimize teaching and learning, while also accounting for organizational and family conditions. Lastly, systems-thinking refers to understanding the connections between elements in the organization and the ability to envision likely futures and their consequences. Utilizing a Social Cognitive Theoretical (SCT) framework (Bandura, 1986, 1997, 2001, 2005), the influence

of perceptions of contextual affordances and demands, and leaders' self-efficacy were also considered.

Findings from this study indicate the critical importance of CPLRs, especially problem-solving, to the enactment of principal practices. Study participants spent most of their time deciding which actions to take both proactively and reactively in solving problems. Ultimately, the interaction of all three CPLRs (problem-solving, knowledge of effective school and classroom conditions, and systems-thinking) with perceptions of contextual affordances and demands, and self-efficacy lead to a theory of action that guided their actions. Conflicting priorities made the decision-making processes more difficult. Additionally, there were several other skills that study participants highlighted as being important related to the implementation of leadership practices.

Discussion

Findings

The research question for this study was: How are CPLRs, school leadership practices, context, and self-efficacy perceived to connect within a Midwestern school district? Findings from the study indicate a number of ways that CPLRs influence principal practices. The dominant theme from participants was the amount of time they spend solving problems, both proactively and reactively. This process often involved decision-making regarding how to prioritize their time and which leadership practices to enact. It follows that effective and efficient problem-solving practices are essential to the enactment of principal practices.

For participants in this study, this process shaped their practice through their proactive planning and their reaction to addressing unplanned events. Participants used an ongoing, reflective process that included the other two CPLRs (knowledge of effective school and classroom conditions and systems-thinking), past experience, and personal beliefs to form a general theory of action that guided their actions. For example, Jill recognized the importance of partnering with parents (knowledge of effective school conditions) and reflected on the parent interactions (more confrontational and reactive) when she first became principal at her building to shape how she addresses challenging parents in her current work. Drew prioritized building culture (knowledge of effective school conditions) and carried a difficult teacher situation from a past district, which led him to proactively establish relationships with the district office administration (systems-thinking).

This general theory of action was refined as they analyzed their contextual demands and affordances. Jill described this process as being like a "puzzle." Steve described it this way:

> This job really is tough, and narrowing down what are the highly effective practices. The research says the feedback, the classroom observations and all those things are, obviously, some of the top instructional pieces, but there are so many components to what a principal does that aren't those. And so, having to be intentional about planning and making sure those stay top priority is really essential to making sure they happen.

This process was also influenced by their leadership self-efficacy. For example, Steve stated that he has relatively lower confidence in his ability to support classroom instruction. This is reflected in the relatively smaller amount of time scheduled engaging in classroom observations and teacher feedback.

Participants described engaging in reactive problem-solving on a continuous basis: managing student behavior, covering for staff absences, addressing parent concerns, etcetera.

While they carried their theory of action into each situation, past experience and levels of self-efficacy impacted the other antecedents to a greater degree. For example, Jill described a dramatic difference in the amount of time and preparation spent when managing a difficult parent versus a difficult staff conversation. She stated she is much more comfortable with the parent situation than the staff conversation. The difference in time spent in the problem-solving process based on a leader's level of self-efficacy was evident from all three participants.

Drew illustrates how past experience revealed the importance of understanding connections across the system. While this led to proactively building relationships with district office leaders, it also shaped his reactive problem-solving process when faced with a challenging staff issue in his new building. All three describe their high levels of efficacy with managing student behavior and how that process is often automatic for them.

This study shows the importance of the CPLR of problem-solving to the enactment of principal practices. This process involves a principal's past experience, personal beliefs, levels of self-efficacy, and an analysis of contextual affordances and demands. However, this process becomes more difficult when participants are faced with competing priorities. For example, Steve described the conflict between service-leadership and empowering others. Both he and Drew described the conflict between transparency and confidentiality. Jill described the challenge between not wanting to overburden staff and yet also build their capacity.

Additionally, participants in the study indicated a few other skills and competencies needed to enact their theory of action. These included communication skills, engaging in difficult conversations, strategic planning, change management, and reflection. While their theory of action led to a set of proactively planned and default practices to use in reactive situations, those

practices would not be effectively enacted without the first four skills listed above. For example, all three participants described having to engage in difficult conversations with teachers. Drew described strategically planning to develop his relationship with district office staff. All three mention the challenge of managing the change process in their efforts to be effective. Outside of CPLRs, self-efficacy, and perceptions of contextual affordances and demands, these additional skills were also influential in the enactment of principal practices for leaders in this study.

Reflection was a key skill utilized by participants in this study in the formation of their theory of action. All three mentioned the act of reflection multiple times over the course of their interviews. This included reflecting on experiences with past district administration, analyzing student behavioral issues in the evenings, discussing challenging teacher issues with their spouses, reflecting on their past success or perceived failure, and many other examples. It is possible that this is one of the key components to the development of effective theories of action.

Ultimately, the results of this study indicate an important connection between CPLRs, especially problem-solving, and principal practices. Additionally, leader self-efficacy, perceptions of contextual affordances and demands, and the skills of communication, engaging in difficult conversations, strategic planning, change management, and reflection are important factors to consider when examining which practices principals choose given their limited time and frequent interruptions.

Connections to Prior Research

Alignment with Conceptual and Theoretical Frameworks

Findings from this study align with the conceptual and theoretical frames previously identified. Social Cognitive Theory (SCT) contends that there is a bidirectional influence between personal characteristics, environment, and a person's behavior (Wolters & Benzon, 2009). This interaction was evident for all three principals in the study. For example, Drew's experience with limited district support (environment), shaped not only his behavior at that time, but also his future behavior. In turn, that shaped his personal capabilities regarding systems-thinking and understanding of environmental factors. Steve highlights all three principals' description of problem-solving student behavioral issues. Those examples demonstrate the impact of environmental factors (student behavioral issue) on the leader's chosen behavior (to be involved or not, and in what ways). Over time, those interactions led to a strong sense of self-efficacy (personal factor) regarding those types of interactions for all three participants in the study. Higher self-efficacy then led to a different problem-solving process and different actions.

The framework presented by Zaccaro et al. (2018) demonstrates the influence of distal antecedents, such as past experience, and their development of a leader's foundational traits and capacities. This was clearly evident in this study as past experience was described as a contributing factor in most of the examples that participants shared. The leader's general theory of action was then shaped into a specific theory of action for the year by their perceived contextual affordances and demands, as illustrated in the framework.

Thus, the findings from this study align well with both SCT and the framework from Zaccaro et al. (2018). The primary extension of these findings is the importance of the Cognitive

Personal Leadership Resource (CPLR) of problem-solving and the differentiation between how those factors interact during proactive planning as compared to reactive situations.

The Importance of Problem-Solving

The recognition that problem-solving is an important skill for school leaders is not new. Hoy and Tarter (2008) call it the "sine qua non of administration" for principals (p. xiii). Researchers have examined how school leaders classify and manage problems (Leithwood & Stager, 1986), examined the role of values in problem-solving (Leithwood, Begley, & Cousins, 1990), and the difference of problem-solving process due to different roles or contexts (Leithwood & Steinbach, 1989). Additional research has captured the amount of problem-solving (Leithwood, Cousins, & Smith, 1990) and the challenge of making correct decisions (Hoy & Tarter, 2008; Leithwood & Steinbach, 1995). This work led to the inclusion of problem-solving in the CPLRs section of the Ontario Leadership Framework (Leithwood, 2012).

However, in a recent review, Kahn and Bullis (2021) found only 15 studies specific to principal problem-solving. In the review for the current study, only one article was found that examined the connection between problem-solving and the enactment of leadership practices. In that study, Ramchandran et al. (2016) found a strong connection between the problem-solving and cognitive control subset of executive functioning and transformational leadership practices. The findings from this study reinforce those from Ramchandran et al. (2016) and indicate an even more important consideration for the skill set of problem-solving when considering the enactment of effective principal practices.

Time Management

Previous studies have indicated the importance of time management skills for school leaders (Grissom, Loeb, & Mitani, 2015; Camburn et al., 2010; Goldring et al., 2008; Grissom et al., 2013). Research indicates that better time management skills lead to better time use (Claessens et al., 2007). However, limited research has examined the connection between time use and effective practices (Grissom, Loeb, & Mitani, 2015). The study by Grissom, Loeb, and Mitani (2015) found that principals with better time management skills allocated more time to the effective principal practice of managing instruction, but less to building interpersonal relationships. The findings from this study align well with these past findings and extend the conversation regarding principal time management to include a more complex understanding of the cognitive process and various components that influence how school leaders proactively and reactively make decisions about how to manage their time and which leadership practices to enact.

Self-Efficacy

The role of self-efficacy on leader practices is well established in the research and was included as an *a priori* factor in this study. In the most recent review, Sun, Chen, and Zhang (2017) state that leader self-efficacy is the most consistent of all leadership antecedents. The findings of the current study reaffirm the impact of leader self-efficacy on leader practices. For example, Steve articulated less self-confidence in the area of improving classroom instruction and that is reflected in his weekly plans, which included relatively less time spent on classroom observation and feedback. Jill articulated high levels of self-efficacy regarding challenging parent meetings as compared to challenging staff conversations. This correlated to much less

time preparing for the parent conversation as compared to the staff conversation. Drew explicitly stated that his relative confidence with a course of action dramatically influences his practices in that area.

Context

Hallinger (2018) argues that context has been a forgotten element in past research on school leadership. Leithwood, Harris, and Hopkins (2019) contend that context, and how leaders adapt to it, is one of the seven most important considerations for effective school leadership. The findings of this study also illustrate the importance of contextual affordances and demands as perceived by the leader. Each of the participants considered the needs and constraints of their specific school while creating their school-improvement plans and their individual leadership plans for the year. Drew best highlights how leadership affordances and demands impact his practice when he describes his work addressing a challenging teacher in a past district. In that case, the district administration did not support holding a teacher accountable in the face of pressure from the teachers' union, and he described how that greatly impacted the practices he enacted:

> Again, in that other position where the board's unhappy with some things that are happening, or unhappy that the union's unhappy, it really...It can allow more behavior to continue that you're not willing to confront because you're not going to have the support with it. You're going to be viewed as it's your fault that it's happening.

The results of this study reinforce the importance of contextual demands and affordances on leadership practices, as perceived by the principal. As indicated in the framework presented by Zaccaro et al. (2018), the impact of this factor is influenced by a leader's personal competencies. Within this category, the current study adds an important focus on CPLRs.

Perhaps most importantly, it is the combination of these factors to create a theory of action that shapes principal practices.

Practical Significance

While significant attention has been paid to improving principal practices over the last several decades (Hitt & Tucker, 2016; Leithwood, 2010; Seashore-Louis et al., 2010), little progress has been made (Goldring et al., 2015; Murphy et al., 2016; Spillane & Hunt, 2010; Sebastian et al., 2017). Much attention has been focused on improving principal practices directly, rather than the underlying competencies that may be necessary to enact those practices. Leithwood and Steinbach (1995) argue that such behavior-based theories are of limited practical value because "the reductionism they entail so poorly reflects the complexity of administrators' real worlds" (p. 8). Robinson (2010) added, "knowledge of effective leadership practices is not the same thing as knowledge of the capacities required for enactment" (p. 2). Thus, a better understanding of these antecedent factors may serve as a better pathway to improving principal practice.

Findings from this study indicate several antecedent factors that impact principal practice. These include those selected *a priori*: CPLRs, principals' perceptions of contextual affordances and demands, and self-efficacy, as well as an additional five competencies articulated by participants: communication, engaging in difficult conversations, strategic thinking, change management, and reflection. While many of these factors have been identified in previous studies, this study highlights how they interact holistically to impact the preplanned and reactive actions of school leaders.

Discussed more below, the implication of these findings is a potential shift in principal preparation programs, principal hiring processes, and principal improvement work to include more focus on the underlying competencies that school leaders need to enact effective principal practices. The findings from this study indicate that the skill of problem-solving is especially critical in this process.

Implications

A review of the existing research indicates a gap in understanding how principals' cognitive abilities impact principal practices. For the purposes of this study this has been defined as Cognitive Personal Leadership Resources (CPLRs) (Leithwood, 2012). Leithwood (2013) postulates that as much as 50% of the variance in principal practice may be due to these underlying competencies.

The findings from this study support the perceived importance of CPLRs on principal practice, especially the skill of problem-solving. Participants described engaging in problem-solving on a daily basis, especially to prioritize their actions. This process relied on the other two components of CPLRs: knowledge of effective school and classroom practices and systems-thinking. Leader self-efficacy and perceptions of contextual affordances and demands combine with these factors to create a leader's theory of action, which shaped their practices in both proactive and reactive ways. It follows that measuring and developing these underlying competencies may support an increase in effective principal practices.

These findings present implications for principal preparation programs, principal hiring, and principal development. Underlying these processes are the Professional Standards for

Educational Leaders (National Policy Board for Educational Administration, 2015), which guide both preparation and development programs. Currently, none of the 84 indicators in the current standards address the competencies contained within the CPLRs. The inclusion of underlying competencies within those standards has the potential of shifting the current systems used for principal preparation, hiring, and development.

Previous research on problem-solving for school leaders has identified the frequency that leaders engage in problem-solving (Leithwood, Cousins, & Smith, 1990), the process used by leaders to solve problems (Canter, 2004; Leithwood & Stager, 1989), and the potential to increase problem-solving competencies (Leithwood & Steinbach, 1992). However, past research in this area has not focused on using this skillset within the context of prioritizing the enactment of effective leadership practices. Thus, while improving problem-solving skills has value for leaders generally in their work, this study indicates that it may also play an important role in supporting leaders to implement effective practices.

Additionally, the construct of a theory of action provides a potential method to analyze and support the antecedents from this study and their impact on principal practice beyond problem-solving. Principal preparation programs can better include the development of a theory of action that best supports the enactment of effective principal practices. Principal hiring processes should seek to uncover a candidate's current theory of action to identify strengths and weaknesses to be addressed. Ultimately, leader indication programs and ongoing professional development should continue to measure and support the factors identified in this study.

Specific attention should be paid to the identification of potentially conflicting priorities due to the added challenge they present for leaders. Findings from this study indicate that these

conflicts are often connected to strong beliefs and exist between equally important priorities. For example, one conflict in this study was between the desire to be transparent in communication while also ensuring confidentiality. Another was the desire to provide support while also building staff capacity. Providing potential and existing school leaders with the opportunity to examine their own conflicting priorities may also support their enactment of effective practices.

In summary, findings from this study indicate the important role of several competencies in the enactment of principal practices. While past research, political efforts to improve principal practice, and professional standards all focus on the practices themselves, this study illustrates the importance of underlying competencies for leaders to choose and implement those practices. Principal preparation programs, hiring processes, and principal professional development practices will benefit from the inclusion of these competencies.

Recommendations for Practitioners

There are several potential recommendations for practitioners based on the results of this study. These include shifts in the educational leadership standards, the inclusion of CPLRs in the hiring process for school leaders, and the development of these competencies through a theory of action framework. In short, these recommendations advocate for the inclusion of more underlying competencies that may be necessary to the enactment of effective principal practices.

Professional Standards

The Professional Standards for Educational Leaders guide the development and accreditation of principal preparation programs across the United States (Murphy, Seashore, & Smylie, 2017) and often serve as the foundation for state principal licensure programs. The stated

purpose of these standards is “to guide professional practice and how practitioners are prepared, hired, developed, supervised, and evaluated” (National Policy Board for Educational Administration, 2015, p. 2). Currently, none of the 84 indicators reflect the construct of CPLRs. The findings from this study indicate the need to include the underlying competencies necessary for school leaders to enact the practices listed within the standards.

An example can be found in the Ontario Leadership Framework (Leithwood, 2012). This professional standards document includes both principal practices and competencies, which are called “Personal Leader Resources.” These include the three CPLRs examined in this study as well as social resources and psychological resources. Ultimately, the inclusion of the underlying competencies necessary for leadership practices will drive their inclusion in principal preparation programs and ongoing development efforts.

Hiring Processes

While some of the underlying competencies principals need to enact effective practices can be improved on a short-term basis (Leithwood, 2012), many take much longer to develop. This necessitates that they be screened for during the hiring process. For example, Leithwood and Steinbach (1992) demonstrate how to improve principals’ problem-solving abilities through a relatively short development program. However, the CPLR of knowledge of effective school and classroom conditions takes much longer to develop. From this study, existing beliefs about the relative priority of different practices were also important to consider. For example, a principal’s choice to focus on building culture or spending time developing parent relationships are predicated on a belief that those are priorities for schools to be effective. Principals with different beliefs would prioritize different practices.

The presentation of scenarios that require principal candidates to articulate their thought processes can serve to uncover these underlying beliefs, their understanding of effective school and classroom conditions, and their skill with problem-solving. The methods used in this study: Behavior Event Interview (BEI) and artifact Stimulated-Response (SR) could be modified to fit this process. Prior research on leaders' problem-solving abilities (see review in Kahn & Bullis, 2021) utilizes a similar scenario-based approach where leaders are given problems to solve and asked to think out loud to uncover their thought processes. Ultimately, those responsible for hiring should examine the responses through the lens of underlying beliefs, knowledge, and competencies found in this study.

Using a Theory of Action Framework

Assisting current and prospective school leaders to craft theory of action statements may help uncover the underlying competencies identified in this study. Principal preparation programs can assist future school leaders to identify relative strengths and weaknesses and foster the development of missing or weak competencies. Additionally, explicitly using the theory of action framework with participants will assist them in continuing to self-assess and develop their competencies throughout their tenure as school leaders.

Professional development for existing school leaders can utilize the theory of action framework in a similar way. This construct may be most helpful in the context of supervisors and coaches who are supporting the principal's development. The framework provides a structure for coaches and supervisors to evaluate existing needs in order to target supports in the most efficient way possible. For example, in this study, Steve articulated a relative weakness in understanding classroom conditions that support student learning and in his overall leadership

self-efficacy. Jill demonstrated a relative weakness in her ability to engage in difficult staff conversations.

Supporting these needs may lead to greater improvement than supporting the implementation of specific leadership practices. In Steve's case, it will be difficult to increase his level of instructional leadership, especially in the area of classroom observation and feedback, without addressing this underlying competency. Jill will struggle to enact practices that hold teachers accountable without improving the skill of having difficult conversation.

Ultimately, the theory of action provides a diagnostic tool for both practitioners and those supporting them. Existing and potential principals can self-assess their underlying competencies as part of a more holistic view of their strengths and needs as a leader. Supervisors and coaches can support this self-reflection as well as provide an outside perspective relative to these areas.

Development of CPLRs and other Competencies

As indicated previously, developing a problem-solving skillset is critically important to school leaders. Especially important in the context of principal practices is the use of problem-solving to proactively and reactively decide which practices to enact. Participants in this study utilized problem-solving on an almost continuous basis in their work. This should be a key area of focus within principal preparation programs, principal hiring processes, and ongoing principal development.

Knowledge of school and classroom conditions that impact learning may take longer to develop than problem-solving, but findings from this study indicate it has a strong influence on principal practices. When proactively planning for their time, principals in this study relied on their knowledge of school and classroom conditions to prioritize actions they felt would make

the biggest difference on student achievement. During reactive problem-solving, these priorities were balanced with the immediate needs of the situation, but were still present in the decision-making process. Simply stated, participants could not select practices that they were unaware of or that they did not know were impactful to student achievement.

The CPLR of systems-thinking pertains to the ability of school leaders to see the connections between the various components that influence education. These include internal factors, such as the connection between behavior management and instructional practices, and external factors, such as the connection between accountability systems, school boards, and community expectations. Additionally, the skill of systems-thinking requires that the principal understand the indirect ramifications of his/her actions or inactions across various components of the school. For example, participants in this study recognized how their efforts to hold teachers accountable might be perceived and thus influence other teachers in the building.

Most of a principal's influence on student achievement is indirect (Leithwood, Sun, & Pollock, 2017; Seashore-Louis, Wahlstrom, Leithwood, & Anderson, 2010), thus being dependent on these interconnected systems and processes. The better a principal understands his/her pathway to influence, the more effective they can be. This understanding influences which practices a principal chooses to enact. In this study, this ranged from the decision to have difficult conversations with staff about instructional needs and their impact on building culture to understanding the connection between teachers, teachers' unions, the school board, and their work. Building this competency should be another outcome of principal preparation and ongoing professional development.

A similar case can be made for the inclusion of communication skills, engaging in difficult conversations, strategic thinking, change management, and reflection. Each of these were prevalent in supporting principals in this study to enact their chosen practices. Within the Professional Standards for Educational Leaders (National Policy Board for Educational Administration, 2015) these underlying skills are addressed minimally. Communication is mentioned four times in the document, but only one Standard, 2e, addresses communication as a skill rather than a task. Reflection is included in Standard 6i as a means for improving principals' own learning. Standard 1d states, "strategically develop, implement, and evaluate actions to achieve the vision for the school," but does not discuss the skill of strategic thinking. Standard 10i asks principals to manage change. However, these inclusions do not discuss how these competencies and skills underlie, or are prerequisite to, the enactment of the other practices listed throughout the document.

Conclusion

At its core, the recommendations presented here emphasize a shift in focus from principal practices to also supporting and developing the underlying competencies needed to enact those practices. In a direct way, improving principals' CPLRs will significantly impact their ability to enact effective practices. The use of a theory of action framework may help in diagnosing and addressing specific needs. These findings should be considered within the context of principal preparation, the hiring process, and in the ongoing professional development of principals. Ultimately, a shift in professional standards for school leaders is needed as those standards drive licensure, preparation programs, and even ongoing professional development.

Recommendations for Further Research

There are several potential recommendations for further research from this study. These range from small methodological changes to completely new areas of study. As with any research, this study may have led to more questions than answers, which provide significant opportunities for future research. The recommendations listed here are focused on those that would further inquiry into the underlying competencies and skills required for principals to enact the effective practices now prevalent in the literature.

Methodological Recommendations

Regarding methodology, the largest change would be to shift from a qualitative research design to quantitative or mixed methods. A quantitative approach would allow the relative impact of the antecedents identified in this study to be examined. Those results would inform more targeted support for the development of current and future school leaders.

Another potential change in methodologies would be the purposeful inclusion of participants from varying contexts to better analyze the impact of context on principal practice beyond principals' perceptions of contextual affordances and demands. This could include a comparison between high school and elementary leadership and rural versus urban settings. However, while the broader research concludes that context does make a difference (Leithwood, Harris, & Hopkins, 2019; Hallinger, 2018), it also shows that leaders' perceptions of context affordances and demands are what matter most (Zacarro et al., 2018; Leithwood, Harris, & Hopkins, 2019), rather than demographic differences in context.

Additionally, it may be helpful to select participants that differ significantly in their skills as problem-solvers. As this was one of the primary findings of this study, it warrants further inquiry to see if those who vary in problem-solving skills have a different interaction of the other antecedents found in this study. In this study, participants were selected to vary as much as possible based on their self-assessment and one completed by their instructional coach. However, the potential pool of participants did not include a significant difference in the problem-solving category.

Similarly, all three participants in this study demonstrated high levels of reflection. Further research might consider assessing and then purposefully selecting participants who differ significantly in this area. This would provide the opportunity to analyze how CPLRs and the other antecedents found in this study interact to impact principal practice based on differing levels of reflection by the leader. Additionally, high levels of reflection may be related to higher engagement in continuous improvement.

Ultimately, further research using this study design could be strengthened by including more participants and collecting more comparative data. For example, direct observation of principal practices with a follow-up debrief interview to explore the principal's thought process may provide additional information not captured in this study. While this study included a self-assessment and interviews with the building instructional coach, there is also the potential to survey staff as a more comprehensive way to gather input on the participants' practices.

Recommendations for Furthering the Research Agenda

Replication of the study with the varying methodological changes listed above would provide a clearer picture on how the various antecedents examined in this study impact principals

in general. As a case study, the implications for practice are limited and this broader research base would increase the likelihood that these findings are applicable beyond the case presented here. The inclusion of quantitative methods would also assist in creating more generalizable conclusions. Beyond validating and expanding the findings from this study, there are a few future research topics that should be explored within this area should the conclusions in this study hold true.

First, a quantitative approach would also answer the question of whether the antecedents in this study are predictive of effective leadership practice. The current study is limited in determining which factors may be impactful. Understanding the predictive nature and pathway of the variables would improve the ability to impact the variables that make the biggest difference for principal practice.

Second, this study looked at principal practice in general, rather than specific practices that have been identified by research. Further research might explore the different impact, if any, of the antecedent variables on specific leadership practices. For example, do CPLRs impact setting direction as much as directing the instructional program? Are certain antecedents more impactful when considering the quality and effectiveness of principal feedback? A quantitative approach would also better allow specific factors to be explored.

Ultimately, this leads to questions about how malleable the antecedents are and where and how the specific variables impact principal practice. Leithwood (1992) has shown that problem-solving can be developed in leaders, but less is known about the development of systems-thinking. How quickly can principals learn about the conditions for effective schools

and classrooms, so that it changes their decision-making and ultimately their actions? The answers to these questions would then inform how to best address these needs.

Regarding development of CPLRs, further research questions arise regarding existing and future structures. For example, to what extent are CPLRs taught in principal preparation programs? How effectively do principal preparation students learn CPLRs? Which programs are the most effective in developing those competencies? Are there methods to improving the acquisition of these skills in preparation programs? Similar questions might be explored for the professional development of existing principals.

In summary, the recommendations for further research presented here would first serve to validate and expand the findings from this study and, second, extend the research into the best methods of improving the underlying competencies that impact principal practice. Questions regarding how the antecedents interact and influence practice would be followed by how to best develop those competencies with current and future school leaders. These are critical in addressing the ultimate problem presented in this study: the lack of change in principals' theories of action to better match best practices.

Conclusions

While much is known about what effective principals do, less is known about the antecedents of those practices, especially in the area of cognitive skills and competencies (Leithwood & Jantzi, 2005; Sun, Chen, & Zhang, 2017). This study used a collective case-study approach to examine and describe the Cognitive Personal Leadership Resources (CPLRs), principal practices, leader self-efficacy, and perceptions of contextual affordances and demands

of three experienced principals. Findings from the study illustrate the important connections among these aspects of leadership, especially the problem-solving competency with CPLRs. The additional competencies of communication, engaging in difficult conversations, strategic thinking, change management, and reflection were also identified as being impactful for leaders in this study. The complex interaction of these factors may be conceptualized through a theory of action construct.

Findings from this study emphasize the potential importance of the underlying skills and competencies required for school leaders to enact effective principal practices. As Leithwood (2013) notes, these may be responsible for a significant amount of the variation in principal practices. Implications from these findings include a shift in principal preparation programs, hiring practices, and ongoing principal professional development. These systems should explicitly consider the development of CPLRs and other skills and competencies as an important component of improving the implementation of principal practices.

REFERENCES CITED

Aas, M., & Brandmo, C. (2016). Revisiting instructional and transformational leadership. *Journal of Educational Administration*, *54*(1), 92–110.

Agar, M. (1980). *The professional stranger: An informal introduction to ethnography* (Studies in anthropology). New York: Academic Press.

Amdurer, R., Boyatzis, R. E., Saatcioglu, W., Smith, M., & Taylor, S. (2014). Long term impact of emotional, social, and cognitive intelligence competencies and GMAT on career and life satisfaction and career success. *Frontiers in Psychology*, *5*, 1–15.

Anderson, E., & Reynolds, A. (2015). The state of state policies for principal preparation program approval and candidate licensure. *Journal of Research on Leadership Education*. *10*(3), 193–221.

Anfara Jr., V. A., Brown, K. M., & Mangione, T. L. (2002). Qualitative analysis on stage: Making the research process more public. *Educational researcher*, *31*(7), 28–38.

Antonakis, J., Day, D. V., & Schyns, B. (2012). Leadership and individual differences: At the cusp of a renaissance. *The Leadership Quarterly*, *23*, 643–650.

Ary, D., Jacobs, L. C., & Razavieh, A. (2002). *Introduction to research in education*. Belmont, CA: Wadsworth.

Avolio, B. J. (1994). The alliance of total quality and the full range of leadership. In B. M., Bass, & B. J., Avolio (Eds.), *Improving organizational effectiveness through transformational leadership* (pp. 121–145). Thousand Oaks, CA: Sage.

Ayman, R., & Lauritsen, M. (2018). Contingencies, context, situation, and leadership. In J. Antonakis, & D. V. Day (Eds.). *The nature of leadership* (3rd ed). Los Angeles, CA: Sage.

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

Bandura, A. (1991). Social cognitive theory of self-regulation. *Organizational Behavior and Human Decision Process*, *50*, 248–287.

Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York, NY: Worth Publishers.

Bandura, A. (1998). Health promotion from the perspective of social cognitive theory. *Psychology and Health*, *13*, 623–649.

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

Bandura, A. (2005). The evolution of social cognitive theory. In K. Smith & M. Hitt (Eds.), *Great minds in management*. (pp. 9–35) Oxford, UK: Oxford University Press.

Bandura, A. (2009). Cultivate self-efficacy for personal and organizational effectiveness. In E. A. Locke (Ed.), *Handbook of principles of organization behavior* (2nd ed., pp. 179–200). New York, NY: John Wiley.

Bandura, A. & Cervone, D. (1986). Differential engagement of self-reactive influences in cognitive motivation. *Organizational Behavior and Human Decision Processes, 38*, 92–113

Baranowski, T., Perry, C. L., Parcel, G. (2002). How individuals, environments, and health behaviors interact: Social cognitive theory. In: Glanz K, Lewis FM, Rimer B, eds. *Health Behavior and Health Education: Theory, Research and Practice* (3rd ed., pp. 246–279). San Francisco, CA: Jossey-Bass.

Barth, R. (1986). On sheep and goats and school reform. *Phi Delta Kappan, 68*(4), 293–296.

Bass, B. M., & Avolio, B. J. (1993). Transformational leadership and organizational culture. *Public Administration Quarterly, 17*, 112–121.

Bembry, K., Jordan, H., Gomez, E., Anderson, M., & Mendro, R. (1998). Policy implications of long-term teacher effects on student achievement. Paper presented at the 1998 Annual Meeting of the American Educational Research Association, San Diego, CA.

Berkovich, I. (2016). School leaders and transformational leadership theory: Time to part ways? *Journal of Educational Administration, 54*(5), 609–622.

Black, J. S., & Mendenhall, M. (1990). Cross-cultural training effectiveness: A review of theoretical framework for future research. *Academy of Management Review*, *15*(1), 113–136.

Bloom, B. S. (1953). Thought-processes in lectures and discussions. *The Journal of General Education, 7*(3), 160–169.

Boberg, J. E., & Bourgeois, S. J. (2016). The effects of integrated transformational leadership on achievement. *Journal of Educational Administration*, *54*(3), 357–374.

Bono, J. E., & Judge, T. A. (2004). Personality and transformational and transactional leadership. A meta-analysis. *Journal of Applied Psychology*, *89*, 901–910.

Boyan, N. (1988). Describing and explaining administrative behavior. In N. Boyan (Ed.), *Handbook of research in educational administration* (pp. 77–98). New York: Longman.

Boyatzis, R. E. (1982). *The competent manager: A model for effective performance*. New York, NY: John Wiley and Sons.

Boyatzis, R. E. (2009). Competencies as a behavioral approach to emotional intelligence. *Journal of Management Development*, *28*, 749–770.

Boyatzis, R. E., Lingham, T., & Passarelli, A. (2010). Inspiring the development of emotional, social and cognitive intelligence competencies in managers. In M. Rothstein & R. Burke (Eds.), *Self-management and leadership development* (pp. 62–90). Cheltenham, United Kingdom/Northampton, MA: Edward Elgar Publishing.

Boyce, J., Bowers, A. J. (2018). Towards an Evolving Conceptualization of Instructional Leadership as Leadership for Learning: Meta-Narrative Review of 109 Quantitative Studies Across 25 Years. *Journal of Educational Administration*, *56*(2), p.161–182.

Brown, F. W., & Moshavi, D. (2005). Transformational leadership and emotional intelligence: A potential pathway for an increased understanding of interpersonal influence. *Journal of Organizational Behavior*, *26*, 867–871.

Bruggencate, G. T., Luyten, H., Scheerens, J., & Sleegers, P. (2012). Modeling the influence of school leaders on student achievement. *Educational Administration Quarterly*, *48*(4), 699–732.

Bryk, A. S., Sebring, P. B., Allensworth, E., Easton, J. Q., & Luppescu, S. (2010). *Organizing schools for improvement: Lessons from Chicago.* Chicago, IL: University of Chicago Press.

Buchanan, E. A., & Hvizdak, E. E. (2009). Online survey tools: Ethical and methodological concerns of human research ethics committees. Journal of Empirical Research on Human Research Ethics, 4, 37–48.

Burns, J. M. (1978). *Leadership*. New York, NY: Harper & Row.

Bussey, K., & Bandura, A. (1999). Social cognitive theory of gender development and differentiation. *Psychology Review*. *106*, 676–713.

Calder, B. J. (1977). Focus groups and the nature of qualitative marketing research. *Journal of Marketing Research*, *3*, 353–364.

Calkins, A., Guenther, W., Belfiore, G., & Lash, D. (2007). *The turnaround challenge: Why America's best opportunity to dramatically improve student achievement lies in our worst performing schools. Final Report to Mass Insight Education and Research Institute.* Boston, MA: Mass Insight Education and Research Institute.

Camburn, E., Han, S. W., & Sebastian, J. (2015). Assessing the validity of an annual survey for measuring the enacted literacy curriculum. *Educational Policy*. *31*, 73–107.

Camburn, E., Huff, J. T., Goldring, E. B., & May, H. (2010). Assessing the validity of an annual survey for measuring principal leadership practice. *The Elementary School Journal*, *111*(2), 314–335.

Camburn, E. M., Spillane, J. P., & Sebastian, J. (2010). Assessing the Utility of a Daily Log for Measuring Principal Leadership Practice. *Educational Administration Quarterly*, *46*(5), 707–737.

Canter, A. (2004). A problem-solving model for improving student achievement. *Principal Leadership Magazine, 5*(4), 101–107.

Chan, K., & Drasgow, F. (2001). Toward a theory of individual differences and leadership: Understanding the motivation to lead. *Journal of Applied Psychology*. *86*(3): 481–498.

Chemers, M. M., Watson, C. B., & May, S. (2000). Dispositional affect and leadership effectiveness: A comparison of self-esteem, optimism and efficacy. Personality and *Social Psychology Bulletin, 26,* 267–277.

Claessens, B. J., Van Eerde, W., Rutte, C. G., & Roe, R. A. (2007). A review of the time management literature. *Personnel review*.

Coleman, J., Campbell, E., Hobson, C., McPartland, J., Mood, A., Weinfeld, F., & York, R. (1966). *Equality of educational opportunity*. Washington, DC: U.S. Government Printing Office.

Corcoran, R. (2017). Preparing Principals to Improve Student Achievement. *Child Youth Care Forum*, *46*, 769–781.

Creswell, J., Plano Clark, V., Gutmann, M., & Hanson, W. (2003). Advanced mixed methods research designs. In A. Tashakkori & C. Teddlie (Eds.), *Handbook of mixed methods in social & behavioral research* (pp. 209–240). Thousand Oaks, CA: Sage Publications, Inc.

Creswell, J., & Poth, C., (2018). *Qualitative inquiry and research design: Choosing among five approaches*. Los Angeles: SAGE Publications.

Creswell, J. W. (2003). *Qualitative inquiry and research design: Choosing among five traditions.* Thousand Oaks, CA: Sage.

Creswell, J. W., & Creswell, J. D. (2018) *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. Thousand Oaks, CA: SAGE Publications.

Crotty, M. (1998). *The foundations of social science research: Meaning and perspective in the research process.* New South Wales, Australia: Allen and Uwin.

Daly, A. J., Der-Martirosian, C., Ong-Dean, C., Park, V., & Wishard-Guerra, A. (2011). Leading under sanction: Principals' perceptions of threat rigidity, efficacy, and leadership in underperforming schools. *Leadership and Policy in Schools*, *10*(2), 171–206.

Daniëls, E., Hondeghem, A., & Dochy, F. (2019). A review on leadership and leadership development in educational settings. *Educational Research Review*. *27*, 110–125.

Darling-Hammond, L., LaPointe, M., Meyerson, D., Orr, M. T., & Cohen, C. (2007). *Preparing school leaders for a changing world: Lessons from exemplary leadership development programs*. Stanford, CA: Stanford University, Stanford Educational Leadership Institute.

Day, C., Gu, Q., & Sammons, P. (2016). The impact of leadership on student outcomes: How successful school leaders use transformational and instructional strategies to make a difference. *Educational Administration Quarterly*, 52(2), 221–258.

Day, C., Sammons, P., Leithwood, K., Harris, A., Hopkins, D., Gu, Q., Brown, E., & Ahtaridou, E. (2011). *Successful School Leadership: Linking with Learning and Achievement*. London: Open University Press.

Dempsey, N. P. (2010). Stimulated recall interviews in ethnography. *Qualitative Sociology*, *33*(3), 349–367.

Derue, D. S., Nahrgang, J. D., Wellman, N. E., & Humphrey, S. E. (2011). Trait and behavioral theories of leadership: An integration and meta-analytic test of their relative validity. *Personnel Psychology, 64*(1): 7–52.

DiFabio, A., & Kenny, M. E. (2011). Promoting emotional intelligence and career decision making among Italian high school students. *Journal of Career Assessment*, *19*, 21–34.

Donmoyer, R., & Wagstaff, J. G. (1990). Principals can be effective managers and instructional leaders. *NASSP Bulletin, 74*(525): 20–29.

Druskat, V., Mount, G., & Sala, F. (Eds.). (2005). *Emotional intelligence and work performance*. Mahwah, NJ: Lawrence Erlbaum.

Duke, D. L. (2015). *Leadership for low-performing school: A step-by-step guide to the school turnaround process.* Lanham, MD: Rowman & Littlefield.

Dwyer, D. C. (1984). The search for instructional leadership: Routines and subtleties in the principal's role. *Educational Leadership, 41*(5): 32–37.

Eden, D. (1988). Pygmalion, goal setting, and expectancy: Compatible ways to raise productivity. *Academy of Management Review*, *13*, 639–652.

Eden, D. (2001). Means efficacy: External sources of general and specific subjective efficacy. In M. Erez, U. Kleinbeck, & H. Thierry (Eds.), *Work motivation in the context of a globalizing economy* (pp. 73–86). Mahwah, NJ: Erlbaum.

Elias, S. M., Barney, C. E., & Bishop J. W. (2013). The treatment of self-efficacy among psychology and management scholars. *Journal of Applied Social Psychology, 43,* 811–822.

Eliophotou Menon, M. (2014), The relationship between transformational leadership, perceived leader effectiveness and teachers' job satisfaction. *Journal of Educational Administration, 52*(4,): 509–528.

Farkas, S., Johnson, J., Duffett, A., & Foleno, T. (2001). *Trying to stay ahead of the game: Superintendents and principals talk about school leadership*. New York, NY: Public Agenda.

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.

Flanagan, J. C. (1954). The critical incident technique. *Psychology Bulletin, 51*, 327–358.

Fry, B., O'Neill, K., & Bottoms, G. (2006). *Schools can't wait: Accelerating the redesign of university principal preparation programs*. Atlanta, GA: Southern Regional Education Board.

Gay, L. R., & Airasian, P. (2003). *Educational research: Competencies for analysis and applications* (7th ed.). Upper Saddle River, NJ: Pearson Education, Inc.

Gay, L. R., Mills, G. E., Airasian, P. (2009). *Educational research: Competencies for analysis and application* (9th ed.). Upper Saddle River, NJ: Pearson Merrill.

Gehlbach, H., Brinkworth, M. E. (2011). Measure twice, cut down error: A process for enhancing the validity of survey scales. *Review of General Psychology*. *15*(4):380–387.

Given, L. M., & Saumure, K. (2008). Trustworthiness. *The SAGE encyclopedia of qualitative research methods*, 1, 2.

Gliner, J. A., & Morgan, G. A. (2000). *Research methods in applied settings: An integrated approach to design and analysis.* Mahwah, NJ: Lawrence Erlbaum Associates, Inc.

Goldring, E., Grissom, J. A., Neumerski, C. M., Murphy, J., Blissett, R., & Porter, A. (2015). *Making time for instructional leadership*. New York, NY: Wallace Foundation.

Goldring, E., Huff, J., May, H., & Camburn, E. (2008). School context and individual characteristics: What influences principal practice? *Journal of Educational Administration, 46*, 332–352.

Grissom, J. A., & Loeb, S. (2011). Triangulating principal effectiveness: How perspectives of parents, teachers, and assistant principals identify the central importance of managerial skills. *American Educational Research Journal*, *48*(5), 1091–1123.

Grissom, J. A., Loeb, S., & Master, B. (2012). What is effective instructional leadership? Longitudinal evidence from observations of principals. Paper presented at the Association for Public Policy Analysis and Management annual meeting, Baltimore, MD.

Grissom, J. A., Loeb, S., & Master, B. (2013). Effective instructional time use for school leaders: Longitudinal evidence from observations of principals. *Educational Researcher*, *42*, 433–444.

Grissom, J. A., Loeb, S., & Mitani, H. (2013). *Principal time management skills: Explaining patterns in principals' time use and effectiveness*. Palo Alto, CA: Center for Educational Policy Analysis.

Grissom, J. A., Loeb, S., & Mitani, H. (2015). Principal time management skills. *Journal of Educational Administration*, *53*(6), 773–793.

Gumus S., Bellibas, M. S., Esen, M., & Gumus, E. (2016). A systematic review of studies on leadership models in educational research from 1980 to 2014. *Educational Management Administration and Leadership*: 1–8.

Hallinger, P. (1992). The evolving role of American principals: From managerial to instructional to transformational leaders. *Journal of Educational Administration, 30*(3), 35–48.

Hallinger, P. (2003). Leading educational change: Reflections on the practice of instructional and transformational leadership. Cambridge Journal of Education, *33*, 329–351.

Hallinger, P. (2005). Instructional leadership and the school principal: A passing fancy that refuses to fade away. *Leadership and Policy in Schools, 4*, 1–20.

Hallinger, P. (2018). Bringing context out of the shadows of leadership. *Educational Management Administration & Leadership, 46*(1): 5–24.

Hallinger, P., & Heck, R. (1998). Exploring the principal's contribution to school effectiveness: 1980–1995. *School Effectiveness and School Improvement, 9*, 157–191.

Hallinger, P., & Kovačević, J. (2019). A bibliometric review of research on educational administration: science mapping the literature, 1960 to 2018. *Review of Educational Research*, 1–26.

Hallinger, P., & Murphy, J. (1985). Assessing the instructional leadership behavior of principals. *Elementary School Journal*, *86*(2), 217–248.

Hallinger, P., & Murphy, J. F. (2012). Running on empty? Finding the time and capacity to lead learning. *NASSP Bulletin*, *97*(1), 5–21.

Hannah, S. T., Avolio, B. J., Walumbwa, F. O., & Chan, A. (2012). Leader self and means efficacy: A multicomponent approach. *Organizational Behavior and Human Decision Processes*, *118*, 143–161.

Harms, P. D., & Crede, M. (2010). Emotional intelligence and transformational and transactional leadership: A meta-analysis. *Journal of Leadership & Organizational Studies*, *17*, 5–17.

Harper, D. S. (2016), Correctional executives' leadership self-efficacy and their perceptions of emotional intelligence. *American Journal of Criminal Justice*, *41*(4): 765–779.

Harris, A. (2013). Distributed leadership: Friend or foe? *Educational Management Administration & Leadership, 41*(5), 545–554.

Harris, A., & De Flaminis, J. (2016). Distributed leadership in practice: Evidence, misconceptions and possibilities. *Management in Education*, *30*(4), 141–146.

Harris, A., & Jones, M. 2018. Why Context Matters: A Comparative Perspective On Education Reform and Policy Implementation. *Educational Research for Policy and Practice*, *17*(3), 195–207.

Hattie, J. (2015). The applicability of Visible Learning to higher education. *Scholarship of Teaching and Learning in Psychology*, *1*(1), 79–91.

Heck, R. H., & Hallinger, P. (2009). Assessing the contribution of distributed leadership to school improvement and growth in math achievement. *American Educational Research Journal*, *46*(3): 659–689.

Heck, R. H., & Hallinger, P. (2014). Modeling the effects of school leadership on teaching and learning over time. *Journal of Educational Administration*, *52*, 653–681.

Hendricks, J. W., & Payne, S. C. (2007). Beyond the Big Five: Leader goal orientation as a predictor of leadership effectiveness. *Human Performance*, *20*(4), 317–343.

Heppner, P. P., & Heppner, M. J. (2004). *Writing and publishing your thesis, dissertation, and research: A guide for students in the helping professions*. Belmont, CA: Thompson Brooks/Cole.

Hess, F. M., & Kelly, A. P. (2007). Learning to lead: What gets taught in principal-preparation programs. *Teachers College Record*, *109*(1), 221–243.

Hitt, D. H., & Tucker, P. D. (2016). Systematic Review of Key Leader Practices Found to Influence Student Achievement: A Unified Framework. *Review of Educational Research*, *86*(2), 531–569.

Hitt, D. H., Woodruff, D., Meyers, C. V., & Zhu, G. (2018). Principal Competencies that Make a Difference: Identifying a Model for Leaders of School Turnaround. *Journal of School Leadership*, *28*(1), 56–81.

Honig, M. I. (2013). *From tinkering to transformation: Strengthening school district central office performance*. Washington, DC American Enterprise Institute for Public Policy Research.

Honig, M. I., Copland, M. A., Rainey, L., Lorton, J. A., & Newton, M. (2010). *Central office transformation for district-wide teaching and learning improvement. Final Report to the Wallace Foundation.* New York: The Wallace Foundation.

Honig, M. I., & Venkateswaran, N. (2012). School--Central office relationships in evidence use: Understanding evidence use as a systems problem. *American Journal of Education*, *118*, 199–222.

Horng, E., Klaskik, D., & Loeb, S. (2010). Principal's time use and school effectiveness. *American Journal of Education*, *116*, 491–523.

Horng, E. L., & Loeb, S. (2010). New thinking about instructional leadership. *Phi Delta Kappan*, *92*(3), 66–69.

Hounkpatin, H. O., Boyce, C. J., Dunn, G., & Wood, A. M. (2017). Modeling bivariate change in individual differences: Prospective associations between personality and life satisfaction. *Journal of Personality and Social Psychology*, 1–18.

Howard, A., Healy, S., & Boyatzis, R. (2017). Using leadership competencies as a framework for career readiness. *New Directions for Student Leadership*, *156*, 59–71.

Hoy, W. (2012). School characteristics that make a difference for the achievement of all students, *Journal of Educational Administration*, *50*(1): 76–97.

Hoy, W. K., & Tarter, C. J. (2010). Swift and smart decision making: Heuristics that work. *International Journal of Educational Management*.

Hulpia, H., & G. Devos. (2010). How Distributed Leadership can Make a Difference in Teachers' Organizational Commitment? A Qualitative Study. *Teaching and Teacher Education. 26*(3): 565–575.

Institute for Educational Leadership. (2014). Self-assessment Tool for Aspiring School Leaders. Ontario.

Jantzi, D., & Leithwood, K. (1996). Toward an explanation of variation in teachers' perceptions of transformational school leadership. *Educational Administration Quarterly*, *32*(4), 512–538.

Johnson, B., & Christensen, L., (2017). *Educational research: Quantitative, qualitative, and mixed approaches*. Thousand Oaks, CA: SAGE Publications.

Judge, T., Colbert, A., & Ilies, R. (2004). Intelligence and leadership: A quantitative review and test of theoretical propositions. *Journal of Applied Psychology*, *83*, 17–34.

Judge, T., Erez, A., Bono, J., & Thoresen, C. (2002). Are measures of self-esteem, neuroticism, locus of control, and generalized self-efficacy indicators of a common core construct? *Journal of Personality and Social Psychology*, *83*, 693–710.

Judge, T., & Piccolo, F. (2004). Transformational and transactional leadership: A meta-analytic test of their relative validity. *Journal of Applied Psychology*, *89*(5), 755.

Kahn, J. D., & Bullis, M. D. (2021). A Look Inside the "Black Box": An Integrative Review of the Cognitive Decision-Making Processes Used by School Principals. *Leadership and Policy in Schools*, 1–20.

Kelly, L., & Cordeiro, M. (2020). Three principles of pragmatism for research on organizational processes. *Methodological Innovations, 13*(2), 205979912093724.

Khan, I., Khan, U., Ahmad, S., & Naseer-ud-Din, M. (2015). The effect of training on principals' time management practices: A focus on time management areas, school's level, locality and complexity. *FWU Journal of Social Sciences*, *9*(2), 82–94.

Kirkpatrick, A., & Locke, A. (1991) Leadership: Do traits matter? *The Executive*, *5*(2), 48–60.

Kmetz, J., & Willower, J. (1982). Elementary school principals' work behavior. *Educational Administration Quarterly*, *18*(4), 62–78.

Kruger, M., Witziers, B., & Sleegers, P. (2007). The impact of school leadership on school level factors: Validation of a causal model. *School Effectiveness and School Improvement, 18*, 1–20.

Ladson-Billings, G. (2006). From the achievement gap to the education debt: Understanding achievement in U.S. schools. *Educational Researcher, 35*(7), 3–12.

Lee, M., & Hallinger, P. 2012. National Contexts Influencing Principals' Time Use and Allocation: Economic Development, Societal Culture, and Educational System. *School Effectiveness and School Improvement*, *23*(4): 461–482.

Lefrancois, G. (1999). *The lifespan* (6th ed). Belmont, CA: Wadsworth.

Leithwood, K. (1992). Transformational leadership: Where does it stand? *The Education Digest, 58*(3), 17–21.

Leithwood, K. (1994), Leadership for school restructuring. *Educational Administration Quarterly*, *30*(4), 498–518.

Leithwood, K. (2010). Characteristics of school districts that are exceptionally effective in closing the achievement gap. *Leadership and Policy in Schools*, *9*(3), 245–291.

Leithwood, K. (2012). *The Ontario Leadership Framework 2012 with a discussion of the research foundations*. Toronto: ON: Institute for Educational Leadership and the Ontario Ministry of Education.

Leithwood, K. (2013). *Strong districts and their leadership*. A paper commissioned by The Council of Ontario Directors of Education and the Institute for Educational Leadership.

Leithwood, K. A., Begley, P. T., & Cousins, J. B. (1990). The nature, causes and consequences of principals′ practices: An agenda for future research. *Journal of educational administration*.

Leithwood, K. A., & Stager, M. (1986). Differences in Problem-Solving Processes Used by Moderately and Highly Effective Principals.

Leithwood, K., & Beatty, B. (2007). *Leading with teacher emotions in mind*. Thousand Oaks, CA: Corwin.

Leithwood, K., Cousins, B., & Smith, G. (1990). Principals' problem solving: Types of problems encountered. *Canadian School Executive*, *9*(7), 9–12.

Leithwood, K., Harris, A., & Hopkins, D. (2008). Seven strong claims about successful school leadership. *School Leadership and Management*, *28*(1), 27–42.

Leithwood, K., Harris, A., & Hopkins, D. (2019): Seven strong claims about successful school leadership revisited, *School Leadership & Management.*

Leithwood, K., Harris, A., & Strauss, T. (2010). *Leading school turnaround: How successful leaders transform low-performing schools*. San Francisco, CA: John Wiley & Sons.

Leithwood, K., & Jantzi, D. (1999). Transformational school leadership effects: A replication. *School Effectiveness and School Improvement*, *10*(4), 451–479.

Leithwood, K., & Jantzi, D. (2000). The effects of transformational school leadership on organizational conditions and student engagement with school. *Journal of Educational Administration, 38*(2), 112–129.

Leithwood, K., & Jantzi, D. (2005). A Review of Transformational School Leadership Research 1996–2005, *Leadership and Policy in Schools*, *4*(3), 177–199.

Leithwood, K., & Jantzi, D. (2006). Transformational school leadership for large-scale reform: Effects on students, teachers, and their classroom practices. *School Effectiveness & School Improvement*, *17*(2), 201–227.

Leithwood, K., & Jantzi, D. (2008). Linking Leadership to Student Learning: The Contributions of Leader Efficacy. *Educational Administration Quarterly*, *44*(4), 496–528.

Leithwood, K., Louis, K. S., Anderson, S., & Wahlstrom, K. (2004). *How leadership influences student learning*. Paper commissioned by the Wallace Foundation, Minneapolis, University of Minnesota.

Leithwood, K., Patten, S., & Jantzi, D. (2010). Testing a conception of how school leadership influences student learning. *Educational Administration Quarterly*, *46*, 671–706.

Leithwood, K., & Seashore-Louis, K. (2012). *Linking leadership to student learning*. San Francisco, CA: Jossey Bass.

Leithwood, K., & Steinbach, R. (1995). *Expert problem solving: Evidence from school and district leaders*. Suny Press.

Leithwood, K., & Sun, J. (2012). The nature and effects of transformational school leadership: A meta-analytic review of unpublished research. *Educational Administration Quarterly, 48*, 387–423.

Leithwood, K., Sun, J., & Pollock, K. (2017). *How School Leadership Influences Student Learning: The Four Paths.* The Netherlands: Springer.

Levine, A. (2005). *Educating school leaders*. New York, NY: The Education Schools Project.

Lezak, M., Howieson, D., Bigler, E., & Tranel, D. (2012). *Neuropsychological assessment* (5th ed.). New York: Oxford University Press.

Liu, S., & Hallinger, P. (2018). Principal Instructional Leadership, Teacher Self-Efficacy, and Teacher Professional Learning in China: Testing a Mediated-Effects Model. *Educational Administration Quarterly*, *54*(4), 501–528.

Locke, L. F., Spirduso, W. W., & Silverman, S. (2007). *Proposals that work: A guide for planning dissertations and grant proposals* (5th ed.). Thousand Oaks, CA: Sage.

Lord, R. G., & Hall, R. (1992). Contemporary views of leadership and individual differences. *The Leadership Quarterly*, *3*, 137–157.

Louis, K. S. (2008). Learning to support improvement—next steps for research on district practice. *American Journal of Education*, *114*, 681–689.

Louis, K. S., Leithwood, K., Wahlstrom, K., & Anderson, S. (2010). Learning from leadership project: Investigating the links to improved student learning. Retrieved from http://www.wallacefoundation.org/knowledge-center/Pages/ Investigating-the-Links-to-Improved-Student-Learning.aspx

Lunenburg, F. C. (2003). Emerging Perspectives: The Usefulness of the Construct of Transformational Leadership in Educational Organizations.

Luszczynska, A., Scholz, U., & Schwarzer, R. (2005). The general self-efficacy scale: multicultural validation studies. *Journal of Psychology: Interdisciplinary and Applied*, *139*, 439–457.

Lyle, J. (2003). Stimulated recall: A report on its use in naturalistic research. *British educational research journal*, *29*(6), 861–878.

Marks, H., & Printy, S. (2003). Principal leadership and school performance: An integration of transformational and instructional leadership. *Educational Administration Quarterly*, *39*(3), 370–397.

Marshall, C., & Rossman, G. B. (2015). *Designing qualitative research*. Los Angeles, CA: SAGE.

Martin, W. J., & Willower, D. J. (1981). The managerial behavior of high school principals. *Education Administration Quarterly*, *17*(1), 69–90.

Marzano, R. J., Waters, T., & McNulty, B. A. (2005). *School leadership that works: From research to results*. Alexandra, VA: Association for Supervision and Curriculum Development.

Mascall, B., Leithwood, K., Strauss, T., & Sacks, R. (2008). The relationship between distributed leadership and teachers' academic optimism. *Journal of Educational Administration, 46,* 214–228.

Maxwell, J. A. (2013*). Qualitative research design: an interactive approach*. Thousand Oaks CA: SAGE Publications.

May, H., & Supovitz, J. A. (2011). The scope of principal efforts to improve instruction. *Educational Administration Quarterly, 47,* 332–352.

Mayrowetz, D. (2008) Making sense of distributed leadership: Exploring the multiple usages of the concept in the field. *Educational Administration Quarterly 44,* 424–435.

McBrayer, J. S., Jackson, T., Pannell, S., Sorgen, C., Gutierrez, A, & Melton, T. (2018). Balance of instructional and managerial tasks as it relates to school leaders' self-efficacy. *Journal of School Leadership, 28,* 596–617.

McClelland, D. C. (1973). Testing for competence rather than for "Intelligence." *American Psychologist, 28*(1), 1–14.

McCollum, D. L., & Kajs, L. T. (2009). Examining the relationship between school administrators' efficacy and goal orientations. *Educational Research Quarterly, 32*(3), 29–46.

McCormick, M. J. (2001). Self-efficacy and leadership effectiveness: Applying social cognitive theory to leadership. *Journal of Leadership Studies, 8*(1), 22—33.

McCormick, M. J., Tanguma, J., & López-Forment, A. S. (2002). Extending self-efficacy theory to leadership: A review and empirical test, *Journal of Leadership Education, 1*(2), 34–49.

McCrae, R. R., & Costa Jr., P. T. (1999). A five-factor theory of personality. *Handbook of Personality: Theory and Research, 2,* 139–153.

McDougall, D., Saunders, W. M., & Goldenberg, C. (2007). Inside the black box of school reform: Explaining the how and why of change at getting results schools. *International Journal of Disability, Development and Education, 54,* 51–89.

Merriam, S. B. (2009). *Qualitative research: A guide to design and implementation*. San Francisco, CA: Jossey-Bass.

Mertens, D. M. (2010). *Research and evaluation in education and psychology: Integrating diversity with quantitative, qualitative, and mixed methods* (3rd ed.). Thousand Oaks, CA: Sage.

Meyers, C. V., & Hitt, D. H. (2017). School turnaround principals: What does initial research literature suggest they are doing to be successful? *Journal of Education for Students Placed at Risk*, *22*(1), 38–56.

Miller, T., Birch, M., Mauthner, M., & Jessop, J. (2012). *Ethics in qualitative research* (2nd ed.). London, England: Sage Publications Inc.

Motowidlo, S. J., Carter, G. W., Dunnette, M. D., Tippins, N., Werner, S., Burnett, J. R., & Vaughan, M. J. (1992). Studies of the structured behavioral interview. *Journal of Applied Psychology, 77*, 571–587.

Mumford, M. D., Todd, E. M., Higgs, C., & McIntosh, T. (2017). Cognitive skills and leadership performance: The nine critical skills. *The Leadership Quarterly*, *28*(1), 24–39.

Mumford, M. D., Zaccaro, S. J., Harding, F. D., Jacobs, T. O., & Fleishman, E. A. (2000). Leadership skills for a changing world: Solving complex social problems. *The Leadership Quarterly*, *11*, 11–35.

Murphy, J. (1988). Methodological, measurement, and conceptual problems in the study of instructional leadership. *Educational Evaluation and Policy Analysis, 10*(2), 117–139.

Murphy, J. (2016). *Professional Standards for Educational Leaders: The Empirical, Moral, and Experiential Foundations*, Thousand Oaks, CA: Corwin Press.

Murphy, J., Neumerski, C. M., Goldring, E., Grissom, J., & Porter, A. (2015). Bottling fog? The quest for instructional management. *Cambridge Journal of Education, 46*(4), 455–471.

Murphy, J., Seashore, K., & Smylie, M. (2017). How the professional standards for educational leaders can be brought to life. *Phi Delta Kappan*, *99*(1), 21–24.

Murphy, J., & Torre, D. (2014). *Creating productive cultures in schools: For students, teachers, and parents*. Thousand Oaks, CA: Corwin.

Murphy, J., Vriesenga, M., & Storey, V. (2007). Educational Administration Quarterly, 1979–2003: An analysis of types of work, methods of investigation, and influences. *Educational Administration Quarterly, 43*, 612–628.

Murphy, S. E., & Johnson, S. K. (2016). Leadership and leader developmental self-efficacy: Their role in enhancing leader development efforts. *New Directions for Student Leadership*, *149*, 73–84.

Nedelcu, A. (2013). Transformational approach to school leadership: Contribution to continued improvement of education. *Change And Leadership, 17*, 237–244.

Neumerski, C. (2013), Rethinking Instructional Leadership, a Review What Do We Know About Principal, Teacher and Coach Instructional Leadership and Where Should We Go From Here? *Educational Administration Quarterly*, *49*(2), 310–347.

Ng, K., Ang, S., & Chan, K. (2008). Personality and leader effectiveness: A moderated mediation model of leadership self-efficacy, job demands, and job autonomy, *Journal of Applied Psychology*, *93*(4): 733–743.

Northouse, P. G. (2010). *Leadership: Theory and Practice* (5th ed.). Thousands Oaks, CA: Sage.

Oplatka, I. (2009). The field of educational administration: A historical overview of scholarly attempts to recognize epistemological identities, meanings and boundaries from the 1960s onwards. *Journal of Educational Administration*, *47*(1), 8–35.

Oplatka, I. (2010). *The legacy of educational administration: A historical analysis of an academic field*. London, England: Peter Lang.

Paglis Dwyer, L. (2019). Leadership self-efficacy: review and leader development implications. *Journal of Management Development*, *38*(8), 637–650.

Paglis, L. L. (2010), Leadership self-efficacy: research findings and practical applications, *Journal of Management Development*, *29*(9), 771–782.

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

Pajares, F., & Schunk, D. (2001). Self-beliefs and school success: Self-efficacy, self- concept, and school achievement. In R. Riding & S. Rayner (Eds., pp. 239–266), *Perception* London, UK: Ablex Publishing.

Peterson, K. D. (1977). The principal's tasks. *Administrator's Notebook*, 26(8), 1–4.

Phillips, D. C., & Burbules, N. C. (2000). *Postpositivism and educational research*. Lanham, MD: Rowman & Littlefield.

Pietkiewicz, I., & Smith, J. A. (2014). A practical guide to using interpretative phenomenological analysis in qualitative research psychology. *Psychological Journal*, *20*(1), 7–14.

Poplin, M. (1992). The leader's new role: Looking to the growth of teachers. *Educational Leadership*, *49*(5), 10–11.

Printy, S., Marks, H., & Bowers, A. J. (2009). Integrated leadership: How principals and teachers share transformational and instructional influence. *Journal of School Leadership*, *19*, 504–532.

Quigley, N. R. (2013). A longitudinal, multilevel study of leadership efficacy development in MBA teams. *Academy of Management Learning and Education*, *12*(4), 579–602.

Ramchandran, K., Colbert, A. E., Brown, K. G., Denburg, N. L., & Tranel, D. (2016). Exploring the Neuropsychological Antecedents of Transformational Leadership: The Role of Executive Function. *Adaptive Human Behavior and Physiology*, *2*, 325–343.

Ream, K. S. (2010). The relationship of emotional intelligence and self-efficacy of first and second-year principals in Missouri. (Doctoral dissertation), University of Missouri-Columbia.

Reitzug, U. C. (2008) Conceptualizing instructional leadership: The voices of principals. *Education and Urban Society*, *40*, 694–714.

Robinson, V. M. (2010). From instructional leadership to leadership capabilities: Empirical findings and methodological challenges. *Leadership and Policy in Schools*, *9*(1), 1–26.

Robinson, V. M. J. (2007). *School leadership and student outcomes: Identifying what works and why*. Sydney: Australian Council for Educational Leaders.

Robinson, V. M. J., Lloyd, C. A., & Rowe, K. J. (2008). The impact of leadership on school outcomes: An analysis of the differential effects of leadership types. *Educational Administration Quarterly*, *44*(5), 635–674.

Ronan, W. W., & Latham, G. P. (1974). The reliability and validity of the critical incident technique: A closer look. *Studies in Personnel Psychology, 6*, 53–64.

Roth, R. M., Isquith, P. K., & Gioia, G. A. (2005). *BRIEF-A: Behaviour rating inventory of executive function – adult version: Professional Manual*. Lutz, FL: Psychological Assessment Resources, Inc.

Saldaña, J. (2021). The coding manual for qualitative researchers. *The coding manual for qualitative researchers*, 1–440.

Savin-Baden, M., & Howell-Major, C. (2013). Qualitative research: The essential guide to theory and practice. *Qualitative Research: The Essential Guide to Theory and Practice. Routledge*.

Saxe, D. (2011). The Relationship between Transformational Leadership and the Emotional and Social Competence of the School Leader. Ed.D. Dissertation, Loyola University Chicago, IL.

Schunk, D. (2016). *Learning Theories: An Educational Perspective*. Boston: Pearson.

Schunk, D. H., & Pajares, F. (2002). The development of academic self-efficacy. In A. Wigfield & J. Eccles (Eds.), *Development of achievement motivation* (pp. 15–31). San Diego, CA: Academic Press.

Schunk, D. H., & Pajares, F. (2005). Competence beliefs in academic functioning. In A. J. Elliot & C. Dweck (Eds.), *Handbook of competence and motivation* (pp. 85–104). New York: Guilford Press.

Schutte, N.S., Malouff, J.M. (2015). General and realm-specific self-efficacy: Connections to life functioning. *Current Psychology*. *15*,1–9.

Scribner, J. P., Sawyer, R. K., Watson, S. T., & Myers, V. L. (2007). Teacher teams and distributed leadership: A study of group discourse and collaboration. *Educational Administration Quarterly*, *43*(1), 67–100.

Seashore-Louis, K., Wahlstrom, K., Leithwood, K., & Anderson, S. (2010). *Investigating the links to improved student learning.* New York, NY: The Wallace Foundation.

Sebastian, J., Allensworth, E., & Stevens, D. (2014). The influence of school leadership on classroom participation: Examining configurations of organizational supports. *Teachers College Record*, *116*(8), 1–36.

Sebastian, J., Allensworth, E., Wiedermann, W., Hochbein, C., & Cunningham, M. (2018). Principal leadership and school performance: An examination of instructional leadership and organizational management, leadership and policy in schools. *Leadership and Policy in Schools, 17*(4), 1–23.

Sebastian, J., Camburn, E. M., & Spillane, J. P. (2017). Portraits of Principal Practice: Time Allocation and School Principal Work. *Educational Administration Quarterly*, *54*(1), 47–84.

Seidman, I. E. (1991). *Interviewing as qualitative research: A guide for researchers in education and the social sciences.* New York: Teachers College Press.

Self-Assessment for School Leaders. The Institute for Education Leadership. (2013). Retrieved November 16, 2021, from https://www.education-leadership-ontario.ca/en/resources/self-assessment-tools.

Semadar, A., Robins, G., & Ferris, G. R. (2006). Comparing the validity of multiple social effectiveness constructs in the prediction of managerial job performance. *Journal of Organizational Behavior, 27*(4), 443–461.

Shatzer, R. H., Caldarella, P., Hallam, P. R., & Brown, B. L. (2014). Comparing the effects of instructional and transformational leadership on student achievement: Implications for practice. *Educational Management Administration & Leadership*, *42*(4), 445–459.

Shiner, R. L., Allen, A. A., & Masten, A. S. (2017). Adversity in adolescence predicts personality trait change from childhood to adulthood. *Journal of Research in Personality*, *67*, 171–182.

Shoho, A. R., & Barnett, B. G. (2010). The realities of new principals: Challenges, joys, and sorrows. *Journal of School Leadership*, *20*(5), 561–596.

Slife, B. D., & Williams, R. N. (1995). *What's behind the research? Discovering hidden assumptions in the behavioral sciences.* Thousand Oaks, CA: Sage.

Smith, J. A., & Osborn, M. (2003). Interpretative phenomenological analysis. In J. A. Smith (Ed.), *Qualitative Psychology: A practical guide to research methods* (pp.). London: Sage.

Spillane, J., & Hunt, B. (2010). Days of their lives: A mixed-methods, descriptive analysis of the men and women at work in the principal's office. *Journal of Curriculum Studies*, *42*(3), 293–331.

Spillane, J. P. (2005). Distributed leadership. *The Educational Forum*, *69*(2): 143–150.

Spillane, J. P., Halverson, R., & Diamond, J. (2004). Towards a theory of leadership practice: A distributed perspective. *Journal of Curriculum Studies*, *36*(1), 3–34.

Spillane, J. P., & Kenney, A. W. (2012). School administration in a changing education sector: The US experience. *Journal of Educational Administration*, *50*(5), 541–561.

Spillane, J. P., & Louis, K. S. (2002). School improvement process and practices: Professional learning for building instructional capacity. In J. Murphy (Ed.), *The educational leadership challenge: Redefining leadership for the 21st century* (pp. 83–104). Chicago, IL: University of Chicago.

Stajkovic, A. D., & Luthans, F. (1998). Self-efficacy and work-related performance: A meta-analysis, *Psychological Bulletin*, *124*(2): 240–261.

Stake, R. E. (2000). Case Studies. In N. K. Denzin & Y. S. Lincoln (Eds.) *Handbook of Qualitative Research* (2nded.). Thousand Oaks, CA: Sage Publications.

Stein, M. K., & Nelson, B. S. (2003). Leadership content knowledge. *Educational Evaluation and Policy Analysis*, *25*, 423–448.

Stronge, J. H. (1993). Defining the principalship: Instructional leader or middle manager? *NASSP Bulletin*, *77*(553), 1–7.

Sun, J., Chen, X., & Zhang, S. (2017). A review of research evidence on the antecedents of transformational leadership. *Education Sciences, 7*(15), 1–27.

Sun, J., & Leithwood, K. (2015). Direction-setting School Leadership Practices: A Meta-Analytical Review of Evidence about Their Influence. *School Effectiveness and School Improvement*, *26*(4): 499–523.

Sun, J., & Leithwood, K. (2017). "Calculating the Power of Alternative Choices by School Leaders for Improving Student Achievement. *School Leadership and Management*, *37*(1–2), 80–93.

Sun, S. (2011). Meta-analysis of Cohen's kappa. *Health Serv Outcomes Res Method*, *11***,** 145–163.

Supovitz, J., Sirinides, P., & May, H. (2010). How principals and peers influence teaching and learning. *Educational Administration Quarterly*, *46*(1), 31–56.

Teddlie, C., & Reynolds, D. (Eds.). (2000). *The international handbook of school effectiveness research.* New York, NY: Falmer.

Teddlie, C., & Tashakkori, A. (2009). *Foundations of mixed methods research: Integrating quantitative and qualitative approaches in the social and behavioral sciences.* Thousand Oaks, CA: Sage Publications, Inc.

Tejeda, M. J., Scandura, T. A., & Pillai, R. (2001). The MLQ revisited: Psychometric properties and recommendations. *The Leadership Quarterly*, *12*, 31–52.

ten Bruggencate, G., Luyten, H., Scheerens, J., & Sleegers, P. (2012). Modeling the influence of school leaders on student achievement: How can school leaders make a difference? *Educational Administration Quarterly*, *48*, 699–732.

Thompson, C. L., Henry, G., & Preston, C. (2016). School turnaround through scaffolded craftsmanship. *Teachers College Record*, *118*(13).

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

Tschannen-Moran, M., & Gareis, C. R. (2005). *Cultivating principals' sense of efficacy: Supports that matter*. Paper presented at the annual meeting of the University Council for Educational Administration, Nashville, TN.

Tuncdogan, A., Acar, O. A., & Stam, D. (2017). Individual differences as antecedents of leader behavior: Towards an understanding of multi-level outcomes. *The Leadership Quarterly*, *28*, 40–64.

Urick, A. (2016a). Examining US principal perception of multiple leadership styles used to practice shared instructional leadership. *Journal of Educational Administration*, *54*(2), 152–172.

Urick, A. (2016b). The influence of typologies of school leaders on teacher retention: A multilevel latent class analysis. *Journal of Educational Administration*, *54*(4), 434–468.

Urick, A., & Bowers, A. J. (2014). What are the different types of principals across the United States? A latent class analysis of principal perception of leadership. *Educational Administration Quarterly*, *50*(1), 96–134.

Urick, A., & Bowers, A. J. (2017). Assessing international teacher and principal perceptions of instructional leadership: A multilevel factor analysis of TALIS 2008. *Leadership and Policy in Schools*. 249–269.

VA, R. (2015). National Policy Board for Educational Administration. *New York: NPBEA*.

Wang, Y., Bowers, A. J., & Fikis, D. J. (2017). Automated text data mining analysis of five decades of educational leadership research literature: Probabilistic topic modeling of EAQ articles from 1965 to 2014. *Educational Administration Quarterly*, *53*, 289–323.

Waters, T., Marzano, R., & McNulty, B. (2003). *Balanced leadership: What 30 years of research tells us about the effect of leadership on student achievement*. Aurora, CO: Mid-Continent Research for Education and Learning.

Wintering, V. O. (2008). The relationship between K–12 principal leadership, self-efficacy and academic performance. (Doctoral dissertation), Capella University.

Wolters, C. A., & Benzon, M. B. (2009). Social Cognitive Theory. Psychology of classroom learning: An encyclopedia. Ed. Eric M. Anderman and Lynley H. Anderman. Vol. 2. Detroit: Macmillan. 833–839.

Wong, Kenneth & C. Nicotera, Anna. (2004). Brown v. Board of Education and the Coleman Report: Social Science Research and the Debate on Educational Equality. Peabody Journal of Education. *79*, 122–135.

Wood, R., & Bandura, A. (1989). Social cognitive theory of organizational management. *Academy of Management Review*, 361–384.

Yin, R. (2014). *Case study research: Design and methods* (Fifth ed.).

Yukl, G. (1999). An evaluation of conceptual weakness in transformational and charismatic leadership theories. *The Leadership Quarterly*, *10*(2), 285–305.

Yukl, G. (2011). Contingency theories of effective leadership. In A. Bryman, D. Collinson, K. Grint, B. Jacknsopn, & M. Uhl-bien (Eds.). *The Sage handbook of leadership* (pp. 286–298). Los Angeles, CA: Sage.

Zaccaro, S. J. (2012). Individual differences and leadership: Contributions to a third tipping point. *The Leadership Quarterly*, *23*, 718–728.

Zaccaro, S. J., Green, J. P., Dubrow, S. & Kolze, M. J., (2018). Leader individual differences, situational parameters, and leadership outcomes: A comprehensive review and integration. *The Leadership Quarterly*, *29*(1), 2–43.

Zaccaro, S. J., LaPort, K., & Jose, I. (2013). Attributes of successful leaders: A performance requirements approach. In M. Rumsey (Ed.). *The Oxford Handbook of Leadership* (pp. 11–36). Oxford, England: Oxford University Press.

Zepeda, S. J., Parylo, O., & Bengtson, E. (2014). Analyzing principal professional development practices through the lens of adult learning theory. *Professional Development in Education*, *40*(2): 295–315.

Zimmerman, B. J., & Schunk, D. H. (2003). Albert Bandura: The scholar and his contributions to educational psychology. In B. J. Zimmerman & D. H. Schunk (Eds.), *Educational Psychology: A century of contributions* (pp. 431–457). Mahwah, NJ: Erlbaum.

APPENDICES

APPENDIX A

SUBJECT CONSENT FORM

SUBJECT CONSENT FORM
FOR
PARTICIPATION IN HUMAN RESEARCH AT MONTANA STATE UNIVERSITY

Proximal Antecedents of Effective School Leadership Practices

Dear Participant:

You are being asked to participate in a research study that examines the relationship between cognitive personal leadership resources, self-efficacy, context, and effective principal practices.

Rationale of Research

The purpose of the study is to examine how cognitive personal leadership resources (problem-solving, content knowledge, and systems thinking) are connected to effective principal practices while considering the influence of a leader's self-efficacy and the context in which he or she works. The significance of the study is to help inform principal preparation programs and ongoing principal professional development efforts.

Selection for Participation

All elementary principals and instructional coaches in _____ school district were invited to participate in the study. Each initial participant will be given the same survey to gather data on the variables of the study. Four to five participants will then be invited to participate in follow-up interviews.

Procedures

Participation is voluntary and you can choose not to answer any questions you do not want to answer and/or you can stop at any time. If you agree to participate in this study, you will be asked to participate in one survey consisting of 35 questions. The survey will be distributed online. The survey questions are derived from the Self-Assessment for School Leaders (The Institute for Educational Leadership, 2013). The first section asks about leadership practices and subsequent sections asks about cognitive personal leadership resources, self-efficacy, and perceptions of work context. Participation in the survey should be no more than 15 minutes.

Four to five participants will be contacted to participate in 1:1 interviews. Principal participants will be asked to participate in two interviews. Instructional coaches will be asked to participate in one. Interviews should take approximately 40 minutes. Principals will also be asked to share their daily/weekly schedule and their school improvement plan.

Risks

There are no foreseen risks.

Benefits

The study has no benefit to you.

Alternatives Available

If you do not wish to participate in the study, please simply delete this email. No data will be collected from you or disseminated.

Sources of Funding

NA

Cost to Subject

None

Questions

If you have any questions regarding this study, you may contact me, Chad Ransom, at 307-203-7447 at any time. Any additional questions about the rights of human subjects can be answered by the chairman of my doctoral committee, Dr. William Ruff (406-994-4182; wruff@montana.edu) or by the chair of the MSU Human Subjects Committee, Dr. Mark Quinn (406-994-4707; mquinn@montana.edu).

Confidentiality

Results from participation in this survey are coded and confidential. No identification of participants (i.e. email addresses) will be used in analyzing the data. Published results from the study will not include any identifying information or any other information that participants do not wish to be published.

Incentive

There is no incentive being offered for participation.

AUTHORIZATION: I have read the above and understand the discomforts, inconvenience and risk of this study. By pressing the "I Agree" button at the bottom of this page, I agree to participate in this research. I understand that I may later refuse to participate, and that I may withdraw from the study at any time.

Please print a copy of this consent form for your records.

APPENDIX B

PARTICIPANT SCREENING TOOL

Participant Screening Tool
Adapted from the Self-Assessment Tool for School Leaders
(The Institute for Educational Leadership, 2013)

This questionnaire was designed to help us gain a better understanding of the way cognitive personal leadership resources, self-efficacy, context, and principal practices are related.

There are 35 Likert-type questions and it is anticipated to take approximately 10-15 minutes to complete.

Directions:
Please indicate your opinion about each of the questions below by marking one of the nine responses in the columns on the right side. The scale of responses range from "none at all" (1) to "a great deal" (9), with "some degree" (5) representing the mid-point between these low and high extremes. You may choose any of the nine possible responses. Your answers will be kept confidential.

As a principal, to what extent do you feel you can…

	Not at all		Very little		Some degree		Quite a lot		A great deal
	1	2	3	4	5	6	7	8	9
1. establish, in collaboration with staff, students, and other stakeholders, an overall sense of purpose or vision for work in their school to which they are all strongly committed									
2. build consensus among students, staff, and diverse stakeholders about the school's goals									
3. make your expectations known through words and actions									
4. use many different formal and informal opportunities to explain to stakeholders the overall vision and goals									

established for the school									
5. build upon and respond to individual staff members' unique needs and expertise									
6. challenge staff to continually re-examine the extent to which their practices support the learning of all their students									
7. demonstrate the importance of continuous learning through visible engagement in your own professional learning									
8. encourage staff, students and parents to demonstrate respect, care and personal regard for one another									
9. foster mutual respect and trust among those involved in collaboration									
10. involve staff in the design and implementation of important school decisions and policies.									
11. provide regular opportunities and structures that support teachers in working together on instructional improvement, and establish a system for monitoring their collaborative work									
12. create a school environment in which									

parents are welcomed, respected and valued as partners in their children's learning.									
13. ensure that the facilities and school climate promote a safe, healthy, and productive environment for student learning.									
14. ensure that sustained funding is directed to the school's improvement priorities.									
15. recruit and select teachers who have the interest and capacity to further the school's vision and goals.									
16. Ensure high-quality instructional practices through observation, feedback, and other instructional supports									
17. incorporate the explicit use of data when making decisions that relate to student learning and school improvement.									
18. minimize daily disruptions to classroom instructional time.									
19. promote collective responsibility and accountability for student achievement and well-being.									
20. clearly define accountability for individual staff in terms that are mutually									

understood and agreed to and that can be rigorously reviewed and evaluated									
As a principal, to what extent…									
	Not at all		Very little		Some degree		Quite a lot		A great deal
	1	2	3	4	5	6	7	8	9
21. do you spend time analyzing the nature of a problem, before seeking a solution.									
22. do you prioritize problem-solving efforts based on impact on student learning.									
23. do you keep your values and principles central to how you respond to problems.									
24. do you remain calm and confident during the problem-solving process									
25. are you knowledgeable about powerful learning conditions in the school and classroom									
26. are you aware of my colleagues' emotions from their behavior.									
27. do you optimize the organizational conditions (teachers' working conditions) in determining school structures.									
28. do you understand the influence of family									

conditions on student learning and implement policies to improve parental involvement.									
29. do you understand the dense, complex, and reciprocal connections among different elements of the organization.									
30. do you use foresight to engage the organization in likely futures and consequences for action.									
31. do you feel confident analyzing long-term problems to find solutions for your school.									
32. do you have confidence in your ability to achieve the goals you set in your job.									
33. do you persist in a task regardless of the obstacles.									
34. do you feel the demands of your context (i.e., local pressure, state accountability) negatively impact your effectiveness as a leader?									
35. do you feel your context (i.e., district support, community factors) supports your improvement as a leader?									

APPENDIX C

PARTICIPANT SCREENING TOOL (SUBORDINATE VERSION)

Participant Screening Tool (Subordinate Version)
Adapted from the Self-Assessment Tool for School Leaders
(The Institute for Educational Leadership, 2013)

This questionnaire was designed to help us gain a better understanding of the way cognitive personal leadership resources, self-efficacy, context, and principal practices are related.

There are 35 Likert-type questions and it is anticipated to take approximately 10-15 minutes to complete.

Directions:
Please indicate your opinion about each of the questions below by marking one of the nine responses in the columns on the right side. The scale of responses range from "none at all" (1) to "a great deal" (9), with "some degree" (5) representing the mid-point between these low and high extremes. You may choose any of the nine possible responses. Your answers will be kept confidential.

To what extent does your principal…

	Not at all		Very little		Some degree		Quite a lot		A great deal
	1	2	3	4	5	6	7	8	9
1. establish, in collaboration with staff, students, and other stakeholders, an overall sense of purpose or vision for work in their school to which they are all strongly committed									
2. build consensus among students, staff, and diverse stakeholders about the school's goals									
3. make his/her expectations known through words and actions									
4. use many different formal and informal opportunities to explain to stakeholders the									

overall vision and goals established for the school									
5. build upon and respond to individual staff members' unique needs and expertise									
6. challenge staff to continually re-examine the extent to which their practices support the learning of all their students									
7. demonstrate the importance of continuous learning through visible engagement in his/her own professional learning									
8. encourage staff, students and parents to demonstrate respect, care and personal regard for one another									
9. foster mutual respect and trust among those involved in collaboration									
10. involve staff in the design and implementation of important school decisions and policies.									
11. provide regular opportunities and structures that support teachers in working together on instructional improvement, and establish a system for monitoring their collaborative work									

12. create a school environment in which parents are welcomed, respected and valued as partners in their children's learning.									
13. ensure that the facilities and school climate promote a safe, healthy, and productive environment for student learning.									
14. ensure that sustained funding is directed to the school's improvement priorities.									
15. recruit and select teachers who have the interest and capacity to further the school's vision and goals.									
16. Ensure high-quality instructional practices through observation, feedback, and other instructional supports									
17. incorporate the explicit use of data when making decisions that relate to student learning and school improvement.									
18. minimize daily disruptions to classroom instructional time.									
19. promote collective responsibility and accountability for student achievement and well-being.									
20. clearly define accountability for									

individual staff in terms that are mutually understood and agreed to and that can be rigorously reviewed and evaluated									
To what extent…									
	Not at all		Very little		Some degree		Quite a lot		A great deal
	1	2	3	4	5	6	7	8	9
21. does the principal spend time analyzing the nature of a problem, before seeking a solution.									
22. does the principal prioritize problem-solving efforts based on impact on student learning.									
23. does the principal keep his/her values and principles central to how he/she responds to problems.									
24. does the principal remain calm and confident during the problem-solving process									
25. is the principal knowledgeable about powerful learning conditions in the school and classroom									
26. is the principal aware of his/her colleagues' emotions from their behavior.									

27. does the principal optimize the organizational conditions (teachers' working conditions) in determining school structures.									
28. does the principal understand the influence of family conditions on student learning and implement policies to improve parental involvement.									
29. does the principal understand the dense, complex, and reciprocal connections among different elements of the organization.									
30. does the principal use foresight to engage the organization in likely futures and consequences for action.									
31. does the principal feel confident analyzing long-term problems to find solutions for your school.									
32. does the principal have confidence in her/her ability to achieve the goals he/she sets in his/her job.									
33. does the principal persist in a task regardless of the obstacles.									
34. do you feel the demands of your context (i.e., local									

pressure, state accountability) negatively impact the effectiveness of the principal as a leader?									
35. do you feel your context (i.e., district support, community factors) supports the principal improving as a leader?									

APPENDIX D

INITIAL PRINCIPAL INTERVIEW PROTOCOL

Initial Principal Interview Protocol

I. Introduction

This section of the interview serves to build participant comfort with the interview process and ensure their understanding of the content from the informed consent and their rights as a participant.

a. Thank you for taking the time to meet with me. Today's interview should take about 40 minutes and that will be about the same for our follow-up interview in a week or two.
b. Thank you for completing the informed consent as part of the initial survey. Do you have any questions about the study?

II. Biographic Information and Espoused View of Leadership

a. Describe your pathway to becoming a school leader.
    i. Prompt – Tell me a little more about your formal training and any mentoring you have received.
b. In your opinion, what is the role of the principal?
c. What actions do you take to accomplish your role?
d. If you could name the one external to you factor that prevents you from being as effective in your work as you could be, what would that be?
e. If you could name the one internal factor that prevents you from being as effective in your work as you could be, what would that be?

III. Behavioral Event Interview (BEI)

a. Consider a recent time when you faced a challenging situation with a teacher, and you felt that your actions were effective in addressing the challenge. Please tell me about what happened.
    i. Traditional BEI Prompts – What led up to the event? Who did and said what to whom? What happened next? What were you thinking and feeling in the moment? What did you think about before the event?
    ii. Follow-up prompts specific to Cognitive Personal Leadership Resources
        1. Problem-solving – in what ways did you analyze the situation before acting? In what ways, if any, did student learning and your core values drive your actions? Did you feel calm and confident throughout the process? Why or why not?
        2. Knowledge about school and classroom conditions – how did your understanding of effective schools impact your actions? How do you think the organizational conditions in the school might have influenced the event?
        3. Systems Thinking – in what ways, if any, did the event impact other elements in the school, like other staff or systems? Were these anticipated or a surprise?
    iii. If a similar situation had happened to you early in your career as a school leader, how might your thoughts and actions have been different?
        1. Why do you think that is?

2. Was your confidence in yourself higher or lower earlier in your career? How might that have impacted your thoughts and actions in this situation?
3. Was your context different earlier in your career? How might that have impacted your thoughts and actions in this situation?

IV. Artifact Stimulated Recall
   a. You've shared your (weekly/daily) calendar with me. Choose a day from this last week that typifies what your work generally looks like. Walk me through what happened that day. How did it follow your plan and how did things change?
      i. The researcher will select a pre-planned event from the day that highlights effective leadership practices (i.e.: leading a meeting or giving feedback to a teacher).
         1. What did you think about before [the event]? What were you feeling? How confident were you in your ability to manage this event? What did you want the outcome to be?
         2. During [the event], what were you thinking and feeling?
      ii. If a similar situation had happened to you early in your career as a school leader, how might your thoughts and actions have been different?
         1. Why do you think that is?
         2. Was your confidence in yourself higher or lower earlier in your career? How might that have impacted your thoughts and actions in this situation?
         3. Was your context different earlier in your career? How might that have impacted your thoughts and actions in this situation?
      iii. The researcher will select an event that was not pre-planned from the day that required the participant to make a decision (i.e.: a student behavioral incident)
         1. What did you think about during [the event]? What were you feeling? How confident were you in your ability to manage this event? What did you want the outcome to be?
      iv. If a similar situation had happened to you early in your career as a school leader, how might your thoughts and actions have been different?
         1. Why do you think that is?
         2. Was your confidence in yourself higher or lower earlier in your career? How might that have impacted your thoughts and actions in this situation?
         3. Was your context different earlier in your career? How might that have impacted your thoughts and actions in this situation?

V. Summary Questions
   a. How do you think your confidence as a leader impacts your actions?
   b. How do you think your context (i.e., external accountability, district supports and requirements, community resources) effects your ability to be an effective leader, if at all?

APPENDIX E

FOLLOW-UP PRINCIPAL INTERVIEW PROTOCOL

Follow-up Principal Interview Protocol

I. Introduction

This section of the interview serves to build participant comfort with the interview process.

a. Thank you for taking the time to meet with me again. Today's interview will be similar to our first one and should take about 40 minutes.
b. Do you have any questions before we get started?

II. Espoused View of Leadership

a. In our first interview, we talked about the role of a principal and what you do to try and accomplish your role. Do you have any follow-up thoughts on those two ideas?
b. In our first interview you mentioned that [answer from first interview] was the one external factor that most prevents you from being effective in your work. After thinking about it this week, would you answer the same?
    i. If "yes," please share any examples from this past week.
    ii. If "no," what would you say now? Why?
c. In our first interview you mentioned that [answer from first interview] was the one internal factor that most prevents you from being effective in your work. After thinking about it this week, would you answer the same?
    i. If "yes," please share any examples from this past week.
    ii. If "no," what would you say now? Why?

III. Behavioral Event Interview (BEI)

a. Consider a time when you faced a challenging situation with a student or parent and you felt that your actions were effective in addressing the challenge. Please tell me about what happened.
    i. Traditional BEI Prompts – What led up to the event? Who did and said what to whom? What happened next? What were you thinking and feeling in the moment? What did you think about before the event?
    ii. Follow-up prompts specific to Cognitive Personal Leadership Resources
        1. Problem-solving – in what ways did you analyze the situation before acting? In what ways, if any, did student learning and your core values drive your actions? Did you feel calm and confident throughout the process? Why or why not?
        2. Knowledge about school and classroom conditions – how did your understanding of effective schools impact your actions? How do you think the organizational conditions in the school might have influenced the event?
        3. Systems Thinking – in what ways, if any, did the event impact other elements in the school, like other staff or systems? Were these anticipated or a surprise?
    iii. If a similar situation had happened to you early in your career as a school leader, how might your thoughts and actions have been different?
        1. Why do you think that is?

2. Was your confidence in yourself higher or lower earlier in your career? How might that have impacted your thoughts and actions in this situation?
3. Was your context different earlier in your career? How might that have impacted your thoughts and actions in this situation?

IV. Artifact Stimulated Recall
   a. You've shared your school improvement plan with me. Please describe what that process was like and especially what you were thinking.
      i. As you prepared to create the school improvement plan, what did you think about?
      ii. In what ways, if at all, did your understanding of school and classroom conditions that influence learning impact the process?
      iii. In what ways, if at all, do you think connections across the system impacted your thinking during this process? This might include connections between other areas of the school, connections to district initiatives, or connection to outside of school influences.
      iv. Please think back to what this process was like earlier in your career. How might your thoughts and actions have been different?
         1. Why do you think that is?
         2. Was your confidence in yourself higher or lower earlier in your career? How might that have impacted your thoughts and actions in this situation?
         3. Was your context different earlier in your career? How might that have impacted your thoughts and actions in this situation?

V. Summary Questions
   a. How do you think your confidence as a leader impacts your actions?
   b. How do you think your context (i.e., external accountability, district supports and requirements, community resources) effects your ability to be an effective leader, if at all?

APPENDIX F

INSTRUCTIONAL COACH INTERVIEW PROTOCOL

Instructional Coach Interview Protocol

I. Introduction

This section of the interview serves to build participant comfort with the interview process and ensure their understanding of the content from the informed consent and their rights as a participant.

a. Thank you for taking the time to meet with me. Today's interview should take about 40 minutes.
b. Thank you for completing the informed consent as part of the initial survey. Do you have any questions about the study?

II. Biographic Information and Principal Espoused View of Leadership

a. How long and in what roles have you worked with your current principal?
b. Based on the behaviors or actions you have seen the principal take, what do you think his/her belief is about the role of a principal?

III. CPLR Interview questions

a. Have you ever engaged in a problem-solving process with the principal? Please tell me about what happened.
    i. Please share any insights you have into what the principal was thinking during these processes.
    ii. In what ways did he/she analyze the situation before acting? In what ways, if any, do you feel student learning and his/her core values drove his/her actions? Did the principal seem calm and confident throughout the process?
    iii. In what ways, if at all, do you think the principals' understanding of school and classroom conditions that influence learning impacted the process?
    iv. In what ways, if at all, do you think the principal considered connections across the system during this process? This might include how an initiative impacts other areas of the school or its connection to outside of school influences.
b. As a leader, principals are often planning for the future. This includes the school's improvement plan for the year, but also planning for future staffing needs or implementing new programs. It also occurs on a shorter-term basis with things like planning for an upcoming staff meeting. Please share your experience planning for future events with the principal.
    i. Please share any insights you have into what the principal was thinking during these processes.
    ii. In what ways, if at all, do you think the principals' understanding of school and classroom conditions that influence learning impacted the planning process?
    iii. In what ways, if at all, do you think the principal considered connections across the system during this process? This might include how an initiative impacts other areas of the school or its connection to outside of school influences.

IV. Summary Questions

a. If you could name the one external factor that prevents the principal from being as effective in their work as they could be, what would that be?
b. If you could name the one internal factor that prevents the principal from being as effective in his/her work as he/she could be, what would that be?
c. Are there any other internal or external factors that you think prevent the principal from being as effective in his/her work as she/he could be?
d. How do you think the principal's confidence in himself/herself as a leader impacts his/her actions, if at all?
e. How do you think your context (i.e., external accountability, district supports and requirements, community resources) effects his/her ability to be an effective leader, if at all?