Principal Leadership Through Pandemic Recovery:

The Influence of Leadership, Self-Efficacy, and Experience on Student Rebound

by

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A dissertation accepted and approved in partial fulfillment of the

requirements for the degree of Doctor of Education

in Educational Leadership

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Spring 2024

DISSERTATION ABSTRACT

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Title: Principal Leadership Through Pandemic Recovery: The Influence of Leadership, Self-Efficacy, and Experience on Student Rebound

The goal of this study was to examine the relationship between principal self-efficacy, principal experience, and pandemic rebound rates to better understand the attributes of school principals who are leading schools at different rates of rebounding following the global pandemic in Oregon. In the 2022-2023 school year ODE used the calculation of Average Gap Score Change to compare student achievement results in English language arts from 2018-2019 to the assessments following the pandemic. This study placed principals into performance groups by this state data. For this study, 327 principals serving in schools with poverty rates of 50% or higher within mid-sized school districts were identified using data from the Oregon Department of Education (ODE). All 327 were invited to participate in the study, and 75 principals accepted the invitation. Participants were given a demographic survey and the *Principals' Sense of Efficacy Scale*, a tool that measures principals' beliefs about their leadership using a full-scale score, and three subscales of instructional leadership, moral leadership, and managerial leadership. No statistically significant differences were noted between the performance groups for experience or self-efficacy. These findings reinforce the complexity and dynamic nature of school leadership when studying school administrators and illustrate the need for comprehensive and nuanced approaches to research on leadership and practices. Further research is needed to explore principal leadership in the post-pandemic era of

education to identify the characteristics of strong leaders to promote the replication of success.

Keywords: Principal Leadership, Instructional Leadership, Self-Efficacy, Pandemic Impacts

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Barker, K., Ferrua, K. and George, R. (2020). Prinicpaled: Navigating the Leadership Learning Curve. Dave Burgess Consulting, Inc. San Diego, CA.

ACKNOWLEDGEMENTS

I am forever grateful for the love and support of my husband, Kevin, and children, Eva and Dylan. I cannot think of a greater accomplishment than this sweet family that we have created or a more meaningful legacy than to launch these two humans into the world to make a profound difference. I love each of you dearly. Kevin, thank you for saying an unhesitating yes to every goal or dream I set; your encouragement has meant the world to me. Eva, my tiny but mighty warrior, you have taught me about perseverance and tenacity. Dylan, my brilliant athlete, you have inspired me with your relentless focus and resolve to challenge yourself and meet your goals. I am so lucky the three of you are mine.

I have been blessed to have a strong group of women, supporting me through every step of this process personally and professionally. Thank you to my committee, Julie Alonzo, Krista Parent, and Sylvia Thompson who led me through every step of this process. Deep gratitude to my circle of amazing friends, mentors, and family including Alice, Chloe, my mom, Kelly Kay, Sarah, Deb, Maryalice, Kyra, Polly, Vanessa, Pattie, Amy, Davey, Kim, Erin, Gretchen, Steffy, Amy, Becca, Jaime, Shine, Carrie, Lindsay, Robin, Veronica, Lauren, Kat, Julie, Karen, Kim, Stephani, Steffanie, Steph, Sarah, Shelly, Chelsey, Jen, Kim, Deborah, Chealsea, Danielle, Amber, Laura, Joy, Ashley, Bekah, Lisa, Maggie, and Christina. Women who relentlessly support and believe in one another are my favorite; thank you for being that for me.

DEDICATION

It is not lost on me that I am the first woman on either side of my family to achieve a doctorate degree. The weight and blessing of my choices that have led to this point is a gift and a responsibility that I do not take lightly. For my mother, grandmothers, and their mothers and grandmothers, Sharon, Dolores, Anna, Eva Ann, Pearl, Caroline, Mary, Anna, Grace, Annie, Mary, Emma, Ingeborg, and Kristine, I am honored to be a part of your legacy.

This is also dedicated to school administrators who make decisions every day that change trajectories, not only for the students they serve but also their future descendants. In 1960, Principal Ray Wescott in Austin, Minnesota, dreamed a bigger dream for my mother than my family could fathom at the time, his decision made a ripple that continues today, and I am grateful.

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ABBREVIATIONS

Abbreviation- Meaning

AGSC- Average Gap Score Change

ANOVA- Analysis of Variance

CRPE- Center on Reinventing Public Education

CSI- Comprehensive Support and Improvement

ELA- English Language Arts

ESSA- Every Student Succeeds Act

ODE- Oregon Department of Education

OSAS- Oregon Statewide Assessment System

PIMRS- Principal Instructional Management Rating Scale

PSES- Principals' Sense of Efficacy Scale

SCT- Social Cognitive Theory

TSI- Targeted Support and Improvement

CHAPTER I

INTRODUCTION

As the nation navigates post-pandemic effects on education, the need for strong school leaders is greater than ever before, as highly effective schools have the potential to lessen long-term educational impacts for this generation of students. This period of post-pandemic recovery offers an opportunity to study principals whose schools demonstrate greater-than-expected improvements in student learning outcomes as a means of identifying leadership traits and behaviors associated with student learning gains. This opportunity might provide important insights for future educational leaders as well as the institutions that train and support them.

The position of school principal is multifaceted. The demands of the job that pull in polarizing directions from managerial tasks to instructional influences create conditions where there is great variation in how principals approach their work (Dixon et al. 2022; Grissom et al. 2015; Horng et al., 2010; Karadag, 2020). How principals spend their time and their specific behaviors can influence student achievement (Babo & Postma, 2017; Karadag, 2020; Nettles & Herrington, 2007; Sebastian et al. 2019; Soehner & Ryan, 2011; Uysal & Sarier, 2018). Principals influence many critical aspects of school operations and decision making that impact the culture, vision, operations, expectations, and management of human and fiscal resources (Sebastian et al., 2019; Soehner & Ryan, 2011; Swapp, 2020; Tonich, 2021). The fact that some principals have more of an influence on student achievement than others has led to research to understand the characteristics, demographics, and soft skills of principals who lead schools that effectively shape positive student outcomes (Dixon et al., 2022; Francera, 2016; Uysal & Sarier, 2018).

Instructional leadership has been well studied for the past two decades as a particular style of leadership with a focus on decision making that promotes the implementation of practices and systems that support strong outcomes in teaching and learning (Babo & Postma, 2017; Boyce & Bowers, 2018; Hallinger & Wang, 2015; Murphy & Hallinger, 2001; Neumerski, 2012; Sebastian et al, 2019; Schwan, 2020; Urick, 2016). The development of instructional leaders who foster student achievement is an important area to explore because attributes of instructional leadership such as high expectations, professional development, structures, self-efficacy, and collective teacher efficacy have the potential to move student learning further faster and replicate success throughout a community of students (Boyce & Bowers, 2018; Dixon et al. 2022; Francera, 2016; Horng et al., 2010; Soehner & Ryan, 2011; Schwan, 2020; Skaalvik, 2020; Sturgis et al., 2017).

Infusing the philosophical foundations of instructional leadership into principal beliefs and behaviors is associated with the construct of self-efficacy. Researchers Tschannen-Moran and Gareis developed the *Principals' Sense of Efficacy Scale* (PSES) to measure this social construct. They found that leaders with higher self-efficacy were more likely to have resolve in setting goals, dealing with obstacles, adapting to change, prioritizing time, and making their goals actionable (Tschannen-Moran & Gareis, 2004). The construct of self-efficacy, which is grounded in Albert Bandura's work from 1977 on social learning theory, could provide important illumination to the field of education on the characteristics and development of strong leaders that align the vision, beliefs, resources, and actions of their buildings in ways that support the accelerated learning and growth of the students and educators within it.

Rationale

Understanding the leadership characteristics that support strong turnaround school communities is critical for supporting education in a post-pandemic environment. A persistent achievement gap has been identified in K-12 education over time that has a disproportionate impact on students who experience poverty, students of color, emerging bilingual students, and students who experience disabilities (Dixon et al., 2022; Swapp 2020). Early research suggests that the experience of the COVID-19 global pandemic exacerbated the achievement gap for these focal populations (Kuhfeld et al., 2022, Kwakye & Kibort-Crocker, 2021; Pokhrel & Chhetri, 2021; West & Lake, 2021). The post pandemic landscape also reflects challenges for teachers and administrators with higher rates of burnout, lower job satisfaction, and increased reports of stress (Gűnes, 2022). The focus in the current era of education is the important work of mitigating the impact of the pandemic on education through leveraging leadership with a focus on decision making that positively impacts teaching and learning and helps students rebound from the pandemic with attunement to both social emotional and academic considerations (Hattie, 2021; Swapp, 2020; Tonich, 2021).

There are examples of principals who are doing the work well; these leaders are overseeing the conditions within their school communities that accelerate learning faster when compared to other schools or districts (Brown, 2016; Dixon et al., 2022; Francera, 2016; Grissom et al., 2021; Sebastian et al. 2019; Soehner & Ryan, 2011). However, a direct link between principals and student achievement is difficult to ascertain (Grissom & Loeb, 2009). Bandura's Social Cognitive Theory has been used to better understand the beliefs and actions that create impactful leaders. Over the past decade, principal self-efficacy has been predictive of work-

related performance (Grissom et al., 2021; Gulmez & Negis Isik, 2020; Leithwood & Jantzi, 2008; Yavas, 2022). Schrik and Wasonga (2019) found a high correlation between principal expectations and the actual school academic outcomes when compared to their self-efficacy perception rating.

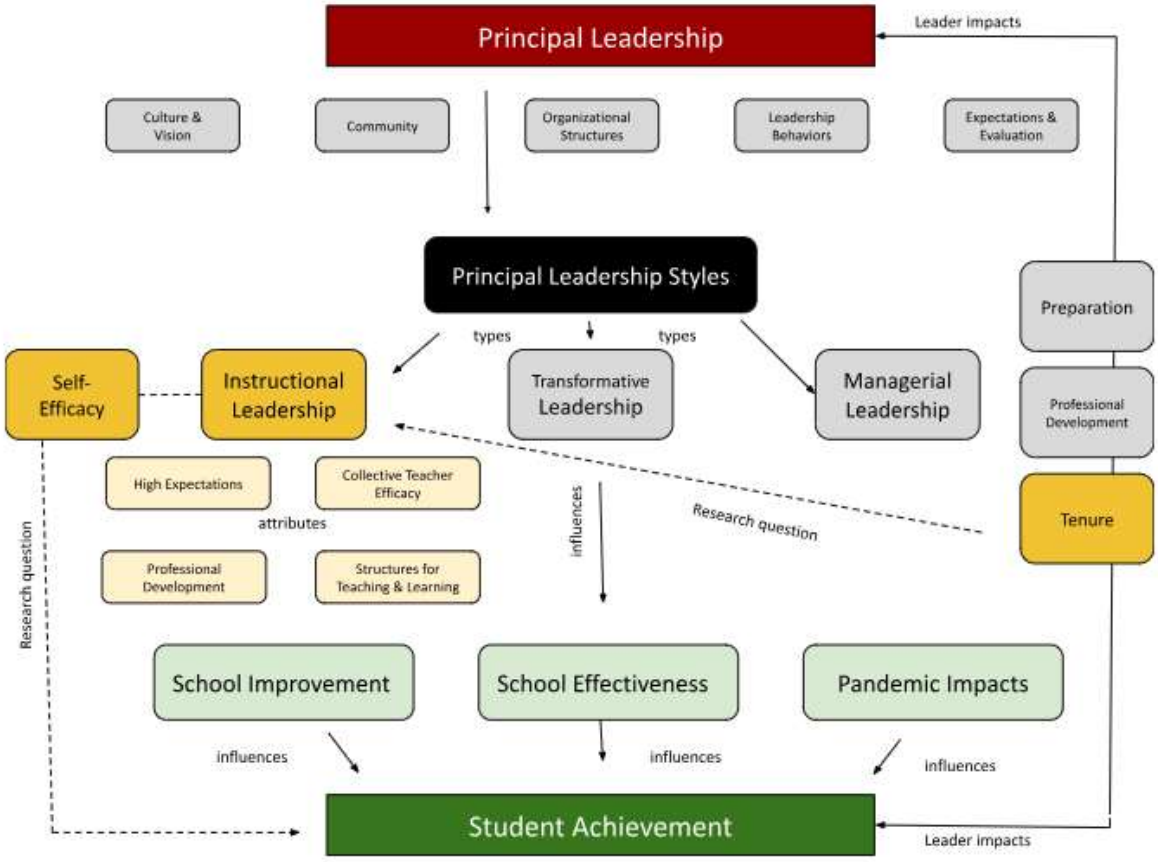
Following the global pandemic, we have the opportunity to study the rebound after a massive disruption to education that included school closures, remote learning models, and limitations to the structure of learning environments state and nationwide. With this shared experience, we are able to research student achievement rates on standardized state assessments and look at how schools performed prior to the pandemic in 2018-2019, in comparison to 2022-2023. By identifying schools with high rates of students who experience poverty and identifying those with higher-than-average rebound rates, we can look at principal leadership at schools that are accelerating learning to better understand the demographics and qualities of those leaders.

The goal of this study is to examine the relationship between principal self-efficacy, principal experience, and pandemic rebound rates to better understand the attributes of principals who are leading schools at different rates of rebounding from the global pandemic. This study has the potential to contribute to the field of education by utilizing the common experience of a disruption in education to watch the rate of rebound and its possible relation to principal efficacy and principal experience. The insights from this study could be applied to other initiatives to support school improvement and turnaround.

Equity has received a lot of attention in the past decade to address persisting achievement gaps and monitor student outcomes, especially for those who have historically

been underserved (Dixon et al., 2015; Karadag, 2020; Swapp 2020). My proposed research has the potential to further the work of educational equity by using the data created by a collective experience to identify those leaders who are getting results in the trenches in real time. By identifying this group, studying their behaviors, and looking at their leadership demographics, this study has the possibility to influence the field of education leadership and replicate success through targeted professional development, mentorship, and development systems within public education. The concept map in Figure 1 is a graphical representation of the ideas outlined in this study proposal.

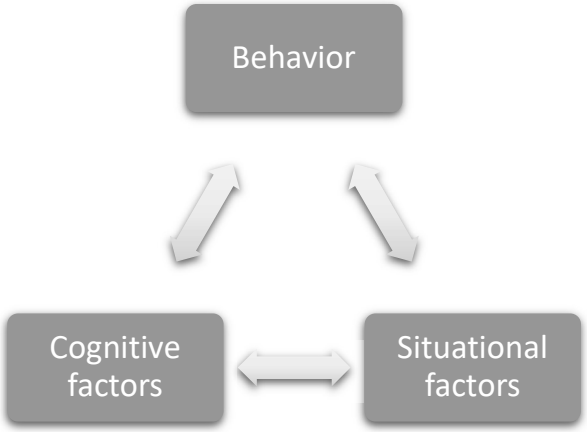
Figure 1: Concept Map



Theoretical and Conceptual Framework

This study is grounded in Albert Bandura's self-efficacy and social cognitive theory (1977) to better understand the influences of how principal behavior is shaped and motivated. In social cognitive theory (SCT), Bandura (2012) suggests that individual behaviors are influenced by determinants in three realms: personal, behavioral, and environmental. The environmental influence is also nuanced by different types of environments such as the imposed environment that people do not control, the selected environment that people choose, and the constructed environment that people create (Bandura, 2012). This framework suggests that behavioral outcomes are directly shaped by an individual's experiences, the actions of other people, and the environment in which they live (Bandura & Jourden, 1991). This relationship is illustrated in Figure 2.

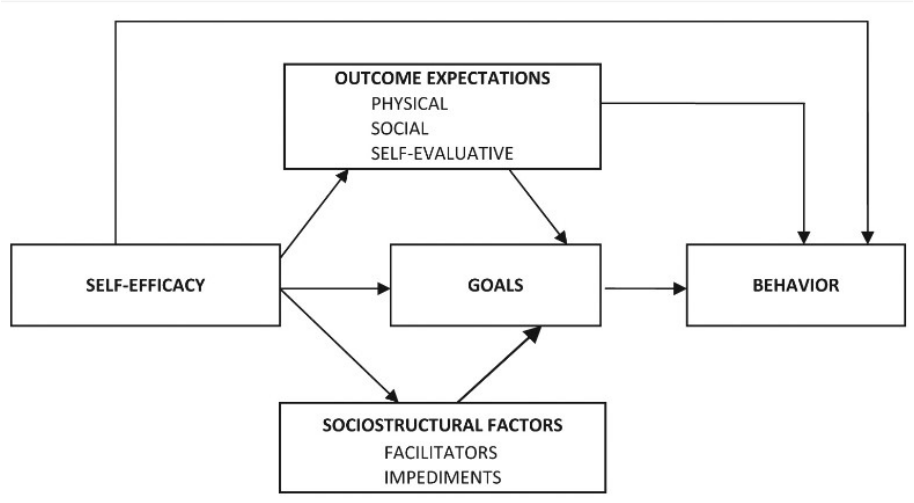
Figure 2: Triadic reciprocal determinism (Bandura, 1986)



In social cognitive theory, individuals exercise agency over their environment through their own actions and beliefs that then influence the people and settings where they live. Self-

efficacy is an important part of this dynamic, as it is the belief that an individual has control over the outcome of their behavior (Bandura & Jourden, 1991). At its core, self-efficacy is an internal belief system in one's own capabilities to influence the world. Four influences that develop self-efficacy have been identified through research: mastery experiences, social modeling, social persuasion, and physical or emotional states (Bandura, 2012). These influences become the outcome expectations that an individual holds about their ability to impact their goals and behavior. Additional sociostructural factors can support or prevent self-efficacy from strengthening. At a basic level, these are rewards or consequences that are a real or perceived part of the individual's experience and influence the behavior (Bandura, 2012). Figure 3 illustrates the interaction between self-efficacy, outcome expectations, sociostructural factors, goals, and behavior.

Figure 3. Structural Paths of Influence Wherein Perceived Self-Efficacy Affects Motivation and Performance Accomplishments Directly and Through Its Impact on Goals, Outcome Expectations, and Perception of Sociostructural Facilitators and Impediments (Bandura, 2012)



Bandura explains that social cognitive theory provides a framework, not only for predicting behavior, but also for explaining how people learn and change (Bandura, 2012). In

Figure 3 the researcher shows the path of influence where both social and cognitive structures influence goals and behavior. In this construct, self-efficacy is a "focal determinant because it affects behavior both directly and by its influence on the other determinants" (p. 14).

The theory of instructional leadership and framework models of Principal Instructional Management Rating Scale (PIMRS) and self-efficacy help to frame the research topic of understanding how principal leadership might help students in Oregon rebound academically from the global pandemic. By measuring principals' beliefs about their ability to influence student achievement, as well as their actions around defining the school mission, managing the instructional program, and promoting a positive school climate, I hoped to identify attributes correlated with strong growth outcomes in Oregon students.

Current Study

Following the global pandemic, education is at an important crossroads. We have seen academic achievement gaps grow because of the disruption to schooling, and the inequities between focal populations expand, while the pressures on educators increase (Kuhfeld et al. 2022, Kwakye & Kibort-Crocker, 2021; Pokhrel & Chhetri, 2021; Swapp, 2020; West & Lake, 2021). Determining how to best support principal leadership to impact strong schools that meet the needs of their community and provide pathways to student success is more relevant than ever before. Understanding the characteristics of strong leaders and the role that leadership and self-efficacy play is critical to developing these attributes in future leaders. In this study, I explore the topic of principal leadership as it relates to demographics and self-efficacy in post pandemic recovery.

Definition of Terms

Average Gap Score Change: This is a calculation developed by the Oregon Department of Education to measure pandemic recovery. This algorithm analyzes the difference in performance or achievement results between different student groups or between different points in time (e.g., before the pandemic to after the pandemic). The formula uses the average student score and the cut score for the assessment that then places a school in a level 1-5, which measures whether their English Language Arts (ELA) or math student achievement data are on track to close disparity gaps following the pandemic (ODE, 2023).

Current position experience: The number of years a principal has served in their present position at their school community.

Education: The highest post-secondary degree earned by the principal, regardless of field or relevance to current position.

Efficacy Expectation: The belief that a person can successfully perform the behavior that produces the identified outcome (Bandura, 1977).

Efficacy for Management: The belief in one's ability to deliver the operational components of the principal position which include daily demands, policies, procedures, paperwork and personnel of the school system (Tschannen-Moran & Gareis, 2004).

Efficacy for Instructional Leadership: The belief in one's ability to lead a school community with a focus on teaching and learning, a belief that students can achieve and build adult capacity for pedagogical and structural changes that support learning (Tschannen-Moran & Gareis, 2004).

Efficacy for Moral Leadership: The belief in one's ability to promote ethical behavior among school staff, a positive school culture, and positive school image with the public (Tschannen-Moran & Gareis, 2004).

Gender: The gender identity reported by principal participants.

Instructional Leadership: Leadership style that focuses on adult actions, beliefs, pedagogy, and systems that support teaching and learning outcomes in students (Hallinger et al., 2017).

Licensure: The certification given by the Teachers Standards and Practices Commission to reflect the professional education and requirements outlined by the state of Oregon.

Pandemic Rebound: The speed at which student achievement at individual schools is recovering from the COVID-19 pandemic disruption, which included an 18-month interruption to the delivery of school services in the state of Oregon.

Principal efficacy: The belief a school leader has in their ability to produce an identified outcome in their school community and student population.

Self-efficacy: The belief in one's own capabilities to produce an identified outcome.

Social Cognitive Theory: The idea that behavior is a reaction to stimuli in a person's environment and can be learned through observing and modeling the behavior.

Years of Experience: Total number of years that the principal participant has been an administrator.

CHAPTER II

LITERATURE SYNTHESIS

Research Problem

During the global pandemic, public education in the United States experienced a major disruption. In the state of Oregon, that disruption included almost 18 months away from full-time, face-to-face instruction. Research comparing the impact of the pandemic nationwide shows, on average, Oregon students losing 80% of a grade level in math and 66% of a grade level in reading. This equates to Oregon ranking the 8th worst in the nation in math and 5th worst in reading (Hammond, 2023). Currently, a storm of ideas about how schools can rebound from this national event is circling, ranging from intervention, acceleration, high dose tutoring, multiple tiered systems of support, and strong instruction (Kwakye & Kibort-Crocker, 2021). It is more important than ever before for talented leaders to quiet the noise of panic and support the deep implementation of strategies that promote student outcomes and growth. The need for strong schools in Oregon is urgent, and understanding effective principal leadership may be key for mitigating the long-term impacts of the pandemic on a generation of students.

Principal self-efficacy provides a unique lens from which to approach this problem of practice. It refers to a principal's perception of their own ability to enact change within their community to produce a desired outcome (Bandura, 1997). These beliefs are important because of their significant influence on the individual principal's "level of aspiration and goal setting as a leader as well as on the effort, adaptability and persistence brought to the task" (Tschannen-Moran & Gareis, 2007, p. 90). School leaders' responsibilities include managerial tasks, systems design, instructional support, community building, and safety to name a few. Regardless of the

change needed at the building, school improvement depends on the principal to drive the change efforts in the institution, and without strong leadership, change frequently does not happen. For this reason, understanding principals' perceptions about their impact and examining the self-efficacy of these leaders in tandem with student rebound rates from the global pandemic provides a unique opportunity to research how these leaders respond to a statewide stressor on the field of education. Insights from this research have the potential to inform school improvement efforts and principal development in the future.

Principal Impact

The impact of school principals on student outcomes has been studied for decades. Despite the breadth and depth of research, there remains an absence of agreement about what the specific recipe is for a successful school leader. However, the consensus in research is that the effectiveness of a school's operations is correlated with student academic outcomes (Brown 2016; Liebowitz & Porter, 2019; Marzano et al., 2005; Nettles & Herrington, 2007; Reeves, 2009; Schmoker, 2016). Therefore, the study of principal behaviors is critical to making headway in instructional equity.

The research on principal leadership demonstrates that it is a key component of the functioning of school buildings and can set the tone for school culture (Tonich, 2021). How people in principal roles perceive their experiences with education and educative processes can set the tone for a building and have impacts that ripple out into other stakeholder groups, impact decision-making, and influence student outcomes (Francera, 2016). Principal education and experiences with ongoing professional development and mentorship can have a lasting impact on their leadership and individual sustainability and well-being in the role of

administration (Connery & Frick, 2021; Grissom et al., 2019; Liebowitz & Porter, 2019). Currently, principal leaders are experiencing obstacles with increased workloads, higher demands, and challenging calls to support equitable outcomes (Swapp, 2020). A deeper understanding of principal attributes that support strong schools and successful outcomes for students is critical.

Principal leadership is a dynamic contribution to a school with the potential to shape culture and student outcomes for a community. The factors that lead to successful principals have been studied for decades, leading many researchers to suggest that principals have a critical role in successful schools (Hattie, 2015). The layers of the principal role are endless. From their office, they hold responsibility ranging from daily operations, safety and security, community building, supervision of staff and ultimately safeguarding student achievement. The characteristics of successful principals, as well as the influence of ineffective leadership, have been studied. Seashore Louis (2010) found that instability of leadership had a negative impact on student achievement and often reflected a problem with leadership at the district level. Klinker (2006) distilled the role as "at the most fundamental level, [it] is to keep chaos at bay and provide a climate in which all students can learn" (p. 54.)

In a 2007 study, Nettles and Herrington identified eight traits that principals who are effective demonstrate, including: (a) central focus on teaching and learning, (b) communicating the mission with regularity, (c) standards based instructional program, (d) clarity of goals and progress monitoring, (e) active participation in the classroom, (f) fostering trust between colleagues, (g) focusing on professional development, and (h) addressing ineffective teachers. These findings highlight that it is not just what the principal *thinks*, but also what the principal

does, that influences the culture of the building and how students achieve. Soehner and Ryan (2011) stated, "Principal leadership behaviors and principal effectiveness do not function in isolation from one another, but instead work together in harmony affecting student achievement indirectly" (p. 283).

In her research, Brown (2016) sought to better understand the leadership support of principals in high-poverty schools who also experienced positive results. She found the following supports were in place for strong building leadership: curriculum aligned to the standards, data-driven instruction efforts, development of common assessments, professional learning communities, parent-teacher partnerships, articulated behavior systems, strong budgeting, and a schedule that allowed for uninterrupted instruction. Brown's study articulates the multi-faceted role of the building principal who not only looks at teaching and learning but provides the conditions in other systems so that teaching and learning can happen well without disruption.

Other researchers have also looked at principals' use of time and how it relates to the effectiveness of a school building, with a large research base documenting that principals who have strong operational leadership that includes a strong articulated vision, focus on school culture, consideration to the motivation of teachers and students, holding high expectations, clear communication, and the development of organizational structures that promote strong teaching and learning have a positive impact on student outcomes (Horng et al., 2010; Nettles & Herrington, 2007; Meyer-Looze & Vandermolen, 2021; Schmoker, 2016). Schmoker draws attention to the concept of focus and asserts that school leaders who put clarity of emphasis on student outcomes can simplify the target for school communities. He states, "if we want to

bring effective instructional leadership within the reach of all school leaders, we must give leaders permission to focus their limited time and energy on the core of good schooling" (p. 5). In essence, for school leaders to have an impact on student learning and teacher effectiveness, they need to know what parts of their job to emphasize and what parts to let recede. Marzano, Waters, and McNulty, using meta-analysis, found that the leadership of building principals contributes 25% to student academic achievement (Marzano et al., 2005). The fact that principals have an impact on school success, both positive and negative, is clear in the research (Grissom et al., 2015; Liebowitz & Porter, 2019; Marzano et al., 2020; Reeves, 2009; Nettles & Herrington, 2007).

Principal Development

Although there is agreement in the literature on the importance of principal leadership, there remain questions about how principals are developed into the types of leaders who make a meaningful contribution. Babo and Postma (2017) looked at the role of tenure in principal outcomes. In their study of math and language arts data points, they discovered a correlation between principal longevity and higher student achievement. Others have looked at the learning curve of novice administrators, and although there are limited studies on this topic, some initial research suggests that the enormity of the job of school leadership provides an obstacle to the ability of new administrators to focus on aspects of the job that contribute to teaching and learning (Gimbel & Kefor, 2018; Klinic & Gumus, 2020; Karakose et al., 2014).

The transition for new principals into the role is challenging, as these professionals go through an adjustment process to assume the responsibility, situational understanding, and powerful decision making for an entire school community (Spillane & Lee, 2014). For new

principals who have not been in administrative roles previously, the learning curve is even more pronounced as they learn the many aspects of the principal role from management, human resources, instruction, community relations, and disciplinary responsibilities (Spillane & Lee, 2014). This period of developing contextual understanding and building relationships is a time when research has shown that principals must "overcome the insecurity of being inexperienced and ... develop a sense of confidence" (Oplatka, 2012, p. 131). The vastness of the new role can create challenges for novice principals to enact change within their communities, especially as expectations, workload, and incessant demands create conditions where many early-position principals report high levels of stress and fatigue (Oplatka, 2012).

The study of learning behavior in principals has revealed some unique insights. Brown and Psencik (2017) identified principals who "cultivated the mindset of continuous improvement" as those leaders who embody the concept that adults who lean into reflecting on experience and learning to improve their practice can have positive impacts on student outcomes (p. 2). These principals not only continuously bring in new information to support deepening their own understanding, but they model learning behavior to their staff and community, they tend to ask strong questions and reflect with purpose, which allows them to monitor and adjust strategies based on formative data and information (Meyer-Looze & Vandermolen, 2021). The skillset to become a learning leader is valuable, as Grissom et al. (2021) found that school districts that were able to influence their principal effectiveness from the 25th percentile to the 75th percentile were also able to accelerate student learning almost three months in both English language arts and mathematics.

The development and support of building leaders has gotten traction in many states as school districts and professional organizations seek to replicate success in the field through professional development and support for principals. Mentoring initiatives have been studied with varying results (Gimbel & Kefor, 2018). The key aspects to mentoring initiatives have been the focus on helping novice principals reflect, think deeply about their work, support data driven decisions, and support thoughtful responses to unforeseen challenges (Gimbel & Kefor, 2018). Recent research has drawn attention to the need to continue the development of principals once they fill the role and made the case for ongoing professional learning, mentoring, and coaching throughout their career, as frequently principals—especially at elementary levels—lack a team of other administrators to support them at the building level (Meyer-Looze & Vandermolen, 2021). There remains a need to better understand the scope and sequence of development for strong administrators who have a deep impact on student achievement.

Instructional Leadership

Successful school improvement is often associated with principals who embody attributes of instructional leadership, which is shown to have more of an influence on student achievement when compared to other leadership styles (Hallinger, 2015; Liebowitz & Porter, 2019). Instructional leadership is defined by the literature as actions that support the direct and indirect functions of teaching and learning (Babo & Postma, 2017; Boyce & Bowers, 2018; Hallinger & Wang, 2015; Kabeta et al., 2015; Murphy & Hallinger, 2001; Liebowitz & Porter, 2019; Neumerski, 2012; Schwan, 2020). Principals' influence on student achievement is second only to classroom teachers' and remains a powerful force in driving student outcomes within a

school community (Dixon et al., 2022; Horng et al., 2010; Schwan, 2020; Swapp, 2020; Tonich, 2021). The theory of instructional leadership suggests that principals who focus on the specific actions that support teaching and learning at the classroom level influence student outcomes in stronger ways than those who present other leadership styles through their direct or indirect actions (Boyce & Bowers, 2018; Hallinger et al., 2013; Kabeta et al.; 2015; Liebowitz & Porter, 2019).

Understanding the framework of attributes that support instructional leadership has been a focus of educational research for decades (Hallinger et al., 2013; Kabeta et al., 2015; Karadag, 2020; Uysal & Sarier, 2018). Kabeta et al. describe the premise of providing instructional leadership as "lead[ing] teachers and students to reach their full potential by creating conducive learning environments, defining and communicating shared goals, monitoring the teaching and learning process and providing continuous development to teachers and others" (p. 1877). Hallinger and Murphy identify the three dimensions of instructional leadership as defining the school mission, managing the instructional program, and promoting a positive learning climate (Hallinger & Murphy, 1985, 2013; Murphy & Hallinger, 2001).

Understanding instructional leadership has the potential to focus the scope of principal development topics on those that have the greatest impact on student learning. Continued study of instructional leadership has shown that when administrators possess these attributes, they have the capacity to focus staff on elements of teaching and learning, evoke a teacher belief in the achievement of all students, build adult capacity for change, build content pedagogical knowledge of staff, and create the structural conditions for meeting the individual

needs of students (Hallinger et al., 2013; Hallinger et al., 2017; Hallinger, 2000; McBrayer et al., 2020). As Tschannen-Moran and Gareis posit, “the purpose of leadership is to facilitate group goal attainment by establishing and maintaining an environment favorable to group performance” (p. 574). The ability for a principal to not only understand the elements of strong teaching and learning but believe that through their actions and leadership they can inspire the collective effort of their staff to change outcomes for students is a concept worth better understanding.

Social Cognitive Theory

The modern interpretation of self-efficacy grows out of social cognitive theory as developed by Albert Bandura over time (1977, 1986, and 2012). In this theory, Bandura (1986) proposes that instead of behavior as a reaction to events, individuals use socio-cognitive abilities to self-regulate cognitive processes and behaviors. This undertaking is driven by cognitive processes, which include the ability to encode information, self-regulate responses, and behave accordingly. The theory suggests that people can control their actions and behaviors and that their thinking and beliefs are an important force for determining how they will respond.

Social cognitive theory is an important construct to this study because it is centered on predicting how individuals self-regulate and control their behaviors through their thoughts, beliefs, and actions. Bandura describes the process of this through a concept of triadic reciprocal determinism which includes three elements: cognitive factors, situational factors, and behavior, as seen in Figure 2 (Bandura, 1986). In this model, all three elements are interdependent, meaning they influence one another. The researcher also uses the term

determinism, indicating that future events are determined by past situations (Bandura, 1986). Triadic reciprocal determinism puts attention on the "interaction between internal and external factors at work in a leadership context… principals' behavior is influenced by their internal thoughts and belief, but these beliefs are shaped by elements including other individuals in the environment" (Tschannen-Moran & Gareis, 2004, p. 582). This concept added to the field of psychology, as it suggested that human behavior was not only influenced by the biology of the person, or the environment in which they lived, but that it was a combination of interconnected factors that included the individual's thoughts about their experiences and beliefs about their future influences (Bandura, 1997). This ability to shape perception about circumstances and use thinking to drive future behavior outlines the influence of control that people have on their actions, which is an important construct when thinking about leadership and the influence that principal leaders have on the buildings that they serve.

Self-Efficacy

The concept of self-efficacy grew out of social cognitive theory, with an emphasis on better understanding the beliefs of the individual about their capacity to influence their environment. Self-efficacy beliefs are discernments that people have about their ability to act in a way that will influence their situation in a given time (Bandura, 1997; Goddard et al., 2004). Bandura defines self-efficacy as "people's judgment of their capabilities to organize and execute course of action required to attain designated types of performance" (Bandura, 1986, p. 391). Self-efficacy focuses on a person's perception of their ability rather than their actual capacity to do something (Tschannen-Moran et al., 1998). This is important because self-efficacy beliefs are predictors of the behavior that an individual will demonstrate; it creates the opportunity for

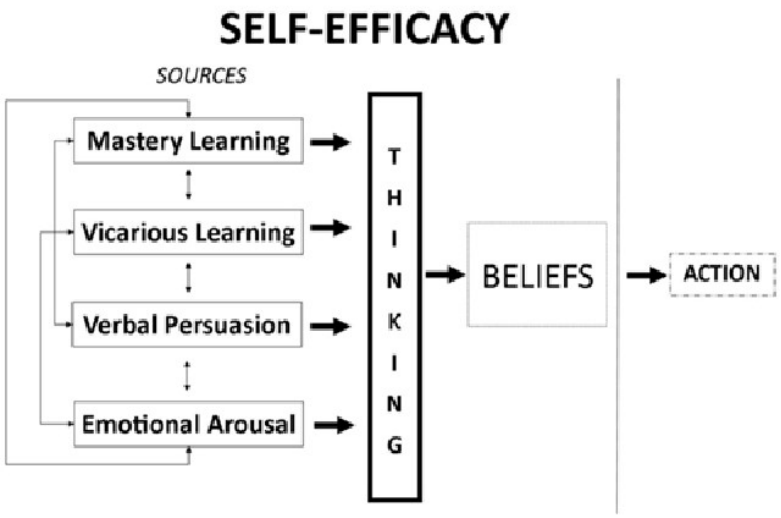
determining how obstacles, responsibilities, and goals will be approached by the individual in the future (Tschannen-Moran & Gareis, 2004).

There are four ways that individuals develop their self-efficacy: mastery learning, vicarious learning, verbal persuasion, and emotional or physical arousal (see Figure 4). These experiences are then received cognitively through thinking, which then influences the beliefs of the individual and shapes future behavior (Bandura, 1997). Mastery experiences are seen as the most influential of the four sources. This is the individual's direct participation in the situation previously (Bandura, 2012). For example, if a principal had experience in leading a school through shifting academic outcomes in the past, this would influence their self-efficacy beliefs about the future. Vicarious learning takes place when individuals have models of the behavior. This could be through peers, leaders, or information such as an expert in the field. If a principal worked alongside another leader who was demonstrating strong systems or outcomes, they could believe that they, too, could replicate that success.

The third element is verbal persuasion, which involves motivation by an outside source to increase an individual's belief in their own ability (Bandura, 1997). This element involves the encouragement, hope, and confidence that another person can give, which influences how the individual sees themselves. This could take place for a principal through a peer, mentor, or supervisor. The final source, emotional or physical arousal, is a measurement of the person's anxiety responses or emotional regulation in the work (Bandura, 1997). This is an important influence that deserves more attention in education as we see high levels of burn out, compassion fatigue, and low experiences of wellness, especially following the demands of the pandemic on education (Lin et al., 2023; Swapp, 2020). Negative emotional experiences can

lower self-efficacy beliefs in leaders and are shown to have a more powerful impact on self-efficacy than positive emotional experiences (Bandura, 2012).

Figure 4: Sources of self-efficacy beliefs (Holleb, 2016)



Principal Self-Efficacy and School Leadership

The knowledge of principals in terms of instructional leadership is important, yet equally critical is the belief that the professional has in their ability to enact change and make a positive impact on the school community. Self-efficacy in principals is defined as the belief that they have the "capabilities to structure a particular course of action in order to produce designed outcomes in the school he or she leads" (Tschannen-Moran & Gareis, 2004, p. 573). Hallinger et al. (2017) studied the concept of self-efficacy when it comes to instructional leadership and the relationship between principal self-efficacy, instructional leadership, teacher collective efficacy and organizational commitment. They found a strong confirmation of the conceptual model that the beliefs of educators (both administrators and teachers) had a statistically significant

relationship with their behaviors and outcomes. This is important because it suggests a reciprocal relationship between a principal's sense of their ability to impact and the influence that has, not only on their own actions, but on the other educators in their purview.

Whether a school administrator has high or low self-efficacy is also correlated to their behavior and able to predict outcomes (Tschannen-Moran & Gareis, 2004). When confronted with challenges, high efficacy administrators demonstrate perseverance as "people with high perception of self-efficacy are not intimidated by the obstacles or failures they face and gain self-confidence more quickly" (Yavas, 2022, p. 308). They tend to not see the obstacle as a personal failure, but are able to regulate their own emotions, adjust to the feedback of the situation, and remain confident and calm in their next approach (Tschannen-Moran & Gareis, 2004). On the other hand, administrators with low self-efficacy perceive obstacles as insurmountable and out of their locus of control. They tend to be less likely to adjust their strategy or change course to be more effective (Tschannen- Moran & Gareis, 2004). The evidence of self-efficacy, whether high or low, relates significantly to performance outcomes (Paglis, 2009). In other words, a principal with high self-efficacy can move school improvement faster, and conversely a principal with low self-efficacy can prevent the progression of results.

Recent research has shown trends that illustrate that principal self-efficacy for instructional leadership is correlated with job satisfaction and engagement in work (Dami et al., 2022; Skaalvik, 2020; Yavas, 2022). The qualitative methods used in the study by Dami et al. gave important insights into the narrative of administrators' beliefs about their impact and leadership; however, their study had limitations in that it did not triangulate the results with

actual student outcomes to determine if the principals' beliefs and insights were aligned with actual student achievement.

Current research on the role of emotional intelligence in leadership is revealing new and important aspects of leadership that have not previously been part of the conversation. Researchers Dilekci and Limon assert, "as the importance of emotions become clearer, school principals are expected to understand teachers' emotions better and help them manage successfully… principals who do not understand teachers' emotions and ignore emotional needs will inevitably face challenges" (Dilekci & Limon, 2022, p. 2). A 2021 study found that there was a strong predictive relationship between the emotional intelligence competency of the school principal and their self-efficacy (Debes, 2021). Both emotional intelligence and self-efficacy have demonstrated influence on success in the workplace, providing further evidence that relationships between individuals are connected to outcomes (Debes, 2021). The concept of self-efficacy benefits from an attunement to emotional intelligence, self-awareness, and belief systems.

When considering the ways that self-efficacy is fostered and developed, as outlined in Figure 4, principals have the potential to promote the efficacy of others through two sources closely related to their position: vicarious learning or modeling and verbal persuasion or motivational feedback. In a study, when principals led by example or highlighted educators' actions that were to be replicated to support strong outcomes, such as research-based practices and strong relationships, "teachers in turn emulated many of these examples to further support the mission of the school" (p. 15), an example of vicarious learning (Versland & Erickson, 2017). Similarly, when principals built strong relationships with teachers that included mentoring and

coaching them on the development of their skills, they were more likely to increase their own self-efficacy (Paglis, 2010; Versland & Erickson, 2017). The self-efficacy beliefs of school principals are, therefore, very important, as this belief in their ability to foster success translates into actions that support self-efficacy in others, including staff and students (Paglis, 2010; Schrik & Wasonga, 2019; Skaalvik, 2020; Yavas, 2022).

Principal Self-Efficacy and Student Outcomes

Understanding that self-efficacy plays an important role in principal leadership and the influence on other adults within the system is valuable. However, defining a more direct link to student outcomes poses a challenge. Many researchers have looked at principal self-efficacy and school performance without finding a significant correlation between the two variables (Aderhold, 2005; Grissom & Loeb, 2009; Liebowitz & Porter, 2019; Santamaria, 2008; Szymendera, 2013). This can speak to the many factors which influence student outcomes and the need for specific actions which drive student achievement, making it difficult to correlate to one element.

In a study on the self-efficacy and outcome expectations of school leaders, Schrik and Wasonga (2019) found higher correlations between principal outcome expectations and the actual school academic outcome compared to self-efficacy expectation and actual school academic outcome. Outcome expectation is seen in social cognitive theory as the way that a person's efficacy expectations lead them to behave in a way that supports their goals in that area (Bandura, 1977). Although the Schrik and Wasonga study suggests that outcome expectation is more central than self-efficacy for its impact on student achievement, it is also important to recognize that principals with high levels of self-efficacy are more likely to set high

goals, aspire to change, and demonstrate hard work, adaptability and tenacity to persevere (Tschannen-Moran & Gareis, 2007). By looking at principal self-efficacy in relation to pandemic recovery, there is a unique opportunity to understand the relationship between self-efficacy and student learning, through a common experience across the region to determine if the attributes identified by Tschannen-Moran and Gareis are associated with faster rebound for those school communities.

The power of school leadership lies in the ability to influence behaviors of others, specifically educators and students, to impact student outcomes. In a meta-analysis to identify the strongest predictor of self-motivation in student populations, Bureau et al. (2021) found three needs in the development of self-motivation "autonomy (student perception of learning freely and voluntarily), competence (student belief in the impact of their actions on their learning experience), and relatedness (student feeling of connection to the school and others)" (p. 46). This speaks to the psychological needs of students within the school building. Bureau et al. suggest that school leaders must attend to the culture of the school building to create "the conditions in which teachers possess the effective tool to bring change to their classroom" (p. 70). Linking back to Bandura's three ways that self-efficacy is developed, vicarious learning (modeling) and verbal persuasion (motivational feedback) are closely linked to the development of a supportive school culture (2012).

In considering principal outcomes on student achievement an interesting construct, the "knowing-doing gap," suggests that although many leaders have the content knowledge on a topic such as instructional leadership there remains a deficit in the ability to execute those actions to influence student achievement (Pfeffer & Sutton, 2000; Reeves, 2006). Reeves

describes the lack of strong implementation by leaders as not "the result of malevolent administrators. Rather… [that] the school leadership knows what to do, but the stultifying effect of hierarchical communication impairs effective action" (p. 32). Pfeffer and Sutton consider the ways that leaders think plays a role in this phenomenon, with a focus on decision making that relies more heavily on past-practice and memory than implementation of effective systems (Pfeffer & Sutton, 2000). They also draw attention to the role of fear in leadership, stemming from hierarchy with the power to embarrass, rebuke, or harm school leaders for errors in judgement, which can cause a paralysis effect on their ability to enact change (Pfeffer & Sutton, 2000). When considering the knowing-doing gap in comparison to social cognitive theory and self-efficacy, questions arise on what role these constructs play in ability or inability for principals to create the conditions for student success.

Pandemic Impacts

The COVID-19 pandemic resulted in the largest disruption to public education in history, impacting almost 1.6 billion learners across the globe (Pokhrel & Chhetri, 2021). This experience prevented the ability for in-person learning, resulting in asynchronous learning environments, with which both teachers and students had limited prior experiences and caused a disruption in engagement, pedagogy, and access to strong instructional practices (Kwakye & Kibort-Crocker, 2021). Although understanding the entirety of the impact this experience had on a generation of students is still emerging from the research, an initial study has taken place through the Center on Reinventing Public Education (CRPE). CRPE found that student achievement on standardized tests was significantly impacted, students who experienced less instructional time had greater impacts, different demographic groups experienced the pandemic in different ways,

and the pandemic exacerbated the achievement gap in ways that are only beginning to be understood (Kuhfeld et al., 2022, West & Lake, 2021). With an eye on equity, initial studies have also found that impacts were greater in math than in reading, the impacts on students experiencing poverty and students of color were deeper, and elementary students had more significant losses than students in middle or high school (Hattie 2021; Kwakye & Kibort-Crocker, 2021; West & Lake, 2021).

To address the pandemic's influence on student achievement, researchers have called for an acceleration of learning, with a focus on simultaneously filling gaps in student understanding through remediation while also progressing through learning targets through grade level content (Almarode et al., 2021). This research calls on school leaders to use meta-analysis to employ the most effective strategies for student learning and suggests they, "must be prepared to leverage the available resources in such a way that accelerating student learning is not only the focus but also the outcome" (p. 5). This is especially important for students in focal populations, as initial research on the pandemic demonstrates that students who have been historically underserved also experienced a disproportionate academic impact through the pandemic disruption (Kuhfeld et al., 2022).

The pandemic has also had effects on the job satisfaction of educators. In a health study on stress and depression in 2023, researchers found that school principals who navigated the COVID-19 pandemic, especially those with underlying health concerns, were more likely to have depression and high levels of stress (Duong et al., 2023). Another recent study showed that most school principals (77%) reported high levels of stress related to the crisis (Upadyaya et al., 2021). These researchers described the unique position of principals in that they, "are the ones

who are responsible for leading the school, responding to the changes in the crisis situation, and providing the necessary measures for the school community's adjustment" (p. 8). Those who experience burnout have lower rates of productivity and motivation, which can lead to lower goals and less accomplishment (Gűnes, 2022).

The goal of equity has gotten a lot of attention in the past decade, in an attempt to address persisting achievement gaps and monitor student outcomes, especially for those who have historically been underserved (Clayton et. al., 2020; Dixon et al., 2015; Karadag, 2020; Swapp, 2020). This research has the potential to further the work of educational equity by using the data created by a collective experience to identify those leaders who are getting results in the trenches in real time. By identifying this group, studying their behaviors, and looking at their leadership demographics, we have the possibility to influence the field of education leadership and replicate success through targeted professional development, mentorship, and development systems within public education.

Conclusion

The research is clear: Principals make an impact in their buildings (Babo & Postma, 2017; Brown, 2016; Hattie, 2015; Horng et al., 2010; Nettles & Harrington, 2017; Seashore Louis et al., 2010, Soehner, & Ryan, 2011). Research demonstrates stronger, positive impacts come when principals embrace instructional leadership with a focus on student outcomes and aligning systems that support student achievement (Hattie, 2015; Robinson et al., 2008). Hattie (2015) summarizes this well by stating, "Effective instructional leaders don't just focus on student learning. They relentlessly search out and interrogate evidence of that learning" (p. 36). This indicates that all the decision-making in which principals engage filters through the lens of how

it impacts student learning. Instructional leadership and trust also relate to how principals spend their time, building relationships and aligning systems to support students (Horng et al., 2010). Principals also can influence the educators they work alongside through modeling, mentoring, and influencing the culture of learning at the building, which can influence the way those educators feel about their own efficacy to influence student outcomes (Paglis, 2010).

Understanding the self-efficacy of principals provides insights into their beliefs that guide their behaviors, as self-efficacy has been proven over time to be an important predictor of individual behavior (Hallinger et al., 2017; Tschannen-Moran & Gareis, 2004,). Self-efficacy has been shown to influence the initiation, potency, and tenacity of leadership behavior, with leaders who experience high levels of it demonstrating loftier goals and effort to achieve and overcome, while those with less are more likely to exhibit helplessness and not persevere in goal setting (Paglis, 2009; Yavas, 2022). Self-efficacy research shows that it is not only important that school principals understand learning and leadership, but that they also believe in their ability to enact change using these skills in their building.

Using the theoretical framework of self-efficacy, we have the potential to study the ways leaders have contributed to pandemic rebounds in their students' academic achievement. Although pandemics are rare, the need for school turnaround and improvement practices is persistent. In the field of post-pandemic education, school leaders across the region have been uniformly faced with challenges at an intensity and scale that is unprecedented. In past research it has been difficult to draw a direct correlation between principal self-efficacy and student outcomes. Given the unique point of time following the collective experience of the pandemic, it is a favorable time to correlate principal self-efficacy with rebound rates while controlling for

other variables such as demographics and size of the school community and principal demographics. The opportunity to study the collective rebound from the global pandemic has the occasion to provide insights into ways that future administrators can embody leadership that helps student learning move forward faster.

CHAPTER III

METHOD

Study Design

The purpose of this study was to investigate and analyze the potential relationship among middle and elementary principals' self-efficacy perceptions (efficacy for management, efficacy for instructional leadership, and efficacy for moral leadership) and years of experience as they relate to rebound rates in student achievement from the pandemic disruption within the state of Oregon. I used a non-experimental quantitative research design, in which survey data were collected to study the relationships between variables. Muijs states, "survey research is well suited to descriptive studies or where researchers want to look at relationships between variables occurring in particular real-life contexts" (2022, p. 29). Data were collected using an electronic survey with four sections: demographic, efficacy for management, efficacy for instructional leadership, and efficacy for moral leadership. Although survey research does not demonstrate cause and effect or interpret the reason for results the way experimental research might, it does provide the opportunity to look at relationships between variables and potentially identify trends (Creswell, 2015).

Seven variables were included in this study. The primary independent variable was the Average Gap Change Score, a measure of pandemic rebound rates for schools reported on the ESSA (Every Student Succeeds Act) Accountability Details Report published annually by the Oregon Department of Education. Of the six dependent variables, four came from the *Principals' Sense of Self-Efficacy* scale: a full-scale score, and three subscale scores: efficacy for management, efficacy for instructional leadership, and efficacy for moral leadership. The final

two dependent variables were collected on the demographic portion of the survey: total years of experience and number of years in current position.

The four efficacy variables (DVs) and the AGSC variable (IV) were ordinal data. Ordinal data can be put into a clearly ranked order, but the distance between scores may not be equal (Muijs, 2022). I used the AGSC variable to divide the schools into three groups: those that were rebounding above-average (levels 4 and 5 on the AGSC), those that were rebounding at an average rate (level 3 on the AGSC) and those that were rebounding below-average (levels 1 and 2 on the AGSC). Thus, I transformed the ordinal AGSC data into categorical data, with three levels. Because both variables are ordinal data, and the independent variable was divided into three levels, an analysis of variance to compare more than two groups (ANOVA) was well suited for this portion of the study. In this type of statistical test, variance due to "differences in performance is separated into (a) variance due to differences between individuals between groups and (b) variance due to differences within groups" (Salkind & Frey, 2020, p. 232). An ANOVA works by comparing the variance of the group means with the variance of values inside the group (Muijs, 20222). Four separate ANOVAs were run to analyze the potential relationship between AGSC recovery and principals' self-reported efficacy.

The two variables measuring years of experience (DV) were categorized into nominal data, with respondents clustered into three groups, each with differing years of experience. I used a Chi-square test to examine the relationship between principals' years of experience and post pandemic rebound. The Chi-square test is a strong option for this analysis, as it is a test that analyzes whether there is a significant relationship between two nominal variables by

comparing observed frequencies to expected frequencies (Muijs, 2022). This analysis indicates whether there is a statistically significant relationship between the variables being analyzed.

In this study, I explored the topic of principal leadership as it relates to composite self-efficacy, the subsets of efficacy for management, efficacy for instructional leadership, efficacy for moral leadership, and years of experience both in the field and in the position of principal during post pandemic recovery with the following research questions:

RQ1. Is there a statistically significant difference in principals' self-reported composite efficacy score (DV) when comparing principals working at high-poverty schools with below-average, average, and above-average gap score change (IV)?

RQ2. Is there a statistically significant difference in principals' self-reported instructional leadership efficacy sub-score (DV) when comparing principals working at high-poverty schools with below-average, average, and above-average gap score change (IV)?

RQ3. Is there a statistically significant difference in principals' self-reported moral leadership efficacy sub-score (DV) when comparing principals working at high-poverty schools with below-average, average, and above-average gap score change (IV)?

RQ4. Is there a statistically significant difference in principals' self-reported managerial leadership efficacy sub-score (DV) when comparing principals working at high-poverty schools with below-average, average, and above-average gap score change (IV)?

RQ5. Do principals working at high-poverty schools with below-average, average, and above-average gap score change (IV) differ significantly in their years of experience as principals (DV)?

RQ6. Do principals working at high-poverty schools with below-average, average, and above-average gap score change (IV) differ significantly in their years working in their current position (DV)?

Hypotheses

Ho: There is no significant difference between principals working at high-poverty schools with below-average, average, and above-average gap score change in terms of their years of experience or perceptions of self-efficacy.

H1: There is a significant difference between principals working at high-poverty schools with below-average, average, and above-average gap score change (IV) in terms of their self-reported composite efficacy score (DV).

H2: There is a statistically significant difference between principals working at high-poverty schools with below-average, average, and above-average gap score change (IV) in terms of their self-reported instructional leadership efficacy sub-score (DV).

H3: There is a statistically significant difference between principals working at high-poverty schools with below-average, average, and above-average gap score change (IV) in terms of their self-reported moral leadership efficacy sub-score (DV).

H4: There a statistically significant difference between principals working at high-poverty schools with below-average, average, and above-average gap score change (IV) in terms of their self-reported managerial leadership efficacy sub-score (DV).

H5: There are statistically significant differences between principals working at high-poverty schools with below-average, average, and above-average gap score change (IV) in terms of principals' years of experience.

H6: There are statistically significant differences between principals working at high-poverty schools with below-average, average, and above-average gap score change (IV) in terms of principals' years working in their current position (DV).

Participants

The target population for this study consisted of elementary and middle school principals in the state of Oregon serving in schools with poverty rates of 50% or higher within mid-sized school districts with average daily membership between 1,600 and 12,000 students. The Oregon Department of Education (ODE) identified 54 school districts that met this size criteria, and within them 327 schools with poverty rates of 50% or higher (ODE, 2023). I used a proportional stratification sampling process where elementary and middle schools in the state of Oregon that meet the target population demographic were identified and placed into rebound performance groups based on the Average Gap Score Change from the Oregon Department of Education rating. This type of sampling is recommended when the population reflects an imbalance of a characteristic, in this case, academic rebound rates (Creswell & Creswell, 2023). A simple random sample in these conditions could result in principal responses from an overrepresented rebound rate group that would provide a dominate view and not address the research questions adequately (Creswell & Creswell, 2023). The target population responses were collected by electronic survey on a volunteer basis.

The Average Gap Score is a calculation developed by the Oregon Department of Education to measure pandemic recovery. This algorithm analyzes the difference between the average student score and the cut score for the assessment and placed a school in a level 1-5 for English Language Arts (ELA) and math. This score is intended to measure whether their student

achievement data are on track to close achievement gaps following the pandemic. The Average Gap Score Change demonstrates how the scores have changed over time. A positive change suggests a narrowing in the gap, indicating that the measured performance has improved compared to other groups. Conversely, a negative change indicates that the gap has increased, indicating a widening of the performance gap when compared to others (ODE, 2023).

Materials and Measures

Table 1 presents an overview of the variables included in this study.

Dependent Variables

Six dependent variables were considered for this study. The first variable was the overall self-efficacy score as measured on the *Principals' Sense of Efficacy Scale* (PSES). The remaining three variables were based on responses to the *Principals' Sense of Efficacy Scale* (PSES) using the subscales: Efficacy for Management, Efficacy for Instructional Leadership, and Efficacy for Moral Leadership. The final twos variables were the total number of years of experience as an administrator and years in current position, as collected from the demographic questions on the survey.

Independent Variable

The primary independent variable for this study was the Average Gap Score Change, an annual score given by the Oregon Department of Education in English Language Arts and Math to schools that participated in the Oregon Statewide Assessment system. This score measured the difference between the average student achievement results and the cut score for the assessment from the 2022-2023 school year, when compared to the 2018-2019 school year. This

data point gave schools a rating between levels 1-5, which measured their student growth rates following the pandemic.

Table 1

Summary of Variables

Variable	Categories	Measurement	Data Collection
Average Gap Score Change	3=Above-average (AGSC level 4 &5) 2= Average (AGSC level 3) 1=Below-average (AGSC levels 2 & 1)	Nominal/Categorical	Public record
Years of experience	0-3 4-7 8 or more	Nominal/Categorical	Demographic survey
Current position experience	0-3 4-7 8 or more	Nominal/Categorical	Demographic survey
Principal efficacy	1= Not at all 2= 3=Very little 4= 5=Some degree 6= 7=Quite a bit 8= 9=A great deal	Ordinal/Scale	PSES survey

Procedures

Three different samples of principals were created using the data published by the Oregon Department of Education (ODE) to rate school pandemic recovery using the Average Gap Score Change, listed Level 1-5. These scores were analyzed using English Language Arts (ELA) results on the Oregon Statewide Assessment System (OSAS) for the 2023-2024 school year. The highest AGSC in ELA was used to place principals into one of three sample groups: those working in schools with above-average AGSC (levels 4 & 5), those working in schools with average AGSC (level 3), and those working in schools with below-average AGSC (levels 1 & 2). Three identical surveys were created and sent to principals, organized by school AGSC, such that all principals who meet the sample criteria received an invitation to participate in the exact same survey, but the invitations – and thus principals' responses – were kept separate such that I was able to identify the AGSC category of respondents' schools, without asking participants to self-report this data point. Participants were notified that participation in the study was voluntary, not compensated, confidential, and with minimal identified risks for participating. They were informed of their right to withdraw from the study any time prior to submitting their results. Participants were encouraged to take part, as this study has the potential to enhance the knowledge base related to elementary and middle school principals in Oregon.

The survey was organized into three parts. The first section included the welcome letter and the informed electronic consent approved by the University of Oregon's Institutional Review Board for the protection of Human Subjects. The second section collected demographic information to provide a description of the participant pool. In addition to other demographic questions, this section included questions related to principals' years of experience in the field

and years of experience in their current position. The third section of the survey was the *Principals' Sense of Efficacy Scale* (PSES) which was developed by Tschannen-Moran and Gareis in 2004 and, in addition to the composite score, included the sub-categories: efficacy for management, efficacy for instructional leadership, and efficacy for moral leadership.

The *Principals' Sense of Efficacy Scale* (PSES) is comprised of eighteen questions used to measure principals' perceptions about their ability to complete school leadership tasks (Tschannen-Moran & Gareis, 2004). Each of the sub-categories (efficacy for management, efficacy for instructional leadership, and efficacy for moral leadership) is covered by six survey items. Participants responded to the survey prompts using a 1-9 Likert-scale, where 1 is *none at all*, 3 is *very little*, 5 is *some degree*, 7 is *quite a bit*, and 9 is *a great deal*. This tool has a reported high rate of reliability, with a Cronbach's alpha of .789 for management efficacy, .832 for instructional leadership efficacy, and .785 for moral leadership efficacy (Lehman, 2007). The Cronbach's alpha is a useful tool to assess the internal consistency reliability of research tools such as questionnaires and scales, as it ensures that the items are consistent, reliable, and measuring the targeted variables (Salkind & Frey, 2020).

Data were collected in the 2023-2024 school year using an electronic survey tool. I maintained a spreadsheet with demographic data identifying the schools which met the research criteria, their Average Gap Score Change level, and principal contact information, kept separately from electronic responses. Surveys were returned confidentially without capturing identifying information by individual response so as not to be tied to individual participant names or school communities. As described earlier, participant responses were identified by Average Gap Score Change level using three identical surveys, one sent to groups of principals

from each of the categories. Responses from participants who indicated that they were not in their current position in the 2022-2023 school year were removed from the data set prior to analysis.

Data Analysis and Statistical Software

Data were analyzed using the Statistical Package for the Social Sciences software (SPSS) Version 29. Analysis of Variance (ANOVA) was used to look at the differences in levels of perceived self-efficacy in four ways: overall self-efficacy, efficacy for management, efficacy for instructional leadership, and efficacy for moral leadership, when compared with average gap score change in the three categories of below-average, average, and above-average for principals working at schools with high poverty.

Prior to running the ANOVA, it was important to check that the data meet the assumptions for this test (Creswell, 2015). The first assumption is independence of observations, which indicates that the observed characteristics between groups must be independent and not dependent on the values in any other group (Salkind & Frey, 2020). This assumption would be met by principals falling into one group based on their highest AGSC and not falling into two separate categories. The second assumption is homogeneity of variance, which means that the variances within the different groups should be roughly equal, so that the dispersion of data is similar (Salkind & Frey, 2020). This assumption can be tested using box plots to visualize the spread of data, or through a statistical test (e.g., Levene's test or Bartlett's test) (Creswell, 2015). The third assumption is normality of residuals, which means that the differences between the observed values and group means should be normally distributed. This assumption can be reviewed in descriptive statistics and with graphs like histograms (Salkind &

Frey, 2020). The final assumption that must be met for an ANOVA is the independence of errors: Errors should be separate from each other so that one error does not predict the error for another observation (Salkind & Frey, 2020). This assumption can be met by reviewing the data collection plan and visualizing the data to ensure that the data are independent of each other and not interrelated (Salkind & Frey, 2020).

Once the key assumptions were met, the one-way ANOVA was used to test the data using the SPSS software. The significance level was set at 0.05 to determine the threshold for statistical significance. The F-statistic and its associated p-value were determined as well as the degrees of freedom for between and within groups (Creswell, 2015). The effect size measures were also identified. These data provided the information needed to accept or reject the null hypothesis and address the research questions. If necessary, post hoc tests (e.g. Tukey's) were performed to identify which group means were different (Salkind & Frey, 2020).

A Chi-square Test of Independence was used to analyze if two categorical variables were independent of each other and whether there was a statistically significant relationship between them (Muijs, 2022). There are four assumptions that must be met prior to running the test, the first is independence which means that the data in one category should be independent from other categories. This assumption can be met by ensuring that principals were placed in only one category of school based on the data. The second assumption that must be met is random sampling to ensure that the data were collected from the sample as outlined in the methods appropriately (Muijs, 2022). The third assumption is the expected cell frequencies should be above five, which means that I should have a minimum of five observations in each of the cells being analyzed. This assumption was met by having a sample

size that was large enough to have sufficient responses in each cell. The final assumption is the appropriateness of categories to ensure that the organization of the data makes sense in terms of the research question (Muijs, 2022).

Once the assumptions were met, the Chi-square tests were run, which produced a Chi-squared statistic, degrees of freedom, and p-value (Muijs, 2022). The significance level was set at 0.05 to determine the threshold for statistical significance. With this comparison of the data, it was determined if the null hypothesis could be rejected and conclusions could be drawn.

Ethical Considerations

An important ethical consideration is informed consent, where the researcher is transparent with participants about the scope of the research, purpose, and risks and benefits (Creswell & Creswell, 2023). Similarly, it is important for the research design to protect the anonymity and confidentiality of participants and the security of identifiable data. There should be transparency and clear reporting in the methodology, data collection, analysis, and citations. I was forthcoming about any conflicts of interest or potential biases.

The study was submitted to the Institutional Review Board at the University of Oregon for approval before data were collected. Permission from Dr. Megan Tschannen-Moran was granted prior to the use of *Principals' Sense of Efficacy Scale* (PSES). Participants were informed about the purpose of the research, the voluntary nature of the study, and the low risk associated with participation, as well as ways to contact the institution and researcher with any questions or concerns. Electronic consent was communicated with participants prior to the survey being completed; names and emails were maintained separately from survey results to maintain confidentiality.

As both a doctoral student and public education administrator, my role of researcher is influenced by my experiences from both perspectives. I bring my humanity to the table as a researcher; therefore, it was critical to recognize the ways in which this is a strength and a hindrance as it influences my thinking. With attunement to the pillars of critical theory, the way in which we have come to be within a culture and social structure influences how we perceive the world around us and the power structures that we accept (Merriam & Tisdell, 2015). Spending time reflecting on this helped to strengthen my awareness as a researcher and allow me to recognize and bring forward those implicit biases (Creswell & Creswell, 2023).

CHAPTER IV

RESULTS

In this study, I analyzed the potential relationship among self-efficacy perceptions (efficacy for management, efficacy for instructional leadership, and efficacy for moral leadership) and years of experience of middle and elementary principals serving in schools with poverty rates of 50% or higher within mid-sized school districts as they relate to rebound rates in student achievement from the pandemic disruption within the state of Oregon. Demographic characteristics of the principals (gender, education, licensure, experience in administration, and experience in current position) were investigated to learn about the factors as they relate to principals' self-efficacy. The principals' demographic responses provided context for their judgments about self-efficacy.

Data from the Oregon Department of Education were used to place principals into performance groups using the Average Gap Score Change rating for the English Language Arts (ELA) results on the Oregon Statewide Assessment System (OSAS) for the 2021-2022 and 2022-2023 school years. These scores were analyzed to place principals into one of three sample groups: those working in schools with above-average AGSC (levels 4 & 5), those working in schools with average AGSC (level 3), and those working in schools with below-average AGSC (levels 1 & 2). Three identical surveys were created and sent to principals, organized by school AGSC, such that all principals who met the sample criteria received an identical survey by performance group without asking participants to self-report this data point. I analyzed the data to determine if there was a relationship between principal self-efficacy and experience levels as it relates to pandemic rebound rates on the state assessment for English language arts.

Descriptive Statistics

A total of 327 surveys were delivered electronically to Oregon elementary and middle school principals representing 54 school districts. In all, 75 invitations to participate in the survey were sent to principals in the above-average AGSC group, 86 were sent to principals in the at-average AGSC group and 165 were sent to principals in the below-average AGSC group. A total of 75 principals responded to the survey, an overall response rate of 23%. Nineteen responses (roughly 25% of the sample) came from the above-average AGSC group (25% response rate), 16 responses (21% of the sample) from the at-average AGSC group (18.6% response rate), and 40 responses (roughly 54% of the sample), from the below-average AGSC group (24% response rate). There were no missing data, so all 75 participants' responses were included in the study. These data are represented in Table 2.

Table 2

Frequency Table Average Gap Score Change

	Total Survey Population		Survey Responses		
	n	%	*n*	% of group	% of study
Above-average AGSC Group	75	22.9%	19	25.3%	25.3%
Average AGSC Group	86	26.3%	16	18.6%	21.3%
Below-average AGSC Group	165	50.4%	40	24.2%	53.3%
All Groups	327	100%	75	22.9%	100%

Table 3 presents demographic information for the sample in terms of their gender, education, and type of administrator license.

Table 3

Gender, Level of Education, and Administrative License of Respondents

	Gender				Level of Education						Administrative License			
	Females		Males		Master's Degree		Specialist Degree		Doctorate Degree		Initial License		Professional License	
	n	%	*n*	%	*n*	%	*n*	%	*n*	%	*n*	%	*n*	%
Above-average AGSC Group	10	52.6	9	47.3	17	89.5	1	5.3	1	5.3	6	31.6	13	68.4
Average AGSC Group	10	62.5	6	37.5	11	68.8	4	25.0	1	6.3	4	25.0	12	75.0
Below-average AGSC Group	22	55.0	18	45.0	31	77.5	7	17.5	2	5.0	13	32.5	27	67.5
All Groups	42	56.0	33	44.0	59	78.7	12	16.0	4	5.3	23	30.7	52	69.3

Frequency counts and percentages for the years of experience in administration and years in their current position are presented in Table 4.

Table 4

Years of Experience in Administration and Years in Current Position

	Years of Experience in Administration						Years in Current Position					
	0-3 Years		4-7 Years		8+ Years		0-3 Years		4-7 Years		8+ Years	
	n	%	*n*	%	*n*	%	*n*	%	*n*	%	*n*	%
Above-average AGSC Group	2	10.5	6	31.6	11	57.9	9	47.4	6	31.6	4	21.1
Average AGSC Group	3	18.8	2	12.5	11	68.8	8	50.0	2	12.5	6	37.5
Below-average AGSC Group	4	10.0	10	25.0	26	65.0	26	65.0	7	17.5	7	17.5
All Groups	9	12.0	18	24.0	48	64.0	43	57.3	15	20.0	17	22.7

The 75 principals who responded to the survey completed all aspects of the *Principal Sense of Efficacy Scale*. Table 5 documents the mean scores by each performance group.

Table 5

Mean Scores on Principal Sense of Efficacy Scales

	Full-scale	Subscales		
	Principal Sense of Efficacy	Efficacy for Instructional Leadership	Efficacy for Moral Leadership	Efficacy for Management
Above-average AGSC Group	6.41	6.68	6.79	5.75
Average AGSC Group	6.32	6.88	6.64	5.46
Below-average AGSC Group	6.55	6.80	6.93	5.92
All Groups	6.46	6.78	6.83	5.78

ANOVA Tests

I used analysis of variance to explore the first through fourth research questions to study how principal self-efficacy relates to pandemic response. This type of test is used when there are more than two independent groups and compares the means of a continuous dependent variable across these study groups. The following section presents the findings of the analysis conducted to examine principal self-efficacy as measured on the PSES overall composite scale as well as the subscales for instructional leadership, moral leadership, and management.

An ANOVA test was run to investigate whether there was a statistically significant difference in principals' self-reported composite efficacy score and level of pandemic recovery as measured on the AGSC (RQ1). The ANOVA test resulted in a non-significant result ($F(2,72) = .221$, $p=.802$), indicating that there were no significant differences in the mean self-efficacy scores among the performance groups (see Table 6). No post hoc analyses were needed for this

research question due to non-significant results.

Table 6

ANOVA Results for PSES Composite Score and AGSC

	Sum of Squares	*df*	Mean Square	*F*	Sig.
Between Groups	.644	2	.322	.221	.802
Within Groups	104.975	72	1.458		
Total	105.619	74			

For the second research question, to investigate whether there was a statistically significant difference in principal's self-reported self-efficacy score on the subscale for instructional leadership and level of pandemic recovery as measured on the AGSC, I ran a second ANOVA. The ANOVA test determined a non-significant result ($F(2,72)$ = .111, p=.895), indicating that there were no significant differences in the mean of self-efficacy scores among the performance groups (see Table 7). Again, no post hoc analyses were needed for this research question due to non-significant results.

Table 7

ANOVA Results for PSES Subscale for Instructional Leadership and AGSC

	Sum of Squares	*df*	Mean Square	*F*	Sig.
Between Groups	.361	2	.180	.111	.895
Within Groups	117.288	72	1.629		
Total	117.648	74			

The third research question explored whether there was a statistically significant difference in principals' self-reported self-efficacy score on the subscale for moral leadership and level of pandemic recovery as measured on the AGSC. The results of the ANOVA indicated a non-significant result ($F(2,72) = .323$, $p = .725$) suggesting that there were no significant differences in the mean of self-efficacy scores among the performance groups (see Table 8). No post hoc analyses were needed for this research question due to insignificant results.

Table 8

ANOVA Results for PSES Subscale for Moral Leadership and AGSC

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.991	2	.495	.323	.725
Within Groups	110.394	72	1.533		
Total	111.385	74			

Similarly, an ANOVA was run for the fourth research question to investigate whether there was a statistically significant difference in principals' self-reported self-efficacy score on the subscale for managerial leadership and level of pandemic recovery as measured on the AGSC. The results of this test ($F(2,72) = .529$, $p = .591$) indicated that there were no significant differences in the mean of self-efficacy scores among the performance groups (see Table 9). No post hoc analyses were needed for this research question due to non-significant results.

Table 9

ANOVA results for PSES subscale for managerial leadership and AGSC

	Sum of Squares	*df*	Mean Square	*F*	Sig.
Between Groups	2.426	2	1.213	.529	.591
Within Groups	165.008	72	2.292		
Total	167.434	74			

Chi-square Tests

I used Chi-square tests to explore the fifth and sixth research questions to study how principal experience relates to pandemic response. This type of test is used to determine if there is a statistically significant association between two categorical variables across multiple groups.

A chi-square test was conducted to investigate research question five the relationship between average gap score changes and years of experience as a principal (see Table 10). The analysis yielded a non-significant result (Pearson chi-square = 2.302, df = 4, p = .680) as outlined in Table 11. The likelihood ratio test yielded comparable results (Likelihood Ratio = 2.371, df = 4, p = .680). The analysis was conducted on a total of 75 valid cases. In symmetric measures a Phi and Cramer's V were conducted with a Phi value of .175 and Cramer's V of .124, which both yielded an approximate significance value of .680 as outlined in Table 12. These findings suggest that we must accept the null hypothesis, indicating that no association between the variables was identified.

Table 10

Crosstabulation Frequency Years of Experience in Administration

		Years of Experience in Administration							
		0-3 Years		4-7 Years		8+ Years		Total	
		n	%	*n*	%	*n*	%	*n*	%
Above-average AGSC Group	Count	2	10.5	6	31.6	11	57.9	19	25.3
	Expected Count	2.3	12.1	4.6	24.2	12.2	64.2	19.0	25.3
Average AGSC Group	Count	3	18.8	2	12.5	11	68.8	16	21.3
	Expected Count	1.9	11.9	3.8	23.8	10.2	63.8	16.0	21.3
Below-average AGSC Group	Count	4	10.0	10	25.0	26	65.0	40	53.3
	Expected Count	4.8	12.0	9.6	24.0	25.6	64.0	40.0	53.3
All Groups	Count	9	12.0	18	24.0	48	64.0	75	100
	Expected Count	9.0	12.0	18.0	24.0	48.0	64.0	75.0	100

Table 11

Chi-square Test for Years of Experience in Administration

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	2.302*	4	.680
Likelihood Ratio	2.371	4	.680
Linear-by-Linear Association	.164	1	.685
N of Valid Cases	75		

* 5 cells (55.6%) have expected count less than 5. The minimum expected count is 1.92.

Table 12

Symmetric measures for Years of Experience in Administration

		Value	Approximate Significance
Nominal by nominal	Phi	.175	.680
	Cramer's V	.124	.680
N of Valid Cases		75	

A chi-square test was conducted to investigate research question six, the relationship between average gap score changes and principals' years working in their current position. The crosstabluation frequency data is displayed in Table 13. The analysis yielded a non-significant result (Pearson chi-square = 4.784, df = 4, p = .310) as outlined in Table 14. The likelihood ratio test yielded comparable results (Likelihood Ratio = 4.460, df = 4, p = .347). The analysis was conducted on a total of 75 valid cases. In symmetric measures a Phi and Cramer's V were conducted with a Phi value of .253 and Cramer's V of .179, which both yielded an approximate

significance value of .310 as outlined in Table 15. These findings suggest that we must accept the null hypothesis, indicating that no association between the variables was identified.

Table 13

Crosstabulation Frequency Years in Current Position

		Years in Current position							
		0-3 Years		4-7 Years		8+ Years		Total	
		N	%	N	%	N	%	N	%
Above-average AGSC Group	Count	9	47.4	6	31.6	4	21.1	19	25.3
	Expected Count	10.9	57.4	3.8	20.0	4.3	22.6	19.0	25.3
Average AGSC Group	Count	8	50.0	2	12.5	6	37.5	16	21.3
	Expected Count	9.2	57.5	3.2	20.0	3.6	22.5	16.0	21.3
Below-average AGSC Group	Count	26	65.0	7	17.5	7	17.5	40	53.3
	Expected Count	22.9	57.3	8.0	20.0	9.1	22.3	40.0	53.3
All Groups	Count	43	57.3	15	20.0	17	22.7	75	100
	Expected Count	43.0	57.3	15.0	20.0	17.0	22.7	75.0	100

Table 14

Chi-square Test for Years of Experience in Administration

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	4.784	4	.310
Likelihood Ratio	4.460	4	.347
Linear-by-Linear Association	1.234	1	.267
N of Valid Cases	75		

* 4 cells (44.4%) have expected count less than 5. The minimum expected count is 3.20.

Table 15

Symmetric measures for Years of Experience in Administration

		Value	Approximate Significance
Nominal by nominal	Phi	.253	.310
	Cramer's V	.179	.310
N of Valid Cases		75	

CHAPTER V

DISCUSSION

The purpose of this study was to investigate the relationship between elementary and middle school principals' categories of self-efficacy beliefs (efficacy for instructional leadership, efficacy for moral leadership, and efficacy for management) and years of experience as it compares to rebound rates in student achievement from the COVID-19 pandemic within the state of Oregon. The global pandemic hit public education four years prior to this study, with students in Oregon experiencing a significant disruption in learning for two academic years resulting in consequential losses in reading performance, in national comparisons Oregon ranked fifth worst for reading loss in Education Recovery Scorecard data when compared to other states (Hammond, 2022). The Oregon Department of Education is studying pandemic rebound rates using the measure of Average Gap Score Change. This calculation measures the changes in average student scores in relation to the cut score from the 2018-19 school year prior to the pandemic with the results from 2021-22 and 2022-23 following the impact (ODE, 2022). Understanding the attributes of principal leaders who are rebounding faster from the pandemic is an important focus for the field of education as we work to mitigate the long-term impacts on student achievement.

The focus on principal self-efficacy ties to a body of research that highlights the connection between principal beliefs about their ability to impact their school community and actual outcomes (Bandura, 1997; Dami, et al. 2022; Lehman, 2007; Tschannen-Moran & Gareis, 2007; Versland & Erickson, 2017). In a 2007 study Tschannen-Moran and Gareis assert "principals' self-efficacy beliefs are of interest because they are tied to principals' motivation:

the effort they put forth, the goals they set, and their persistence in the face of setbacks" (p. 109). The study of high impact principal leadership aligns to these same actions with evidence that principals who prioritize instructional leadership, data-driven and goal-oriented decision making, and foster a supportive environment with tenacity toward these ends have strong student outcomes (Liebowitz & Porter, 2019; Marzano, et al 2005; Reeves, 2009). In a meta-analysis involving 51 studies on the effects of principal behaviors on student, teacher and school outcomes, Liebowitz and Porter found that effective principals are not just managers but are a combination of instructional leaders who set high expectations, create a positive environment, and support collaboration with staff and the community in order to align for student success (2019).

This study used quantitative research design to look at relationships between variables using the non-experimental method of survey exploration to study the research questions. The element of principal self-efficacy was targeted for examination as Bandura's social cognitive theory has previously demonstrated relevance in the study of school leaders and their ability to set high goals, aspire to change, and demonstrate hard work, adaptability and tenacity to persevere which are leadership skills that are linked to strong academic outcomes (Tschannen-Moran & Gareis, 2007). The *Principal Sense of Efficacy Scale* (PSES) tool developed by Tschannen-Moran and Gareis was selected, as it is a concise tool which eases implementation and offers three subscales: instructional leadership, moral and managerial, to look at leadership efficacy from multiple perspectives (Tschannen-Moran & Gareis, 2004). In addition, the construct of experience was examined to see if longevity in the field or position contributed to group participation. Principal retention research indicates that there is a negative impact on

student achievement when principal turnover occurs in a school community, for this reason the longevity of school administrators was included in this study (Dixon, et al. 2022; Marzano Research, 2020) .

A general overview of the descriptive statistics showed that the self-efficacy ratings between the principals in the above-average, average, and below-average AGSC groups did not demonstrate major differences between these groups. The mean range for the full-scale PSES was 6.32 to 6.55, indicating that most participants had a generally strong sense of self-efficacy. This was a consistent trend in the subscales as well, with efficacy for instructional leadership ranging from 6.68-6.88, efficacy for moral leadership from 6.79-6.93, and efficacy for management from 5.46-5.92. These statistics and the subsequent tests demonstrate that variation in self-efficacy was not observed across the groups of principal participants when grouped by average gap score change group. Similarly in terms of experience, the study results did not demonstrate a major difference between these groups. These findings may indicate that factors other than principal self-efficacy or experience may be influencing the average gap score change outcomes. They may also indicate that the sample of principals who responded to the invitation to participate in this research represented a rather homogeneous group, in terms of efficacy, years of experience, and years in their current positions.

Summary of Findings

This study aimed to investigate the impact of principal self-efficacy and pandemic rebound as measured on the AGSC. However, all six of the research questions in this study resulted in non-significant results, indicating that further study is needed to explore the factors influencing pandemic recovery and principal leadership beyond the group distinctions outlined

here. In all cases, the lack of statistically significant differences suggests that variation in self-efficacy was not observed across the groups of principal participants when grouped by average gap score change group. This may indicate that factors other than principal leadership or self-efficacy may be influencing the average gap score change outcomes. The lack of significant results in this study adds to a body of research that highlights the challenges in identifying direct effects of school leadership on student achievement (Nettles & Herrington, 2007). Further research is needed to explore principal leadership in the post-pandemic era of education to identify the characteristics of strong leaders to promote the replication of success. These findings reinforce the complexity and dynamic nature of school leadership that are at play when studying school administrators and illustrate the need for comprehensive and nuanced approaches to research on leadership and practices.

Interpretation of Findings

These findings suggest that I have not yet asked the correct research questions to determine the attributes of strong principals in terms of pandemic recovery or that my sample was too homogeneous in terms of the variables under study to yield statistically significant results. The results raise questions about the measure of average gap score change to be used in accurately determining successful pandemic recovery. While the Oregon Department of Education is using this calculation for school accountability to look at changes in achievement when compared to the cut score for students from 2018-19 to 2022-23, this measure may be inadequate, and it may not consider other changes that have taken place within school buildings during this measure of time.

This study adds to the body of research that suggests that the effect of principal

leadership on student outcomes is very nuanced and challenging to study (Grissom & Loeb, 2009; Grissom et al., 2021). Although there is agreement in the research about the importance of effective principals for strong outcomes in student achievement, the exact relationship is more challenging to isolate (Grissom et al., 2021; Leithwood et al., 2004; Nettles & Herrington, 2007). Grissom et al. in a recent Wallace Foundation report, stated the importance of school leadership as, "Principals really matter. Indeed, given not just the magnitude but the scope of principal effects… it is difficult to envision an investment with a higher ceiling on its potential return than a successful effort to improve principal leadership" (Grissom et al., 2021, p. 43). With this construct well considered, it is reasonable to infer that strong principal leadership would lead to better outcomes in pandemic recovery.

Although this study did not isolate the factors that would reflect this presumed relationship, there remains a need in the field to use the pandemic disruption to study school improvement and leadership to identify factors associated with success for the benefit of future school turnaround endeavors. In a recent executive summary out of the University of Minnesota involving the survey results of over 2,400 school leaders in their state, they found a decrease in principal self-efficacy which they defined as "the degree to which they feel capable of carrying out their work in light of their own capabilities and available resources" (Center for Applied Research and Educational Improvement, 2023, p. 9). From this study they asserted that principals in the post-pandemic era are facing significant obstacles reflecting that their jobs are unsustainable, decreased confidence in their leadership abilities, more mental health challenges that impact the wellbeing of their school communities and ultimately student and adult outcomes (Center for Applied Research and Educational Improvement, 2023). This speaks to an

urgent need to better understand the current landscape of American education and provide the supports within school buildings to help strengthen these leaders and the students they serve.

Limitations of Study

This type of quantitative research looks at the relationships between variables which can provide insights to the field; however, this type of research has important limitations. The lack of causality is a major limitation to this type of quantitative research, which is to say that when two variables are related, it does not mean that they are causal as there could be the presence of an unidentified factor influencing the outcome (Creswell & Creswell, 2023). There could also be an issue with interactions, where main effects are uncovered without clarity around which factor caused the influence on the other (Muijs, 2022). In survey studies limitations related to self-report from participants need to be considered. Especially in the perceptions of self-efficacy, there could be questions about the accuracy of perception linking to practical application (Tschannen-Moran & Gareis, 2007). Non-experimental research is not highly controlled research with experimental groups; this absence of control leaves room for other factors to influence the outcomes and therefore researchers must refrain from assuming causality (Creswell & Creswell, 2023).

The study of principal leadership and pandemic recovery is undoubtably important at this time to shed light on educational administration during a period of widespread disruption. However, there are several limitations to this study that should be considered for future research. These include the use of quantitative data to look at such a human and nuanced construct as principal leadership, the use of the average gap score change measurement for pandemic recovery, and the sampling of participants using a proportional stratification sampling

process with voluntary participation which could have led to a skewed participant pool.

One significant limitation lies in the use of quantitative data to examine the dynamic, multifaceted, and inherently human construct of principal leadership. The quantitative method offers numerical insights and the PSES tool is widely respected; however, at this early stage of understanding the pandemic and impact it has leveraged on school communities, the broader approach offered by qualitative design might have lent more flexibility to capture the nuances that are influencing principal leadership. For instance, if interviews had been used for data collection, study participants could have provide their own thoughts and perceptions into what is causing improvements in student achievement and identify the obstacles school communities are experiencing that prevent success. Similarly, a mixed methods approach could have blended the quantitative results with the narrative components that would illustrate the story behind the numbers and thus offer more insights to the field. There is also an opportunity to do a case study method of qualitative research similar to the work done by Goldy Brown which focused on one successful principal through a deep investigation of the nuances of the subject's leadership that created the environment for the results (Brown, 2016).

The reliance on the average gap score change measurement in this study may have offered a narrow perspective. The AGSC is the measure the Oregon Department of Education currently uses to look at pandemic recovery; however, the measure has limitations. The average gap score change compares a school's results to their own data prior to the pandemic (ODE, 2022). This means that schools that are returning to previous rates are seen as scoring high on the AGSC. What this formula does not consider is the level of academic achievement the school was experiencing prior to the pandemic. Therefore, a school with low achievement in 2018-

2019 that returned to low achievement in 2022-2023 could be reflected as high in the AGSC data while still not meeting the needs of student learning. Similarly, the AGSC does not consider any demographic or organizational changes that have occurred in the school community within the three years of study, so a school may be leveled based on cohort differences. In 2024, the Oregon Department of Education used this measure to identify Oregon schools as needing Comprehensive Support and Improvement (CSI) or Targeted Support and Improvement (TSI) (ODE, 2024). It was observed from that list that schools were identified as needing CSI or TSI by AGSC grouping only without consideration to cohort changes or achievement proficiency rates. As the current study suggests, however, using the average gap score change may not adequately measure schools that need improvement, as it does not triangulate the level with actual outcomes in student achievement.

The sampling technique used in this study, namely proportional stratification sampling with voluntary participation may have introduced potential biases to the participant pool. The survey was sent to 327 principals, yet only 75 participants responded. The small number of responses mean that generalizations are risky due to the small sample size of principals. As illustrated in Table 10, it was observed that of the 75 participants 64% responded that they had 8 or more years of experience in administration, 24% had between 4-7 years of experience, and only 12% had between 0-3 years. These results may not be reflective of the entire pool of 327 principals who were invited to participate, and the results could have been skewed accordingly. Voluntary participation may attract respondents with specific motivations, interests, or experiences that lead to a non-representative sample (Creswell, 2015). Future studies could explore other methods for sample selection to control this limitation and enhance the

generalizability of the outcomes.

Recommendations for Future Research

Understanding the role of principal leadership on students' outcomes in the post-pandemic era is critical for future understanding of the ways in which principals lead highly functioning schools. Some key considerations for future research include exploring qualitative and mixed method approaches to better identify the phenomena at play, considering longitudinal studies to look at the trajectory of individual school outcomes over time, identifying additional data points that will more accurately define the schools that are having more or less of a pandemic impact through multiple measures, and considering research that looks at leadership through an equity lens to further disaggregate data points by focal populations with the general understanding that students who have historically been underserved have had a deeper impact.

The nuanced nature of principal leadership following the pandemic event may require additional research to understand the phenomenon influencing pandemic recovery. Although the pandemic was a worldwide event, the response at the state and local level differed by school community, allocation of resources, and many decisions that were at the district and community level. These aspects could impact pandemic recovery just as much as principal efficacy and leadership characteristics. To better understand the different facets at play, more research should be conducted to understand how decisions were made, the ways that additional funds to support pandemic recovery were utilized, and what structures for acceleration of learning were employed by districts and principals to foster student growth. Early research out of the Educational Opportunity Project at Stanford University demonstrates a

large variability in the pandemic's impact on student achievement by state, region, and district (Spector, 2022). Stanford research highlights "the district-level analysis indicates that the pandemic exacerbated educational inequalities based on income, showing the most pronounced learning losses among students in low-income communities and school districts" (Spector, 2022, p. 1). By adding the narrative nature of qualitative data that captures the story of the participants and study environment, a stronger understanding of the contributing factors to this wide range of influence could be gained.

Similarly, a longitudinal study that looks more deeply at the experience of one school community over time could provide important insights to the field. This type of study design provides the context and longevity to see how small decisions over time compile to influence outcomes and may provide information on principal leadership that helps us to see it in relation to the entire school system, including the district office leadership, and how it may influence a principal's ability to lead. A strong example of this research design is the work of the International Successful School Principal Project which was an initiative to look at the role of school principals in promoting student outcomes across multiple countries (Gurr, 2015). The design of this study allowed for a more holistic look at the role of the principal rather than relying solely on data collected by the principal (Gurr, 2015). This type of design would lend itself to a deeper understanding of the evolution of post-pandemic recovery and the nuances that create opportunities and obstacles for stronger student outcomes.

Future research is needed to look at multiple data points that measure the rebound rates of a school community that are not limited to standardized academic assessments. Additional data points may include measures such as attendance, behavioral data, social

emotional indicators, climate surveys, graduation rates, staff retention rates, and other formative academic measures. As indicated by the Minnesota study of principals, participants reflected that there is an increase in mental health and behavioral needs in the post-pandemic era of education, one participant quoted “we are in a post-pandemic mental health crisis with more… mental health needs than ever. We need more help and more training for all staff around how to best support our students” (Center for Applied Research and Educational Improvement, 2023, p. 9). By compiling multiple measures, a more accurate picture of school recovery can emerge, and researchers may gain a more holistic understanding of pandemic recovery and the implications of leadership. These diverse data sets provide windows into various aspects of the functioning of a school which are integral to the health and wellbeing of students. By better understanding schools that are doing this work well from multiple perspectives, future studies can provide insights into the effective recovery efforts and the targeted actions that support students and staff success in a more all-encompassing manner.

Initial studies have found that students in historically underserved populations have had a deeper academic impact from the pandemic (Hattie, 2021; Grissom et al., 2021; Kwakye & Kibort-Crocker, 2021; West & Lake, 2021). Future research would benefit by focusing on the equity lens of principals leading these school communities and especially with a focus on those leaders who are successfully moving student outcomes further faster. Grissom et al. (2021) assert that school leaders must develop an equity lens to pursue the removal of barriers, providing resources and supports, and promote a sense of belonging among students of color. These culturally responsive practices are an aspect of instructional leadership that has not yet received enough attention. It is not just about the strategies involved in teaching and learning,

but also the social and emotional conditions within which learning takes place. There are few studies currently in the field that make direct connections between aspects of leadership and equitable outcomes for students in focal populations (Grissom et al. 2021). Principals who are leading with an equity lens and impacting more equitable student outcomes may provide insights for preservice programs, professional development, and education policy that will drive better outcomes in American education.

Conclusion

Four years ago, the world was forever changed when the global pandemic called for extensive isolation and quarantine to slow the spread of the deadly COVID-19 virus. The impact on school aged children in Oregon equated to two years of disrupted education, with implications that are just beginning to be understood. Schools are more than academic institutions in the lives of students, they are a hub of social connection, a place to learn, a community of belonging, and a support for their physical and mental well-being. Although all members of society witnessed the evolution of the global pandemic and the impact on schools, only educators are positioned uniquely to mitigate the long-term effects on the nation's children. School leaders, especially, could align goals, resources, and staff to focus on priorities and initiatives that will help students rebound from the impacts of the pandemic. The role of the principal is critical to doing this work well.

This study sought to study the impact of principal self-efficacy and experience to better understand the relationship between these variables and pandemic rebound performance groups as measured by the Oregon Department of Education calculation. What was reinforced through this process is that school leadership is a complex phenomenon that is difficult to

quantify with any certainty given the many nuances and factors that are at play within a school community (Aderhold, 2005; Grissom & Loeb, 2009; Liebowitz & Porter, 2019; Santamaria, 2008; Szymendera, 2013). Although no statistically significant findings were identified in this study, there remains a need for future research to study principal leadership in the post-pandemic era. Pandemics are rare, but the need for strong leaders to help with school turn around or rebounding after a significant disruption continues to be a necessity in American education.

The impact of the COVID-19 pandemic has further illustrated inequities in American schools and the need for strong leaders to approach education with an equity lens to ensure that students in focal populations have not only equity of opportunity but equity of outcomes and the support to succeed. We currently have American principals who are doing this work well. It is imperative that future research seeks to find these leaders and study the attributes that they embody to promote practices, policies, and professional development that replicate these characteristics to help public education emerge stronger.

APPENDIX A

UNIVERSITY OF OREGON IRB APPROVAL

Appendix A: University of Oregon IRB Approval

UNIVERSITY OF OREGON | Research Compliance Services

EXEMPT DETERMINATION

November 21, 2023

Kourtney Ferrua

kferrua@uoregon.edu

Dear Kourtney Ferrua:

The following research was reviewed and determined to qualify for exemption.

Type of Review:	Initial Study
Study Title:	Principal Leadership Through Pandemic Recovery: The Influence of Leadership, Self-Efficacy, and Experience on Student Rebound
Principal Investigator:	Kourtney Ferrua
Parent Study ID:	STUDY00001131
Documents Reviewed:	• Ferrua IRB Consent Documents, Category: Consent Form; • Ferrua IRB Exempt Determination RAP Form, Category: IRB Protocol; • Ferrua IRB Exempt Worksheet 2, Category: IRB Protocol; • Ferrua IRB Research Plan, Category: IRB Protocol; • Permission to use PSES Tool, Category: Survey Instrument;
Approval Date:	11/14/2023
Effective Date:	11/21/2023
Expiration Date:	11/13/2024

For this research, the following determinations have been made:

- This study has been reviewed under **the 2018 Common Rule** and determined to qualify for exemption under **Title 45 CFR 46.104(d) ((2)(ii) Tests, surveys, interviews, or observation (low risk)).**

The research is approved to be conducted as described in the approved protocol using the approved materials. Approved materials can be accessed in the protocol workspace in the IRB module of the research administration portal (RAP).

All changes to this research must be assessed to ensure the study continues to qualify for exemption. Research Compliance Services has developed specific guidance to help you understand when a modification is required before a change can be implemented. It is your responsibility to ensure modifications are submitted when required and approval secured before implementing changes to the protocol

Page 1 of 2

Continuing Review is not required for this study. **An institutional approval period has been established based on your application materials.** If you anticipate the research will continue beyond the approval period, you must submit a **Continuing Review Application** at least 45 days prior to the expiration date. A closure report must be submitted once human subject research activities are complete. Failure to maintain current approval or properly close the protocol constitutes non-compliance.

With the submission of your request, you agreed to uphold the responsibilities of the Principal Investigator and have agreed to follow the requirements listed in the Investigator Manual (HRP-103), which can be found by navigating to the IRB Library within the IRB module of the RAP.

If you have any questions regarding your protocol or the review process, please contact Research Compliance Services at ResearchCompliance@uoregon.edu or (541)346-2510. The University of Oregon and Research Compliance Services appreciate your commitment to the ethical and responsible conduct of research with human subjects.

Please consider completing our user satisfaction survey. It only takes a few minutes, and we would like to hear about your experience working with our office!

Sincerely,

Research Compliance Services
on behalf of the Committee for Protection of Human Subjects

cc: Julie Alonzo

APPENDIX B

PRINCIPAL PARTICIPATION RECRUITMENT AND INFORMED CONSENT FORM

Appendix B: Principal Participation Recruitment and Informed Consent Form

STEP 1: Email sent to participants
Participants contacted via email using their school district email that is published on school websites with the following communicated:

Dear Oregon Principal,

My name is Kourtney Ferrua and I am a doctoral candidate at the University of Oregon.

YOU ARE BEING ASKED to participate in a 3 to 5 minute research study that examines principal leadership during pandemic recovery. The experience of the COVID-19 pandemic provides our field with a unique opportunity to learn from your perspectives at the ground level.

The box below highlights key information about this research for you to consider when making a decision whether or not to participate. Carefully consider this information and the more detailed information provided below the box. Please ask questions about any of the information you do not understand before you decide whether to participate.

Key Information for You to Consider

- **Voluntary Consent.** You are being asked to volunteer for a research study. It is up to you whether you choose to participate or not. There will be no penalty or loss of benefits to which you are otherwise entitled if you choose not to participate or discontinue participation.
- **Purpose.** The purpose of this research is to gain understanding of the relationship between leadership and school improvement following the disruption to education caused by the COVID-19 pandemic.
- **Duration.** It is expected that your participation will last between 3-5 minutes.
- **Procedures and Activities.** You will be asked to answer and electronic survey which includes non-identifiable demographic information, and perceptions about leadership on a scale. No identifying information will be collected or used in this process.
- **Risks.** There are no known risks for completing this confidential survey.
- **Benefits.** There are not direct benefits to you for participation in this study, however your participation may enhance the knowledge base related to elementary and middle school principals in Oregon.
- **Alternatives.** Participation is voluntary and the only alternative is to not participate.

THANK YOU in advance for submitting this survey within 10 days from today. If you have any questions now or in the future, you may contact me at the email address below. If you have any questions about your rights as a human subject, please contact the Institutional Research Board (IRB) at University of Oregon at researchcompliance@uoregon.edu.

Click link to electronically sign consent.

Sincerely,

Kourtney K. Ferrua, Ed.S.
Doctoral Candidate
University of Oregon
kferrua@uoregon.edu

ELECTRONIC CONSENT:
Kourtney Ferrua, a doctoral candidate from University of Oregon, is asking for your consent to this research. Your consent is implied by clicking this button to complete the survey. This study has been classified as exempt research identifying that it qualifies as no risk or minimal risk to subjects for participation in alignment with the requirements of the Federal Policy for the Protection of Human Subjects, and the Institutional Review Board at the University of Oregon.

STEP 2: Postcard sent to participants
A postcard mailed using their school district address that is published on school websites. The following will be communicated via postcard to participants:

YOU ARE BEING ASKED to participate in a 3 to 5 minute research study that examines principal leadership during pandemic recovery. The experience of the COVID-19 pandemic provides our field with a unique opportunity to learn from your perspectives at the ground level.

Please use the QR code on this card to access the survey and additional information. Please submit your response by DATE. Researcher Kourtney Ferrua can be reached at kferrua@uoregon.edu.

STEP 3: Voicemails sent to participants (late evening phone calls to access voice mail systems)
Should participation rates be low, follow up phone calls will be made late evenings to increase probability of accessing voice mail systems using the following script:

“Hello, my name is Kourtney Ferrua and I am a doctoral candidate at the University of Oregon. I would appreciate 3-5 minutes of your time to contribute to my study which looks at principal leadership during pandemic recovery. The experience of the COVID-19 pandemic provides our field with a unique opportunity to learn from your perspectives at the ground level. The study is completely confidential and optional. Additional information is available in my email sent on (date). Thank you in advance for your participation.”

APPENDIX C

PRINCIPAL DEMOGRAPIC SURVEY

Appendix C: Principal Demographic Survey

Gender

- ☐ **Male**
- ☐ **Female**
- ☐ **Prefer not to say**

Education

- ☐ **Bachelor's degree**
- ☐ **Master's degree**
- ☐ **Specialist's degree**
- ☐ **Doctorate degree**

Licensure

- ☐ **Principal License (initial)**
- ☐ **Professional Administrator License**
- ☐ **Reciprocal Administrator License**

Years of Experience in Administration

- ☐ **0-3 years**
- ☐ **4-7 years**
- ☐ **8+ years**

Years in Current Position

- ☐ **0-3 years**
- ☐ **4-7 years**
- ☐ **8+ years**

Were you in your current position for the 2021-2022 school year?

- ☐ **Yes**
- ☐ **No**

Were you in your current position for the 2022-2023 school year?

- ☐ **Yes**
- ☐ **No**

APPENDIX D

PRINCIPALS' SENSE OF EFFICACY SCALE

Appendix D: Principals' Sense of Efficacy Scale

Principal Questionnaire

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

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

Please respond to each of the questions by considering the combination of your *current* ability, resources, and opportunity to do each of the following in your present position.

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

APPENDIX E

PERMISSION TO USE THE PRINICPAL SENSE OF EFFICACY SCALE

Appendix E: Permission to Use Principal Sense of Efficacy Scale

William & Mary
School of Education

MEGAN TSCHANNEN-MORAN, PHD
PROFESSOR OF EDUCATIONAL LEADERSHIP

October 31, 2023

Kourtney Ferrua,

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

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

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

All the best,

Megan Tschannen-Moran
William & Mary School of Education

Kourtney Ferrua, Ed.S.

1720 NW Francis Drive

McMinnville, OR 97128

October 31, 2023

Subject: Permission for using the PSES tool in dissertation research

Dear Ms. Ferrua,

You have permission to use the Principals' Sense of Self Efficacy Tool which was developed by me, Megan Tschannen-Moran, and Chris Gareis, in your research at University of Oregon which may be published by ProQuest.

Megan Tschannen-Moran

The College of William and Mary

School of Education

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