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THE RELATIONSHIP BETWEEN PRINCIPALS' TENURES AND OTHER FIXED
VARIABLES AND STUDENTS' ACHIEVEMENT ON THE 3RD AND 4TH GRADE
READING STAAR EXAMS IN TEXAS

by

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ABSTRACT

THE RELATIONSHIP BETWEEN PRINCIPALS' TENURES AND OTHER FIXED VARIABLES AND STUDENTS' ACHIEVEMENT ON THE 3RD AND 4TH GRADE READING STAAR EXAMS IN TEXAS

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University of Houston-Clear Lake, 2022

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In a time when educational leaders and stakeholders are called to do more to maximize student outcomes while drawing on dwindling resources, it is prudent to analyze all factors that contribute to increases in students' achievement trends. Earlier research has focused on the role teachers and principals have played in students' achievement. The research also supports that teachers' tenures are positively correlated with students' achievement. However, little attention has been given to the exploration of the impact principals' tenures may have on students' achievement. The purpose for this research was to describe the relationship, if any, that exists between principals' tenures and students' achievement. In addition, the researcher, in an effort to avoid monocausality, wanted to explore other fixed variables such as principals' gender and school type, in conjunction with principals' tenures, to see whether these items provide any additional insight into students' achievement trends. It is the researcher's hope that the results of this study adds to body of research and further aids districts and leaders with effectively meeting students' needs and maximizing students' outcomes.

TABLE OF CONTENTS

List of Tables	ix
List of Figures	x
CHAPTER I: INTRODUCTION.....	1
Background	7
Research Problem	10
Theoretical Foundation	11
Statement of the Purpose and Research Questions	12
Rationale and Significance of the Study	13
Definition of Key Terms	14
Summary and Organization of the Study	17
CHAPTER II: LITERATURE REVIEW	19
Teacher Tenure and its Relationship to Teacher Effectiveness	19
Teacher Effectiveness and Time	21
Teacher Self-Efficacy, Effectiveness, and Students' Achievement.....	22
Principals and Students' Achievement	22
Principals' Turnovers and Students' Achievement.....	24
Principals' Self-Efficacy and Effectiveness.....	29
Principals Facilitating Collective Efficacy in their Schools	30
Other Factors that may Impact Students' Achievement	31
Principal Gender	31
School Type	33
Summary	35
Adequate Yearly Progress and Federal and State Accountability	36
Gaps in the Literature.....	40
Summary of Findings.....	42
Theoretical Framework	43
Conclusion	44
CHAPTER III: METHODOLOGY	46
Overview of Research Problem	46
Operationalization of Theoretical Constructs	47
Research Purpose, Questions, and Hypotheses.....	48
Research Design.....	50
Population and Sample	51
Instrumentation	52
Data Collection Procedures.....	54

Data Analysis	55
Validity & Reliability	57
Validity	57
Reliability.....	59
Privacy and Ethical Considerations	60
Research Design Limitations	60
Conclusion	61
CHAPTER IV: RESULTS.....	62
Participant Demographics	62
Research Question 1	65
*2020 STAAR Scores not reported due to COVID-19	72
Research Question 2	75
*2020 STAAR Scores not reported due to COVID-19	76
Research Question 3	79
Research Question 4	83
Principals' Gender	83
School Type	85
Summary of Findings.....	88
Conclusion	91
CHAPTER V: ANALYSIS AND CONCLUSIONS	92
Summary of Findings.....	93
Principals' Tenures and 3 rd and 4 th Grade Achievement of Reading STAAR	93
Principals' Tenures and 4 th Grade Growth	95
Principals' Tenures and Other Fixed Variables	97
<i>Principals' Tenures and Gender</i>	97
<i>Principals' Tenures and School Type</i>	98
Implications.....	99
Study Limitations.....	100
Recommendations for Future Research	100
Conclusion	102
REFERENCES	104

LIST OF TABLES

Table 4.1 Participating Principals' Tenures	63
Table 4.2 Participating Principals by Gender and Tenure	63
Table 4.3 Participating Campuses by Type	64
Table 4.4 Sampling of Campus Rating Data from TEA	67
Table 4.5 Sampling of TEA's reporting of Students' Achievement.....	69
Table 4.6 Students' Yearly 3 rd Grade STAAR Reading Achievement AMM Means by Principals' Tenure (2016-2017 – 2020-2021).....	72
Table 4.7 Students' Mean STAAR Reading Achievement AMM by Principals' Tenure from 2016-2017 – 2020-2021	73
Table 4.8 Students' Yearly 4 th Grade STAAR Reading Achievement AMM Means by Principals' Tenure (2016-2017 – 2020-2021).....	76
Table 4.9 Students' Mean 4 th Grade STAAR Reading Achievement AMM by Principals' Tenure from 2016-2017 – 2020-2021	77
Table 4.10 Students' Yearly 4 th Grade STAAR Reading Achievement Growth Rate by Principals' Tenure (2016-2017 – 2020-2021).....	80
Table 4.11 Students' Mean STAAR Reading Achievement AMM by Principals' Tenure from 2016-2017 – 2020-2021	80
Table 4.12 Students' Mean AMM and Growth Rates in 3 rd and 4 th Grade by Principals' Tenure & Gender from 2016-2017 – 2020-2021	84
Table 4.13 Students' Mean AMM and Growth Rates in 3 rd and 4 th Grade by Principals' Tenure & School Type from 2016-2017 – 2020-2021	86

LIST OF FIGURES

Figure 2.1 Basic model of principal effects (Hallinger et al., 1996)	32
Figure 2.2 Guide to Computing the STAAR Progress Measure (TEA, 2021)	38
Figure 2.3 Calculating the 2020-2021 STAAR Progress Measure (TEA, 2021)	39
Figure 4.1 Participating Principals by Tenure	64
Figure 4.2 Participating Campuses by Type	65
Figure 4.3 Students' Mean 3 rd Grade Reading Achievement, Both by each year and collectively	74
Figure 4.4 Students' Mean 4 th Grade Reading Achievement, Both by each year and collectively	78
Figure 4.5 Students' Mean 4 th Grade Growth Rates by Principal Tenure	81
Figure 4.6 Students' Mean 3 rd and 4 th Grade AMM and Growth Rates by Principals' Tenure and Gender	85
Figure 4.7 Students' Mean 3 rd and 4 th Grade AMM and Growth Rates by Principals' Tenure and School Type	88

CHAPTER I: INTRODUCTION

Principals play an important role in schools (Acton, 2021; Hallinger & Heck, 1998; Snodgrass-Rangel, 2018; Supovitz et al., 2010; Wood, 2005). Generally, principals are charged with facilitating learning environments that improve students' educational experiences and outcomes (Cherkowski & Walker, 2016). Principals that implement constructive changes resulting in increases in students' learning and achievement are often described as effective (Clifford et al., 2012; Grissom & Bartanen, 2019; Kanpol & Weisz, 1990). The most effective principals are said to be adept instructional leaders and mentors (Hallinger et al., 2020; Whitaker et al., 2019), have the ability to facilitate positive and productive climates and cultures within their individual workplaces, and are able to lead productive staff recruitment and retention efforts (Kutsyruba & Walker, 2020).

According to Leithwood et al.'s initial report on the qualities and attributes of successful school leaders, the impact of principals on student learning and achievement was found to be second only to classroom teachers (2008). Even in their follow-up study, Leithwood et al. (2020) still found that "school leadership has a significant effect on features of the school organization which positively influences the quality of teaching and learning...the function of leadership, at all levels, is to build organizational conditions that foster high quality teaching and generate improvements in learner outcomes" (p. 2-3).

Supovitz et al.'s earlier study (2010) also supported this claim by finding principals have a statistically significant impact on peer influence. That is, principals can foster productive peer pressure that positively influences students' achievement. The researchers found that this phenomenon occurs through the principals' development and

subsequent buy-in of a shared mission, vision, and goals, the fostering of trust amongst educational stakeholders, and a keen focus on instruction. The result is a motivated educational community focused on making adjustments resulting in increases in student learning and achievement.

The findings of Supovitz et al. (2010) describe what Lencioni (2002) articulated in his work, *The Five Dysfunctions of a Team: A Leadership Fable*, when he stated that groups of coworkers function at their optimal efficacy when they have trusting collegial relationships, are not afraid to engage in conflict that pushes each member to function at his or her best, possess a shared commitment, assumes responsibility and accountability, and remains focused on results in order to determine efficacy. Critical to this endeavor within education, is fostering a workplace climate and culture that lends itself to providing a safe environment that empowers professionals to gather, discuss, select and implement instructional strategies, and then reflect and refine practices based on data and results (Thoonen et al., 2012; Liu et al., 2016). Effective work environments protect and encourage interpersonal dialogues that both support and challenge its stakeholders. Leithwood et al. (2004, 2020) reinforced the role that stable principal leadership has on building and sustaining this type of learning and working environment. However, principal turnover is an inevitable occurrence, and an understudied facet in education is the impact principals' turnovers have on school communities and, perhaps most importantly, students' achievement.

A principal's ability to establish and make gains towards achieving his or her mission, vision, and goals requires a commitment of time and a development of talent (Bartenam et al., 2019; Borman et al., 2003; Dixon et al., 2021; Mascall & Leithwood, 2010). For the purposes of this study, tenure refers to the principal's personal decision to remain in a campus administrative role, specifically as a principal or assistant principal

(Stader, 2007). In addition, the researcher will also explore whether tenure at a single campus or overall tenure in an administrative role has any impact on students' achievement. Principal tenure, therefore, may be connected to principal efficacy. So it is surprising that in the last decade, when there have been over 4,000 articles published within educational leadership's leading journals, only a fraction discuss principals' tenures and their impact on schools (Aravena, 2020). In addition, only 15 journal articles focused on principals' turnovers between 2003 and 2019. This is concerning given Hargreaves and Fink's findings that principals' turnovers are major school events that impact the entire school organization, including students' achievement (2006).

Researchers have shown principals' turnovers to have a negative effect on students' achievement and success (Bartanen et al., 2019; Henry & Harbatkin, 2019; Miller, 2013). Researchers, like Supovitz et al. (2010), have found that many principals, over time and through calculated efforts, have a positive impact on both the self- and collective efficacy of their teaching staffs. The formulation of new initiatives and their accompanying action steps, including evaluating initiative effectiveness and making necessary revisions, takes an investment of time that is associated with principals' tenures. Furthermore, increases in efficacy, specifically teachers and principals, have been shown to have a positive impact on students' achievement on standardized tests (Zysberg & Schwabsky, 2021). Therefore, it would then make sense that researchers prioritize studying and reporting the effects of principals' turnovers, specifically as it impacts one of school's most critical stakeholders, students.

From the limited research that has been conducted regarding principals' turnovers and students' achievement, researchers have found that principals have the potential to play an integral role in building an organization's capacity and fostering trusting relationships amongst colleagues (Tschannen-Moran & Gareis, 2015). Furthermore,

researchers have also found that cultivating productive and trusting work environments have also been found to mitigate some of the negative effects of principal turnover and transition (Hong et al., 2020). Capacity is defined as the professional experience, aptitude, and efficacy of individual teachers that is shared and used to grow the knowledge and skills of the collective group (Sleege et al., 2010). Trust is defined as “a teacher’s willingness to be vulnerable to another party based on the confidence that the latter is benevolent, reliable, competent, honest, and open” (Hoy & Tschannen-Moran, 1999, p. 189). These types of professionally nurturing environments are known to promote resilience, increase the group’s knowledge and skills, and encourage commitment to the organization (Bryk & Schneider, 2002; Li et al., 2016; Thomsen et al., 2015). Another byproduct of such highly-functioning and effective school communities is increases in students’ achievement, particularly on standardized tests (Brown et al., 2018).

Although principals’ tenures is the main focus of this study, it would be imprudent to characterize principals’ tenures as being the only factor of import regarding students’ achievement. To provide a more accurate and comprehensive look at students’ achievement, the researcher will explore other variables, in addition to tenure, that may also impact students’ achievement. Two such variables that often garner a lot of attention are principal gender and school type (Brezicha & Fuller, 2019; Leithwood & Jantzi, 2009; Nichols & Nichols, 2014). In regards to principals’ genders, there has been some debate regarding whether gender matching helps to facilitate trust between educational stakeholders and principals (Brezicha and Fuller, 2019). The rationale is that teachers are individuals with unique identities and opinions that do not take a hiatus simply because they are at work. In the research regarding how individuals’ gendered identities influence their collegial relationships, there is a large body of research that states that gender does

influence school stakeholders and the trust they place with their colleagues (Brooks et al., 2013; Brooks & Jean-Marie, 2007; Fitchett et al., 2020; Jean-Marie, 2013; Madsen & Mabokela, 2000). As for school type, this has been a component of school equality discussions for decades including issues regarding zoning, segregation, and effectively meeting legislation requirements like those associated with the No Child Left Behind Act (NCLB) and the Every Student Succeeds Act (Busby et al., 2020). Furthermore, achievement disparities due to inequalities surrounding school type assignments make for an important and needed addition to this study. For the purposes of this study, the researcher will explore the impact of principals' tenures on students' achievement as well as further analyzing the data to determine whether principal gender or school type presents any additional trends or correlations.

As stated, researchers have been interested in the effect school type, which describes each school's size and location proximate to urban areas, has on schools and education (Busby et al., 2020; Leithwood & Jantzi, 2009; Stewart, 2009). Leithwood and Jantzi (2009) reviewed 57 studies measuring the effects of school size on student and organizational outcomes. The researchers found that smaller schools are at an advantage, especially when educating students from disadvantaged socio-economic backgrounds. This was echoed in another study where Stewart (2009) found that smaller, rural schools had higher passing rates on the 11th grade standardized test when compared to larger urban or suburban schools. The researcher specifically noted the achievement disparity in school sizes when campuses reported 25% or more of its students as being socio-economically disadvantaged. Much of the research focused on school size describes meeting students' needs, advancing their achievement on standardized tests, and making fiscally responsible decisions regarding taxpayers monies (Baker, 2021; Busby et al., 2020; Han & Whitacre, 2018). An avenue yet to be explored is whether the variables of

principals' tenures, students' achievement, and school size have any correlation to one another.

In addition to school size, another area often explored in educational research is the impact gender has on a particular variable. In relation to this study, numerous studies have been conducted looking at the impact principals' genders have on schools (Brezicha & Fuller, 2019; Nichols & Nichols, 2014; Roser et al., 2009). The impact of principal gender is often explored in terms of the leadership traits associated with each gender and the impact these traits or characteristics have on his or her school climate and culture. These studies described the importance of trust exchanged between principals and their subordinates and how trust provides the foundation of effective school communities. For example, according to Krüger (1999), the researcher found that female principals were perceived to focus more on instruction than male principals. On the other hand, the perception was male principals attend to more of the administrative tasks. In other studies, researchers found female principals report their desire to enter a principalship was rooted in a passion for instructional leadership, while male principals cited that their reasons were based more on salary (Newton et al., 2003; Young & McLeod, 2001). In respect to principals' tenures, Hom et al. (2009) found that principals' rates of attrition are greater for female principals within their first four years, but that these effects decline as principal ages and tenure increase. Based on these findings and the research indicating the importance of principals' genders in schools and subsequent academic outcomes, this may be prudent avenue for the researcher to explore. That is, principals' tenures, in conjunction with principal gender, and students' 3rd and 4th grade reading STAAR achievement and growth.

The following chapter will provide insight into the background regarding the impact tenure and time have on principals' effectiveness and self-efficacy and how those

fluctuations may impact students' achievement. In addition the variables of principal gender and school type will also be analyzed for trends and correlations to principals' tenures and students' achievement. The measure of principals' effectiveness will be determined using students' standardized achievement test scores, specifically the State of Texas Assessments of Academic Readiness (STAAR) progress measure indicator. The problem regarding the effect principals' tenures have on students' achievement will be explained, followed by the study's theoretical foundation, purpose, and research questions. Finally, the significance of the study, definitions, and a description of the study's organization will be shared.

Background

Limited research is available regarding the impact, if any, principals' tenures have on student achievement. To assess whether there is any justification for a study in this area, it may be prudent to look at the available research regarding teachers' tenures and students' achievement and whether any connections could reasonably be extended to inquiries regarding principals' tenures and students' achievement. In education, where school-wide initiatives and approaches to solving academic and psycho-social issues can change rapidly, it may be a good idea to start by reexamining the purpose of formal education and public schools in order to understand the importance of tenure and student success.

The articulated purposes behind schools have changed over time. At points, it was to indoctrinate new generations into how to appropriately interact in a particular society and social class (Apple & King, 1977). In other instances, schools were charged with developing a stronger tax base by ensuring young adults possessed the necessary knowledge and skills required to enter the workforce and positively impact the nation's economy (Sessions, 1970). Yet, in other iterations the purpose of schools was stated to

measure education systems and increase competition within the global job market (Bruchmann & Evans, 2013). Recently the focus has shifted towards teaching students to reflect on new learning and wield it to their advantage (Hannon & Peterson, 2021). Hannon specifically states, “The purpose of learning in this century is not simply to recite inert knowledge, but, rather, to transform it” (2020, p. 7). Students’ abilities to apply new learning in complex ways using critical analysis is one of the goals of the STAAR assessment models established in 2010 and in current use across the state of Texas (Texas Education Agency, 2010).

This transition in thought that focuses on both teaching and assessing the essential skills that are related and necessary to students’ future pursuits is connected to the research that states experienced or tenured teachers have a positive impact on students’ achievement as measured by standardized tests (Boyd et al., 2011; Guarino et al., 2006; Hughes, 2012; Kelly et al., 2019; Minarik et al., 2003). In an era where the focus of education is providing students real-world applications and experiential, reflective learning opportunities (Edmondson & Matthews, 2021), a time commitment from teachers is required to develop the necessary pedagogy and skills to effectively achieve this goal (Darling-Hammond, 2017; Jhamb & Kumar, 2021).

In 2003, Dr. Richard Ingersoll reported that between 40% and 50% of teachers leave the field of education within their first five years. Dr. Ingersoll holds a faculty position at the University of Pennsylvania’s Graduate School of Education. He is regarded as an expert on teachers in the United States. His research encompasses describing the profession of teaching, human resources, and personnel management as it pertains to teachers, and examining school environments as workplaces for teachers. His research has garnered national attention and led to over 250 keynote addresses, speeches, and presentations. In his seminal text, “Is there really a teacher shortage?”, Dr. Ingersoll’s

research provided several reasons why teachers leave the field of education. His analysis fueled numerous teacher retention studies that have further sought to enumerate the variables that either promote or inhibit teachers to remain in education (Boyd et al., 2011; Carver-Thomas & Darling-Hammond, 2019, 2017a, 2017b; Guarino et al., 2006; Minarik et al., 2003).

Teachers' tenures should be a priority to school leaders because researchers have found statistically significant, positive correlations between teachers' tenures, teacher effectiveness, and student achievement (Goldhaber & Hansen, 2010; Marioni et al., 2020; Moore et al., 2018; Rosenblatt et al., 2019). The argument is that teachers who invest time into their careers, meaning committing themselves to the field of education and teaching, over the course of several years in order to grow their professional skills and pedagogy, have shown to have a positive impact on student achievement results. Increases in teachers' reported feelings of efficacy and effectiveness are often cited as contributing to these increases in student achievement results. In addition, teachers report that principals have a large influence on teacher retention decisions and tenure (Ebersold et al., 2019; Glazer, 2018). However, little attention has been paid to the effect principals' tenures and their pedagogical and skill development has on students' success and achievement.

Leithwood and Riehl (2004) confirmed both principals and teachers are integral to students' successes and achievements. The researchers argued that achieving optimal organizational efficacy cannot be achieved without effective leadership. However, efficacy in both teaching and leading takes an investment of time to learn and practice one's craft. Ball and Forzani (2010) discussed just this in terms of teacher preparation programs. The researchers stated that allowing teachers to learn at the potential detriment of students within their purview was an unethical practice employed by many schools and

districts across the United States. Instead, the researchers advocated for student teachers or novice teachers' beginning in education having supervised and structured field experiences that are consistently supported by a coach over the course of several months and even years. These coaches can assist novice teachers in implementing feedback and truly developing their skills and pedagogy. The same has been found to be true for principals.

Podolsky et al. (2016) found that the most effective principal preparation programs included bringing candidates together in cohorts with a focus on problem solving, field experience, and a positive and productive working relationship between the program and district; the researchers also stressed that providing principal candidates the sufficient time for learning, practice, feedback, and reflection is critical to increasing principals' own skills and sense of efficacy. Therefore, based on the available research, there is sufficient reason to believe that if time and efficacy have been shown to increase teachers' pedagogy and subsequent effectiveness as shown by students' achievements on standardized tests, then the same logic may be applied to principals. Principals who invest in their own learning and facilitate the strategic, continuous improvement of their organizations, also increase their self-efficacy and the efficacy of those around them, primarily teachers. The result, then, may be that this variable, principals' tenures, may also prove to have an impact on students' achievement on standardized tests.

Research Problem

The need for effective educators is critical, the demand is high, while the supply is continually getting lower (Carver-Thomas & Darling-Hammond, 2019). There are significant decreases in enrollments in college education programs (Carver-Thomas & Darling-Hammond, 2017b) as well as increases in job vacancies within education (Sutcher et al., 2019). These trends inevitably have an impact on principal applicant

pools. As teachers and principals are found to be the two leading variables impacting students' success and achievement (Brown, 2016; Daniels et al., 2019; Leithwood et al., 2020; Printy, 2008; Supovitz et al., 2010), it is important to develop the school structures that keep educators committed to the field of education.

Leithwood et al., 2020 showed the negative effect frequent principal turnover has on students' achievement. Furthermore, principals' turnovers often accompany spikes in teachers' turnover rates further impacting students' success and achievement (Al-Hendawy & Alazmi, 2021; Bartanen et al., 2019; Kraft & Papay, 2014; Ronfeldt et al., 2013; Ryan et al., 2017). Principal and teacher turnover also cause disruptions in school improvement initiatives and cycles (Thelin, 2020), which further impacts students' achievement.

Principals' self- and collective efficacies have been seen to have a positive impact on students' success and achievement (Liou & Daly, 2020; McCullers & Bozeman, 2010). Developing efficacy in both oneself and within the stakeholders in one's organization requires a commitment of time (Copland, 2003; Plaatjies, 2019). It is important that efforts are targeted at keeping effective educators in schools for the duration of their careers.

Theoretical Foundation

The focus of this study is to describe the relationship between principals' tenures and students' achievement. In addition, the researcher will also look at principal gender and school type, in conjunction with principals' tenures, to see if these variables further influence students' achievement trends. The theoretical foundation of this research investigation rests with student achievement theory. As the theory and its measures have evolved, these new "versions" including updated measures and definitions, are used to clarify conflicts in research findings. Student achievement theory is complicated as there

is not one standard measure or definition of this concept. This is due to the degree of autonomy states have in measuring and reporting its students' achievement.

For the purposes of this study, the researcher used both students' achievement on Texas's 3rd and 4th grade reading STAAR exams and 4th grade students' reading STAAR exam's progress measure indicator as the "output" measure of students' success. In addition, principals' tenures as well as gender and school type were used as "inputs" to see whether variances in these measures have any impact on students' achievement. In this study and synthesis of research, the concepts and measures of efficacy and effectiveness are used to describe both teachers and principals and the importance of time commitments in developing an effective educational pedagogy. Within this framework, correlations amongst the constructs will be examined and summarized. The rationale for focusing on only 3rd and 4th students' reading STAAR achievement is that both of these grade levels, in Texas, are almost always part of a single elementary school. In an effort to keep other school building-related variables as consistent as possible and to focus in on just this study's tested variables of principals' tenures, school type, principals' genders and their effects on students' achievement the decision was made, by the researcher, to only focus on elementary students' STAAR tests. In the state of Texas, 3rd grade students are the first cohort of students to be assessed using the STAAR exam.

Statement of the Purpose and Research Questions

The purpose of this study is to describe the relationship between principals' tenures and students' achievement. The following research questions will guide this study:

1. What relationship, if any, is there between the length of principals' tenures in Texas and students' achievement on the 3rd grade reading STAAR assessment?

2. What relationship, if any, is there between the length of principals' tenures in Texas and students' achievement on the 4th grade reading STAAR assessment?
3. What relationship, if any, is there between the length of principals' tenures in Texas and 4th grade reading STAAR's progress measure indicator?
4. Do other identifiers, such as principal gender or school type, with relation to principals' tenures, have an impact on 3rd or 4th grade reading STAAR scores or the 4th grade STAAR progress measure indicator?

Rationale and Significance of the Study

Jobs in education are being seen, more and more, as temporary rather than careers (Glazer, 2018). Most research in the area of students' achievement is focused on the impact teachers have on students' learning and achievement, however as numerous studies have reported, principals are the second most powerful influences on students' achievement (Brown, 2016; Leithwood et al., 2020; Leithwood et al, 2020; Printy, 2008; Supovitz et al., 2010). In addition, the research has demonstrated that an investment of time in one's career to learn and adopt the necessary pedagogy and skills often yields increases in self- and collective efficacy which, in turn, garners effective student achievement results (Bandura, 2000; Copland, 2003; Liou & Daly, 2020; McCullers & Bozeman, 2010; Plaatijies, 2019). Furthermore, there is a growing body of research that is focused on the impact principals have on student achievement (Bartanen et al., 2019; Liebowitz & Porter, 2019; Smith et al., 2020). Researchers have found that principals' abilities in initiating organizational changes, when conducted effectively, have been shown to have positive impacts on students' success and achievement (Leithwood et al., 2020; Smith et al., 2020; Zysberg & Schwabsky, 2021). This study seeks to add to the body of research regarding the impact principals' tenures may have on students' success

and achievement; specifically, the researcher is interested in discovering any patterns or trends that may emerge when looking at the correlation between the length of principals' tenures and students' achievement on the Texas's 3rd and 4th grade reading STAAR exam and 4th grade's progress measure indicator. The researcher will group principals using the same strata used by the Texas Education Agency (TEA) to delineate teachers by years of experience. The researcher will describe beginning principals as first year principals with no prior principal experience, principals with 1-5 years of experience, principals with 6-10 years of experience, 11-20 years of experience, 21-30 years of experience, and over 30 years of experience.

Definition of Key Terms

Adequate Yearly Progress (AYP): One of the major components of No Child Left Behind act was the requirement that all states monitor and report their students' progress, in all subgroups; AYP was left up to individual states to decide how to publicly capture and report "measurable annual objectives" for "all public elementary and secondary school students" ("No Child Left Behind Act of 2001 [NCLB]", 2002); in Texas, AYP is addressed through the STAAR progress measure

Collective Efficacy: using the growing interdependence of human functioning and shared beliefs in the group's power to produce desired effects through collective action (Bandura, 2000)

Capacity: the professional experience aptitude, and efficacy of individual teachers that is shared and used to grow the knowledge and skills of the collective group (Sleege et al., 2010)

Continuity: the number of uninterrupted, consecutive years that a principal remains in the same position at the same campus within a school district (Benniga & Quinn, 2011)

Educator Effectiveness: The positive “contribution to student achievement scores” (Goe, 2007, p. 3)

Gender: “a person’s self-representation as male or female, or how that person is responded to by social institutions based on the individuals gender presentation” (Pardue & Wizemann, 2001)

Principal: “the head or person with the most authority in a K-12 school...principals [are distinguished] from other school leaders, such as assistant principals” (Grissom et al., 2021)

Principal Tenure: the length of time that an individual as held a principal position both a single campus and throughout his or her career (Brockmeier et al., 2013)

Principal Turnover: When a principal leaves a school. Principal turnover includes retirement, a career change, and moves to other campuses or districts (Snodgrass-Rangel, 2017)

Self-Efficacy: An individual’s belief in oneself to use the skills and knowledge he or she has acquired effectively and when needed (Bandura, 1997); in education, it is the educator’s belief that he or she has the necessary skills and strategies to positively impact students both academically and psycho-socially (Bergman et al., 1977)

School Type: a system of classifying schools; the National Center for Education Statistics also categorizes individual public school campuses using the same 12 categories used to classify public school districts (“City, Large”, “City, Midsize”, “City, Small”, “Suburb, Large”, “Suburb, Midsize”, “Suburb, Small”, “Town, Fringe”, “Town, Distant”, “Town, Remote”, “Rural, Fringe”, “Rural, Distant”, and “Rural, Remote”) (Texas Education Agency, 2021)

State of Texas Assessments of Academic Readiness (STAAR): annual state-administered assessments that measure students' mastery of the Texas Essential Knowledge and Skills (TEKS) curriculum standards (Texas Education Agency, 2020)

STAAR Progress Measure: denotes the difference, or amount of growth, for a student in one content area between two academic years; the STAAR progress measure is found by subtracting a student's current STAAR scale score from the scale score of the same test (i.e., 3rd grade reading and 4th grade reading tests) from the previous year (TEA, 2021)

Students' Achievement: the researcher defines student achievement as both the percentage of students who score at each performance level on the 3rd and 4th grade reading STAAR and the percentage of students making at least Adequate Yearly Progress (AYP) on the STAAR progress measure indicator; this decision was based on how TEA reports students' progress in terms of both performance (i.e. the student's achieved performance level: did not meet, approaches, meets, or masters) and progress (i.e. a weighted percentage describing students that achieved limited, expected, or accelerated progress) (Texas Education Agency, 2022)

Tenure: the researcher defines tenure as the individual's personal decision to remain in his or her position; in this study, tenure is not defined as an employee's "property right to employment in a district until the employee retires, resigns, dies, is terminated, or agrees to a change in contract status" (Stader, 2007, p. 245)

Trust: "a teacher's willingness to be vulnerable to another party based on the confidence that the latter is benevolent, reliable, competent, honest, and open" (Hoy & Tschannen-Moran, 1999, p. 189).

Turnover: the reported percentage or number of educators who are employed at a campus or district for one year but not the following year (Herbert & Ramsay, 2004)

Summary and Organization of the Study

This study is organized into five chapters. Chapter I consists of the introduction and brief review of the literature and statement of the problem. The purpose of the study is introduced, detailing its significance. In addition, Chapter I outlines the theoretical foundation by which the results of the study will be explained, purpose and research questions, as well as rationale and significance of the study. Finally, a list of operational definitions is provided.

Chapter II discusses a comprehensive review of the literature. Within Chapter II, an analysis of the research regarding teacher tenure and students' achievement is reviewed with connections drawn to the logical impact principals' tenures may have on students' achievement. The importance of efficacy is also explored. The history and evolution of Adequate Yearly Progress (AYP) and federal and state accountability measures are also explained as well as Texas's use of the STAAR progress measure and its use in determining whether AYP standards have been met.

Chapter III details the study's design including the methods and procedures employed by the researcher to investigate the research questions and test the proposed hypotheses. There is an explanation of the operationalization of theoretical constructs and the study's population and sample are discussed as well as data collection and sampling procedures. The chapter continues with a description of the instruments used to explore the research questions and include validity and reliability measures. Chapter III also includes an overview of data analysis procedures, privacy and ethical considerations, and research design limitations.

Chapter IV presents the data analysis and a discussion of the study's results. Finally, Chapter V summarizes the findings of the research and conclusions proffered

based on the results of the statistical analysis. Chapter V concludes with implications of the results and recommendations for future study.

CHAPTER II:

LITERATURE REVIEW

The purpose of this study is to describe the relationship between principals' tenures and students' achievement. In this chapter, an overview of the literature regarding the importance of tenures will be explored as well as the history, intended measures, and implications of the STAAR exams' progress measure indicator. Specific topics addressed in the overview include teachers' and principals' tenures and their respective relationships to effectiveness, the need for time to build efficacy and effectiveness, and the impact each has on promoting students' success and achievement. In order to provide a deeper understanding of the impact, if any, principals' tenures have on students' achievement, the researcher will also look at other factors, in conjunction with principals' tenures, that may further affect students' achievement trends. The additional factors explored in this study will be principals' genders as well as school type. The STAAR's progress measure indicator will be used as a means of representing students' achievement. Current gaps in the literature motivating this study will also be presented as well as the theoretical frameworks used to structure this study.

Teacher Tenure and its Relationship to Teacher Effectiveness

Tenure lengths should be a critical concern for all school leaders. There is a large body of research that examines the impact teachers' tenures have on schools (Boyd et al., 2011; Guarino et al., 2006; Hughes, 2012; Kelly et al., 2019; Minarik et al., 2003). It is important to note that for the purposes of this study and review, the term tenure refers to the individual's personal decision to remain in his or her position; tenure is not used as Stader (2007) defines as an employee's "property right to employment in a district until the employee retires, resigns, dies, is terminated, or agrees to a change in contract status" (p. 245). Teachers' tenures, in terms of choosing to remain in their current teaching

positions, is relevant to this study because there is ample research available on the effect teachers' tenures have on students' achievement. In contrast, there is limited research regarding the impact principals' tenures have on students' achievement. To provide context and the basis for the researcher's purpose behind the study, the researcher will use the findings from teachers' tenures and students' achievement studies to extrapolate the possible impact and provide a rationale for examining the impact principals' tenures may have on students' achievement.

For decades, researchers have described the impact teachers' tenures have on students' achievement. As early as 1925, Harvard University published an annual "Confidential Guide to Freshman Courses" that became known as the "The Confy Guide" (Bernstein, 1978). Bernstein goes on to share that this publication shared students' ratings of both Harvard's courses and its instructors. In 1978, Bernstein used the guide to discuss its insight into effective teaching and teacher tenure. Bernstein stated that experience equipped him, as a teacher, with the necessary insight to differentiate what his students needed to know from what they did not need to know. He stated that teachers are effective when they are "[dedicated] to the human mind and what it can create" (Bernstein, 1978, p. 300).

In another study, Rockoff (2004) found that students with first- or second-year teachers scored lower on their assessments than students who had more experienced teachers. Teaching experience, as a fixed variable, was seen to improve reading test scores; teachers with ten or more years of experience raised students' vocabulary and reading comprehension scores 0.15 and 0.18 standard deviations, respectively. These findings were supported by another study in which teachers that were rated as "highly effective" on their last evaluation were also cited as having strong classroom management systems (Pressley et al., 2020). These systems were said to proactively

minimize students' misbehaviors and fostered authentic teacher-student relationships. In these environments, students were reported to engage in more self-regulated behaviors and more inclined to take risks in the classroom. All of the "highly effective" teachers had at least five years of experience, with a majority of participants having nine or more years of experience. Based on the findings of numerous researchers (Gage et al., 2018; Korpershoek et al., 2016; Oliver & Reschly, 2007; Stichter et al., 2009), experience seems to improve the skills necessary to reduce internal classroom interruptions and increase student achievement.

Teacher Effectiveness and Time

Students and their academic successes and achievements benefit from effective teachers (Kersten, 2006). Teacher effectiveness and garnering the pedagogy and opportunity to practice and refine one's skills is largely time-dependent. Teachers need time to learn and apply the skills required to effectively plan and deliver lessons, manage classroom behaviors and dynamics, and complete necessary clerical tasks (Whalen et al., 2019). As Kelly et al. (2019) reported, effective teachers prioritize students and focus on their profession's best practices in order to ensure students' achievement. Again, learning the best practices associated with effective teaching takes an investment in time. This includes engaging in professional development and applying and refining teachers' newly learned knowledge and skills. This time commitment supports the conclusion that teachers' tenures can positively impact students' achievement.

Kelly et al. further went on to describe that the "noise" of school demands can often distract teachers and result in decreases in students' achievement (2019). The researchers concluded that teachers with experience and tenure often have the necessary strategies to navigate these distractions and continually ensure students learn and are successful. The most effective teachers are found to be able to cultivate classroom

systems that prioritize and result in students' achievement. The participants in the study shared that when their students are continuously successful, then accountability measures, at all levels, tend to take care of themselves. Lastly, the researchers found that when school leaders, like principals, devote time and resources into the growth and development of teachers, these principals also build their teachers' self-efficacies which, in turn, increases teacher tenure trends.

Teacher Self-Efficacy, Effectiveness, and Students' Achievement

In terms of teachers and education, teacher self-efficacy is the teacher's belief that he or she is competent in his or her knowledge of content and have acquired the necessary skills and experiences to efficiently and effectively impact students' achievement (Bergman et al., 1977). Teacher self-efficacy was eventually incorporated by Bandura (1997) as its own unique type of self-efficacy. Pogere et al. (2019) added to this body of research by finding that teachers who reported high levels of self-efficacy engaged more with other teachers in collaboration. This observation is connected to Bandura's (1977) social learning theory that states people learn by watching and emulating the behaviors of others. Additionally, the experience of implementing and evaluating learned and mimicked behavior for its efficacy is best described through Lave and Wagner's (1990) situated learning theory. These concepts and theoretical frameworks will be expounded upon and applied to the available research on principals' tenures and its connection to students' achievement.

Principals and Students' Achievement

Principals are charged with systematically ensuring the academic, social, and emotional growth of each student under his or her purview (Gentilucci & Muto, 2007). Leithwood et al. (2020) found that principals have a substantial impact on their school organizations. The researchers further posited that principals are able to manipulate

variables within their campuses in order to have a significant and positive effect on students' achievement. In other words, principals have the potential of playing a pivotal role in school improvement initiatives aimed at improving student achievement. Critical to students' success and achievement is the intentional efforts of principals to establish and foster trust between school stakeholders.

In a recent article, Hong et al. (2020) explored the impact trust has on educators' capacities and their ability to persevere and excel even throughout a transition in leadership. The authors of this article acknowledge that changes in leadership often accompany a period of variability and insecurity that is shared and felt by the remaining stakeholders. However, Hong et al. found that when stakeholders truly internalize and share a common goal and vision for students, believe in both their own self- and collective efficacies, and possess a trust that allows these same stakeholders to be honest and vulnerable with one another in order to share concerns and areas of weakness, these qualities assist teachers to withstand the challenges that accompany leadership transitions and allow the campus to continue to make positive gains.

This study emphasized the importance of trust amongst school stakeholders for the sake of increasing individuals' professional developments and school improvement initiatives. When educators, including teachers and principals, build and sustain trusting relationships, share common goals, possess emotional safety and comfort, believe in the competence of colleagues, and are able to vulnerable and honest with their coworkers, then these same educators have been shown to preserve their self- and collective efficacies, increase social capital and resilience, and are best able to weather the instabilities and setbacks that are often encountered in schools, including those associated with principal turnovers.

It is important that principals take the time to learn, understand, and build their school cultures. In addition, principals should work to develop an infrastructure that supports that development of collegial relationships and self-supporting structures that enhance each stakeholders' well-beings and foster sustained feelings of safety and stability. However, fostering such school environments requires principals to be intentional and cognizant of the variables that they can influence (Kunnari et al., 2018) and which, when effectively manipulated, garner the best results.

One such variable that is at least marginally within principals' control is their tenures within a district or campus. Yan (2020) found that principals have options and choices when it comes to their employment. While there are many reasons why principals leave their positions, a large percentage of principals exit of their own volition (Levin et al., 2020). Among these self-authored reasons are a dissatisfaction with current working conditions, pursuing central office promotions, and seeking out educational consulting roles or jobs within higher education. However, not all principals leave by choice, some principal turnover is due to central office administrators replacing ineffective principals with potentially more effective candidates, Grissom et al. states that this type of principal turnover can positively impact student achievement (2021).

Principals' Turnovers and Students' Achievement

In 2008, Leithwood et al. wrote an article that stemmed from a study the researchers were conducting. During their review of the literature, the researchers synthesized the available information and produced seven "strong claims" regarding effective school leaders or principals. The top two claims, which were also the most strongly supported by the available literature, were that principals were the second-most influential factor in increasing student achievement, and that effective principals often utilize the same "leadership toolkit." These claims not only support the importance of

principals in schools, but also the idea that there may be a common pedagogy or skill set that can be taught to new principals. However, this requires an investment of time, not only from the new principal, but also from his or her supervisors and mentors, as they instruct, monitor, and provide feedback to school principals early in their tenures. Secondly, following the time spent growing effective new principals, the research supports that these effective, tenured principals are critical to ensuring student achievement.

In 2020, a little more than a decade after its initial publication, Leithwood et al. revisited their original seven leadership claims to determine if they still proved true. In regard to their original claim that principals are the second-most important factor in students' learning, the researchers found further evidence to support that increases in students' achievement require school leaders, particularly principals, to facilitate organizational changes and improvements aimed at "fostering high quality teaching and [generating] improvements in learner outcomes" (Leithwood et al., 2020, p. 3). In addition, the statement that effective leaders draw from the same "toolbox" of skills was validated. In summary, Leithwood et al. (2020) charged researchers to not focus on describing the tasks or roles carried out by effective principals, but on studying the specific leadership qualities, such as experience and tenure, and whether they have a statistically significant impact on students' achievement.

Concurrently with the Leithwood et al. (2020) report, Leithwood, Sun, and Schumacker (2020) published a study regarding how school leaders influenced students' achievement. They used a theoretical framework known as the "The Four Paths Model". The Four Paths Model states that learning travels in four pathways to students. These pathways include the Rational Path, Emotional Path, Organizational Path, and Family Path. The rational path focuses on the traditional knowledge, skills, and pedagogy

associated with teaching. The emotions path focuses on the school staff's affective states, while the organizational path focuses on elements within the school such as culture and school policies and procedures. The final path, the Family Path, includes the intersection between school expectations and family expectations and whether needs are satisfactorily met.

Leithwood et al. (2020) sought to provide insight on the ways school leaders, through these four pathways, influence students' achievement. The researchers conducted two surveys across six Texas school districts, including 81 campuses, and yielded almost 1,800 respondents. The researchers used elements from several existing instruments including Leithwood et al.'s (2017) "The Teaching and Leading in Schools Survey", Hoy and Tarter's (1997) Academic Press scale, and McGuigan and Hoy's (2006) Collective Teacher Efficacy scale.

At the conclusion of the study, the researchers found that students' achievement is most dependent upon the rational path or the students' learning derived from their instruction and learning environments, however the results did not indicate instruction as being the most influential factor within this pathway. Instead, students' disciplinary climates, academic press or emphasis placed on students' successes and achievements, as well as use of instructional time were found to be the most influential factors on students' achievements. Although the findings were described as "surprising," the researchers noted that these findings coincided with the results of three other related studies (Leithwood & McCullough, 2017; Leithwood et al., 2017; Leithwood & Sun, 2016). What is most pertinent to this study is that all three variables are directly influenced by school principals by establishing a consistent culture, managing discipline, setting campus priorities, and establishing a master schedule.

Not only are principals an important influence on student achievement, but the frequent turnover of principals has also been shown to have a negative effect on students' achievement (Leithwood et al., 2020). One way this is evident is through researchers' findings that principals' turnovers often accompany increases in teachers' turnovers (Bartanen et al., 2019; Ronfeldt et al., 2013), and, as previously reviewed, teachers' turnovers have been seen to have a negative impact on student achievement (Al-Hendawy & Alazmi, 2021; Kraft & Papay, 2014; Ryan et al., 2017). Critical to the issue of principals' turnovers is the disruption that the attrition of school leaders has on school improvement cycles and corresponding organizational growth and development (Thelin, 2020).

In terms of student achievement, Bartanen et al. (2019) found a positive correlation between the length of principals' tenures and student achievement. In schools that experienced principal turnover, the researchers found that students' reading and math results were approximately 7% lower than the average amount of annual result variation after the school's first year with a new principal. In other words, in schools where principals moved, student achievement scores declined beyond normal expectations. This impact is very close to Ronfeldt's et al. (2013) findings that teachers' turnovers resulted in an average decrease of between 8.2%-10.2% on students' math achievement tests and an average decrease of 4.9%-6.0% on students' reading achievement tests. This indicates the negative effect principals' turnover has on students' achievement sometimes exceeds or is second only to the negative effect teachers' turnovers have on students' achievement. It is arguable that just as teachers' commitment and persistence is necessary to garner optimal students' achievement results, so too, may be principals' commitment and persistence (Moore et al., 2018).

While principals' impacts on students' achievement may largely be seen as indirect, the correlations between principals' actions and students' achievement have been shown to be statistically significant (Leithwood et al. 2020; Williams, 2009). Liebowitz and Porter (2019) determined a 67% effect size on the relationship between principals as instructional leaders and students' achievement. This large effect size indicates a strong, positive correlation between the work principals do to impact instruction and student achievement scores. In another study, Smith et al. (2020) found a statistically significant correlation between principals' influences on professional teacher behaviors ($r = .573$, $p < .01$) and on setting high academic expectations ($r = .585$, $p < .01$). Professional teacher behaviors are connected to positive school climates, cultures, and organizational structures (Smith et al., 2020). All of these, positive school climates, cultures, and organizational structures, have been seen to have a positive correlation to students' achievement (Zysberg & Schwabsky, 2021).

Principals are important models in establishing and maintaining high academic expectations for students within their schools (Leithwood et al., 2020). The researchers found a significant positive correlation between setting high academic expectations and students' achievement. There is also substantial evidence that supports when principals make strategic changes within their schools and these changes are implemented effectively, there are increases in student achievement (Aburizaizah et al., 2019; Hitt et al., 2018, Liebowitz & Porter, 2019). It is, therefore, important, as Brockmeier et al. (2013) found, that principals are savvy and efficient at inventorying their resources and effectively manipulating the organizational levers at their disposal in order to effect change and drive increases in students' achievement. Principals' knowledge, skills, and confidence to successfully achieve their goals is closely aligned to Bandura's (1977) definition of self-efficacy.

Bandura (1977) stated that self-efficacy is an individual's belief that he or she can achieve a goal given the skills he or she possesses and the availability of resources. Self-efficacy is often the result of another one of Bandura's theories: social learning theory (Bandura, 1986). Social learning theory states that there are five stages to learning; observation, attention, retention, reproduction, and motivation. Principals should be highly motivated to ensure their students' excel while under their care and guidance. Effective pedagogy is derived from this motivation and by watching, emulating, and refining the systems and structures of other successful leaders. By engaging with other school leaders, principals engage in both communities of practice (Lave & Wenger, 1998) and situated learning theory (Lave & Wenger, 1990) as the learning occurs and is applied in an authentic context and environment, namely the principals' schools.

The intentional efforts of principals to learn and grow in their roles as organizational leaders increases principal effectiveness and self-efficacy. Due to the learning theories involved, an unintentional byproduct known as collective efficacy can emerge. Collective efficacy is when groups, not just individuals, see the potential of their combined capabilities to meet their shared goals (Bandura, 1997). In schools, collective efficacy is seen when individuals surrounding the principal (i.e. teachers, students, and families) learn and grow alongside their leader and contribute to the growth of the entire organization. There are strong indications that high degrees of efficacy, both individual and collective, are strong predictors of students' achievement (Cansoy et al., 2020; Donohoo et al., 2018; Goddard, 2001; Ross et al., 2004).

Principals' Self-Efficacy and Effectiveness

Principals contribute to their own self-efficacy and the collective efficacy of their schools (Goddard et al., 2017). Principal self-efficacy is the belief principals have in themselves (i.e. their knowledge, skills, and abilities) to successfully improve their

schools regardless of the barriers they may encounter (Tschannen-Moran & Gareis, 2007). Over the past couple of decades, researchers have shown that principals who reported high levels of self-efficacy have been found to have a positive impact on student achievement (Liou & Daly, 2020; McCullers & Bozeman, 2010). This indicates that principals play a pivotal role in school improvement initiatives due to the influences they have on teacher practices and instructional programming and delivery.

Principals Facilitating Collective Efficacy in their Schools

Beyond their own self-efficacy, principals also serve as catalysts to build the efficacy of others within their educational communities. Collective efficacy is defined as “an emergent group-level attribute that is the by-product of coordinative and interactive dynamics” (Bandura, 1997, p. 7). Collective efficacy is cultivated when groups, like educators, work together with intention and purpose. In schools, when educators work collaboratively with one another to support each other and refine each individual’s practice and pedagogy, the results often increase students’ achievement (Goddard et al., 2020; Tschannen-Moran & Barr, 2004). Principals are in a prime position to both foster and grow their stakeholders’ self- and collective efficacies. Increases in both types of efficacies have been shown to have a positive impact on students’ achievement (Ford et al., 2019; Goddard et al., 2000; Moolenaar et al., 2012). This is because, as Goddard et al. (2000) found, collective efficacy often grows from individual’s self-efficacy, but collective efficacy influences schools at the organizational level rather than just within a few, isolated classrooms. For example, focusing on increasing teachers’ pedagogies and monitoring and providing feedback can result in subsequent effective outputs. When an entire organization is positively impacted by such an initiative, then large-scale organizational changes and trends, such as increases in entire campus’s achievement scores often emerge.

Other Factors that may Impact Students' Achievement

To truly determine the significance, if any, principals' tenures have on students' achievement, it is important to explore and acknowledge other variables that may also impact school effectiveness. Two such variables that are often explored in research studies are district and principals' gender and school type. By exploring these variables, it may be possible to determine to what magnitude or in what settings principals' tenures are most significant, if at all.

Principal Gender

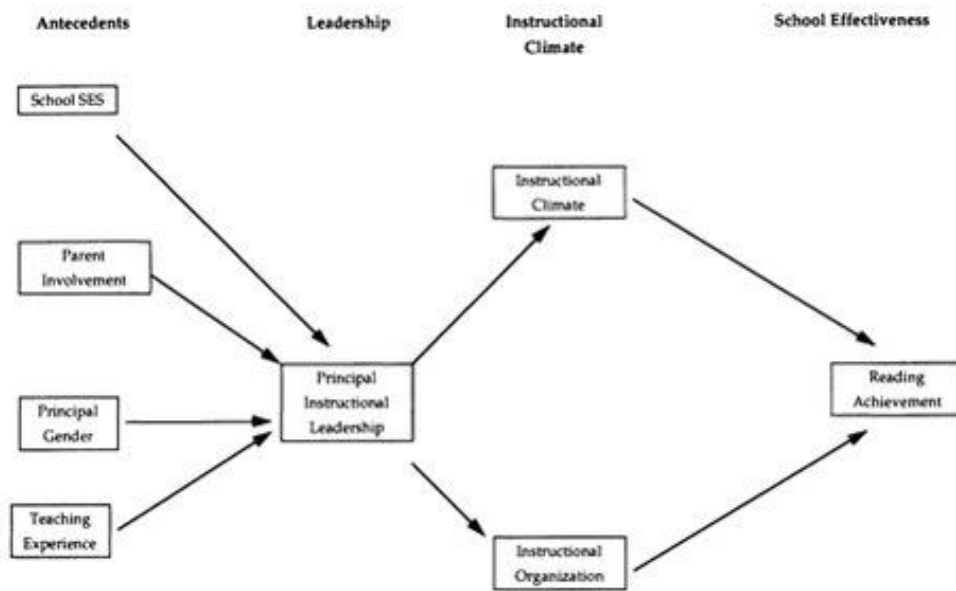
There is a documented history of gender disparities in the education profession. Since establishing American educational systems that operated outside of homes in the 1700s, male headmasters traditionally led schoolhouses, both instructionally and administratively (Blount, 2000). However, as demands within education evolved over the next century, so, too, did the profession, with males taking on a more administrative or "principal teacher" role and an increasing number of females occupying teacher or instructional roles (Blount, 2008, 2000; Kafka, 2009; Perrillo, 2004). This gender gap continues today with an average of 76% of teachers being female (NCES, 2021), but less than 5% of superintendents and less than 27% of secondary principal positions being occupied by women (Nichols & Nichols, 2014).

There have been numerous studies conducted regarding the impact gender has on many facets within education. Hallinger, Bickman, and Davis (1996) looked at principal effects, including gender, and whether these variables have any correlation to students' reading achievement in a sample of schools from across the U. S. The researchers found a small, yet statistically significant correlation between students' reading achievement and principals' genders. Specifically, students with female principals slightly outperformed students at schools with male principals. This supported other researchers findings that

female principals tend to focus and lead through curriculum and instruction, while male principals, on average, tend to focus on more administrative duties (Helterbran & Rieg, 2004; Nogay & Beebe, 1997; Shaked et al., 2018; Shaked et al., 2021). Hallinger, Bickman, and Davis created a model that depicts the factors that influence leadership, and how principals' individual instructional leadership influences their organization and school effectiveness (1996).

Figure 2.1

Basic model of principal effects (Hallinger et al., 1996)



from “School Context Principal Leadership, and Student Reading Achievement”
by Hallinger et al., 1996, p. 532

In another study, Nichols and Nichols (2014) looked at 33 elementary schools within a single, urban school district; their focus was whether a perception of effective school leadership has an impact on students' achievement. The researchers gathered data from 847 teacher respondents from each of the 33 campuses included in the study. The

researchers recognized that gender biases were present within the schools included in this study. Specifically, there were biases attributed to female administrators' abilities to effectively perform the duties and responsibilities associated with the school's and district's top leadership positions (i.e. principal and superintendent). However, in light of such biases against female principals, the students' achievement scores reviewed in this study did not show a significant variance between schools with female principals and schools with male principals. In other words, both male and female principals seemed to garner similar student outcomes when all other factors were held constant.

The results of the Nichols and Nichols (2014) study was in direct contrast to the previously reviewed results from the Hallinger et al. study (1996). Again, the Hallinger et al. study found female principals outperformed their male counterparts on standardized reading assessments. The discrepancies in results between these two studies indicates that further exploration of this construct is needed. It will also be beneficial to look at whether principal gender and its interrelation to other school variables, including principals' tenures and school type, has any additional impact on students' achievement.

School Type

Schools and districts are often labeled or classified into groups in order to compare data and draw correlations between different schools, districts, and monitoring systems (Texas Education Agency, 2021). These classifications and groups are based on demographic factors including school/district enrollment, city/town population, and the organization's proximity to its nearest urban areas. The National Center for Education Statistics (NCES) classifies both schools and districts using demographic factors. NCES uses 12 categories referred to as locale classifications or locale codes. These locale classifications are broadly broken into four main basic district types including "City", "Suburb", "Town", and "Rural". From there, each of the four district types are broken

down into three subtypes by size for “City” and “Suburban” district types and proximity for “Town” and “Rural” district types. The result is the following 12 NCES district types; “City, Large”, “City, Midsize”, “City, Small”, “Suburb, Large”, “Suburb, Midsize”, “Suburb, Small”, “Town, Fringe”, “Town, Distant”, “Town, Remote”, “Rural, Fringe”, “Rural, Distant”, and “Rural, Remote” (Texas Education Agency, 2021). In addition, the NCES also categorizes individual public school campuses using the same 12 categories.

Leithwood and Jantzi (2009) specifically culled the studies included in their meta-analysis for projects that measured students’ achievement and school size. The researchers also grouped the studies into those focused on elementary school achievement or secondary school achievement. Although the research regarding elementary school achievement was less robust than the available literature regarding secondary school achievement, the researchers found that campus size has a negative correlation with students’ achievement data. That is, the smaller the school, the higher the rate of students’ achievement.

In another study focused on teacher retention and school type, Rosenblatt et al. (2019) found that school type does have an impact on teacher retention rates. The researchers recommended that teacher preparation programs focus on the organizational and contextual differences between rural and urban schools. In addition, teacher candidates should also be provided insight into how to best achieve student outcomes in both settings. Furthermore, the researchers noted that a failure to do this adds to the increases in teacher attrition rates in Texas and has a negative impact on students’ achievement scores in both rural and urban schools and districts. High rates of attrition also stymies principals’ efforts to foster and build both self- and collective efficacy and institute meaningful organizational changes (Evers et al., 2002; Madigan & Kim, 2021).

In a study conducted by Miller (2019), the researcher looked at the challenges associated with teacher retention in rural school districts located in east Texas. In addition, Miller offered rural school leaders strategies specifically aimed at building a sustainable teaching base. This included providing stipends, competitive salaries, housing assistance, recruiting from the community, and establishing “Grow Your Own” teacher programs. Again, the researcher highlighted that not addressing the unique impact of teacher attrition within rural schools and districts has a negative impact on the quality of instruction students’ within these schools and districts receive, which is directly related to their subsequent achievement on standardized tests.

Summary

Principals have an important and multi-faceted function within schools. They must be skilled in a variety of areas and roles including instruction, personnel management and coaching, finances, and discipline (Huang et al., 2020; Miller, 2013; Waldron et al., 2011; Williams, 2009). Their adeptness in these areas, when strategically employed, is tied to positive impacts on students’ achievement (Leithwood et al., 2020; Smith et al., 2020; Zysberg & Schwabsky, 2021). In addition, there may be other fixed variables, such as the gender of the principal and the school type, that may further influence or affect students’ achievement scores on standardized tests.

Regardless, just as with teachers, building the capacity and efficacy of principals takes time (Copland, 2003; Plaatjies, 2019). Furthermore, principals implementing organizational changes that are designed to increase students’ achievement need approximately three to five years, on average, for the change-process cycle to reach its optimal level of efficacy (Hall & Hord, 2020). This is concerning because as Levin and Bradley (2019) state, the average principal tenure is approximately four years. Pair that statistic with an annual U. S. principal attrition rate of between 18-20%, and there is

cause to explore the impact principals' tenures have on schools (Miller, 2013; Levin et al., 2020), especially as it relates to federal- and state-monitored accountability measures.

Adequate Yearly Progress and Federal and State Accountability

Texas has a long history of assessing and reporting its students' academic achievement (Pruitt & Bowers, 2014). The process has been reviewed and refined over the past several decades. This includes Texas moving its focus from ensuring students have a minimal competence in reading, writing, math, science, and social studies to a more comprehensive achievement and progress-focused approach that was first implemented in 2003 with the Texas Assessment of Knowledge and Skills (TAKS) tests and the currently utilized STAAR tests which began in 2011 (Texas Education Agency, 2011).

Amidst the revisions and changes made to Texas's state accountability system, the induction of NCLB in 2001 bound states to developing and implementing school accountability systems that utilized student achievement on annual standardized tests as its foundational measurement of progress (Dee & Jacob, 2011). The altruistic purpose behind NCLB was to ensure schools provided every U. S. student an equitable opportunity to a free and appropriate public education and that every student's potential was maximized while within the public school system (U. S. Department of Education, 2005). One of the major components of NCLB was the inclusion of a requirement that all states monitor and report their students' progress, in all subgroups, through adequate yearly progress (AYP) standards. This was left up to the states to decide how to publicly capture and report "measurable annual objectives" for "all public elementary and secondary school students" (NCLB, 2002).

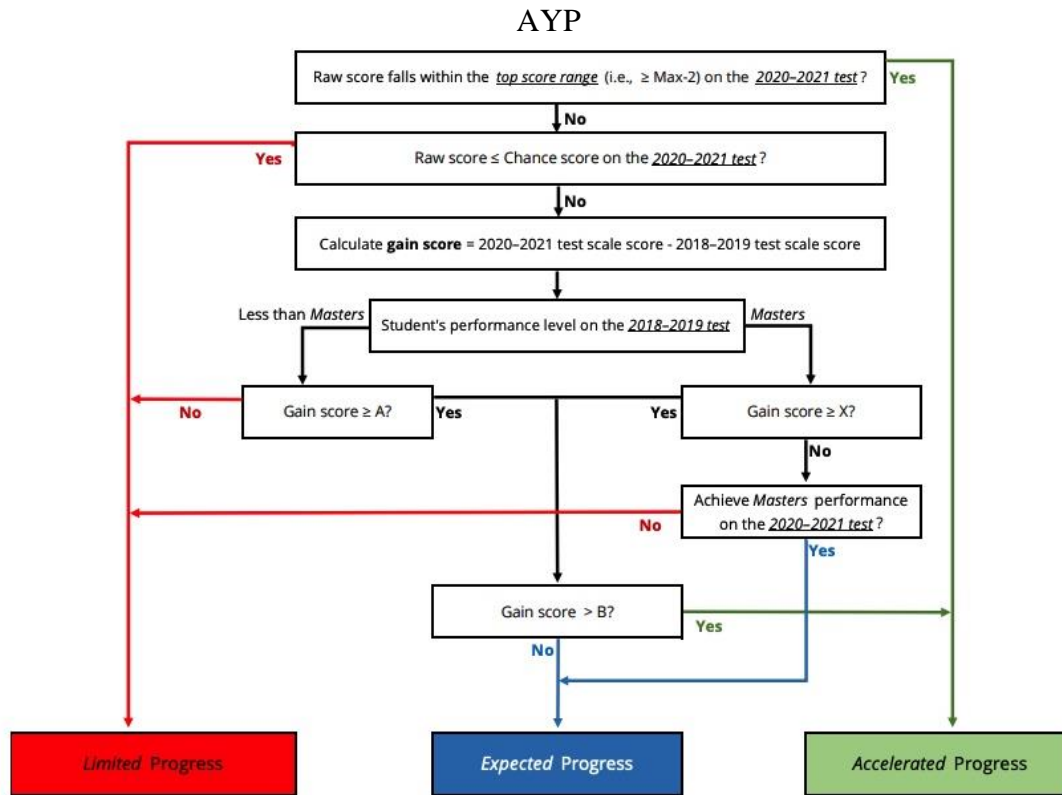
Presently, in Texas, AYP is addressed through the STAAR progress measure. The STAAR progress measure finds the difference between a student's current STAAR scale

score and the scale score of the same test (i.e., 3rd grade reading and 4th grade reading tests) from a previous year (TEA, 2021). To clarify, 4th grade students in Texas have a progress measure for both their reading and math tests, but not for writing because there is no writing test for 3rd grade students. Each student's progress measure score is determined by subtracting his or her 3rd and 4th grade scale scores from each other. The resulting number is used to determine whether each student made gains, losses, or stayed stagnant over the course of one academic year. In addition, based on the student's calculated gain score, he or she is categorized as achieving "limited," "expected," or "accelerated progress" (Texas Education Agency, 2021a). Student achievement is not just measured by student progress on STAAR tests; it is expressed in a variety of ways including categorizing scale scores into "did not meet," "approaches," "meets," and "masters standards" (Texas Education Agency, 2021b). This reporting of students' achievement is commonly referred to as the AMM (i.e., approaches, meets, masters) rating.

Categorizing scores in terms of AMM has several components. The groupings take into account a variety of factors including the distance or difference between the meets and masters cut scores from the current and previous accountability year (Texas Education Agency, 2021a). Generally, an accountability year is the previous July to the current May, except in years when accountability has been waived (Texas Education Agency, 2021b). Figure 1 and 2 from TEA (2021) shows how STAAR progress measures are calculated and reported.

Figure 2.2

Guide to Computing the STAAR Progress Measure (TEA, 2021)

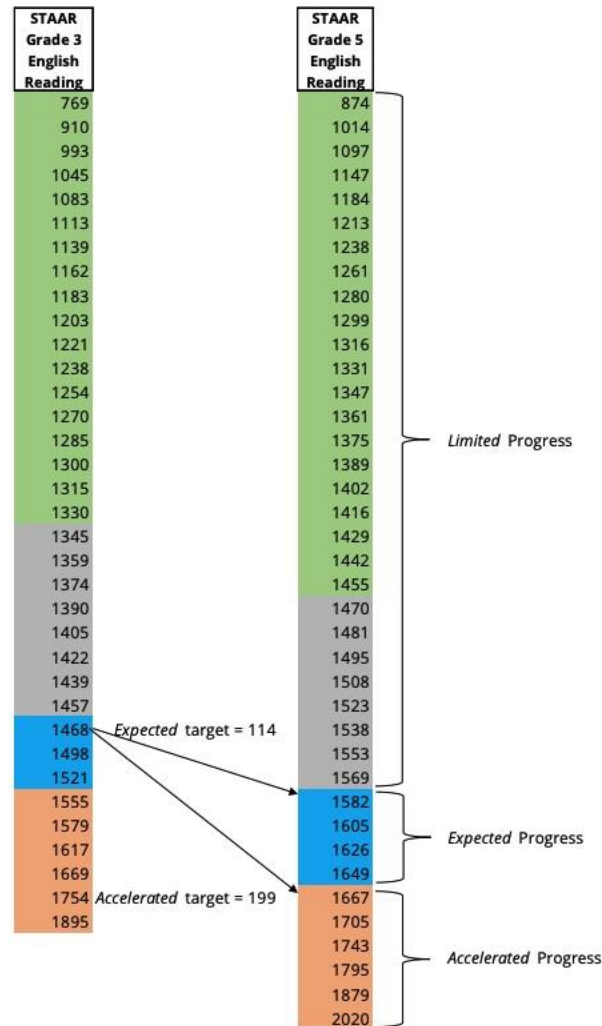


Note: Max, Chance, A, X, and B are defined in Table 1.

From “Calculating the 2020-2021 STAAR Progress Measure,” by TEA, 2021, p. 3.

Figure 2.3

Calculating the 2020-2021 STAAR Progress Measure (TEA, 2021)



Note: The conversion tables used here are for illustration purposes and do not correspond to the actual ones used to report students' scores.

From “2020-2021 STAAR Progress Measure Questions and Answers,” by TEA, 2021, p.

4.

Based on students’ cumulative progress measures and data from the other performance indicators reported by the STAAR tests, each school and district is assigned an A-F rating (Texas Education Agency, 2021b). Progress measures are important because they help

educational stakeholders, particularly school leaders like principals, determine whether their intentional instructional programming decisions were effective.

Performance reporting, from AMM ratings to the AYP measurement, is important because it motivates school leaders, like principals, to aggressively monitor their initiatives to ensure students are learning and meeting or exceeding their growth goals (Choi et al., 2004). Perhaps even more importantly, the AYP measurement requires leaders in schools and districts to consider whether their instructional programs and school structures provide each student an equitable chance at success (Hall et al., 2003). It is important to note that AYP changed the focus and measure of success from a collective to an individual lens. Leaders of schools and districts that were once touted as successful found themselves having to make adjustments following the induction of AYP. For example, prior to AYP, schools received an “A” rating if a significant number of students achieved a passing score on state-administered reading and math standardized tests. However, under the guidelines of AYP, unless school leaders can show achievement gains across subgroups of students, the school and district no longer receive the same letter rating. As Hall et al. remind school leaders, “setting the same standard for all students and all schools is crucial to fairness and equity. You can’t close achievement gaps by setting lower expectations for previously low-performing schools” (2003, p. 3).

Gaps in the Literature

Research regarding tenure is largely focused on teachers (Boyd et al., 2011; Guarino et al., 2006; Hughes, 2012; Kelly et al., 2019; Minarik et al., 2003). The researchers in this area have found again and again that teachers’ tenures have an effect on students’ achievement. In comparison, there has been little attention paid to the effect principals’ tenures may have on students’ achievement. Researchers purport that there is a need to further explore the relationship between principals’ tenures and students’

achievement and whether principals' tenures could lead to greater student achievement gains (Brockmeier et al., 2013; Corcoran, 2017; Grissom et al., 2021).

Specifically in the Brockmeier et al. (2013) study, the researchers sought to explore the impact, if any, several school-related factors have on elementary-aged students' achievement. Amongst these variables tested and explored were principals' tenures. The researchers found principals' tenures to be a significant predictor of students' achievements on standardized testing across subject areas. In grades 3 and 5, as principals' tenures at a campus increased, so, too, did students' mean scale scores. The researchers acknowledged that while there is ample literature supporting the claim that principals play an important role in students' achievement, there is a lack of research highlighting how or what factors specifically result in the highest increases in students' achievement scores.

Similarly, Corcoran (2017) also set out to look at how principals can directly influence students' achievement. In this study, the researcher sought to look at the impact principal preparation programs have on improving students' achievement. In the course of the literature review, the researcher noticed that although numerous studies *suggested* principals' tenures may be positively correlated with students' achievement, it is often not a measured variable, again highlighting a significant gap in this area of study.

Finally, Grissom et al. (2021) attempted to synthesize the available research regarding how principals affect both their organizations and the students that fall within their purviews. The researchers made some startling discoveries including reiterating the impact effective principals have on students' achievement, but that there is a need for further research that offers strategies for both grooming and retaining effective leaders. The establishing of a consistent and stable principal workforce is connected to this study's discussions regarding the importance of principals' tenures. The researchers also

note that much of the research regarding principals is largely inconsistent. The nuances regarding schools, leaders, their characteristics, and other variables affect the consistency of study results as Grissom et al. found and call for a more streamlined approach to data collection procedures and methodologies to allow for true patterns and trends to emerge.

Summary of Findings

Principals are important educational leaders (Leithwood et al., 2020). Their efforts have been shown to positively influence students' achievement (Bartanen et al., 2019; Liebowitz & Porter, 2019; Smith et al., 2020). While it is largely accepted that principals' influences are second only to the influences of teachers, there is evidence to support many of the conclusions drawn by researchers regarding teachers' tenures and students' achievement, may also apply to principals' tenures and students' achievement (Brown, 2016; Leithwood et al., 2020; Printy, 2008; Supovitz et al., 2010). Principals' tenures are important because as organizational leaders, principals can facilitate and foster large-scale, school-wide changes, but these initiatives aimed at building a strong instructional program take time to research, create, implement, and reform (Hall & Hord, 2020; Thelin, 2020). The fact that principals' tenures tend to be less than the time needed to reap the benefits of effective organizational changes should be a concern to all educational stakeholders (Choi et al., 2004; Levin & Bradley, 2019; Levin et al., 2020). In addition, other factors, including principals' genders and school type, may also influence the success of principals' actions in increasing students' achievement trends when looked at in conjunction with principals' tenures.

The induction of NCLB forced state educational leaders to reflect on how they measured, assessed, and reported students' achievement (Dee & Jacob, 2011). The requirement of AYP standards was largely responsible for many of the changes that occurred within education in the early 2000s (U. S. Department of Education, 2005).

Texas's current system of utilizing the student growth measurement indicator in relation to STAAR achievement scores is a priority and focus for Texas school principals. The student growth measurement indicator is used to represent both principals' and districts' effectiveness (Choi et al., 2004; Fazal & Bryant, 2019; Wang et al., 2013). Again, with a need for time, experience, and principal self-efficacy paired with school-wide collective efficacy, the impact of principals' tenures may be a lynchpin in ensuring students' achievement. The lack of research in this area represents a need for this type of study (Corcoran, 2017; Grissom et al., 2021).

Theoretical Framework

This study is rooted using two theoretical frameworks; self-efficacy (Bandura, 1997) and situated learning theory (Brown et al., 1989; Lave & Wenger, 1990). As stated, self-efficacy is defined as an individual's belief in himself or herself to use the skills and knowledge he or she has acquired effectively and when needed to achieve a desired result (Bandura, 1997). Principals use self-efficacy to problem solve various issues within their schools as one tool in order to address their student achievement and growth goals. The theory of self-efficacy is closely tied to social learning theory (Bandura, 1977).

Social learning theory, in addition to an individual's environment and resources, incorporates an individual's desire to make a change. For principals this desire is represented as their internal drive to improve student outcomes. Bandura stated that a natural dilemma arises when an individual must determine whether the obstacles to the desired change exceed the individual's belief and determination that he or she can effectively make the change (1997). In addition, as self-efficacy is connected with an individual's professional capacity, time may be perceived as an obstacle. Principals need time to engage in new learning and grow their professional skill sets. Then, even more time is needed for principals to be able to apply their new learning and see whether these

new initiatives garner a positive impact as it relates to student achievement and success. The short average length of principal tenures (i.e. four years) may have a negative impact on student achievement scores due to principals' needs for time and experience in order to increase efficacy. In addition, other fixed variables such as the principal's gender and the school's type may also promote or inhibit students' achievement.

In situated learning, Lave and Wenger (1990) state that learning is an unintended outcome when anchored in an authentic experience or context. For principals, time spent learning about the nuances specific to their campuses and attributed to them as individual leaders, while actively leading campuses and reflecting on their successes and failures, results in the growth of principals as effective leaders (Marzano et al., 2005). This may include capitalizing on the benefits of both principals' genders and/or the school's type. Principals learn from what they observe of others in their educational communities and their corresponding actions. The resulting success or failures of principals' actions continually builds and refines their professional pedagogies. Like with self-efficacy and social learning theory, the growth that develops in situated learning requires an investment of time (Pitsoe & Maila, 2013). Situated learning creates a distinction between learning a skill and doing a skill. In learning, the skill or task has become part of the individual's pedagogy. In schools, principals who invest time in their educational communities, in both knowledge and skills, as well as tenure, may have the ability to improve students' achievement as seen by increases in student progress measures.

Conclusion

This study aims to investigate the relationship between principals' tenures and students' achievement. Within this review of current literature, the constructs of the importance of principal tenure and adequate yearly progress and federal and state accountability were discussed. The purpose of this study is to add to the existing body of

research by directly investigating the relationship between principals' tenures and students' achievement. In the next chapter, an overview of the research problem, operationalization of theoretical constructs, research design, data analysis, privacy and ethical considerations, and limitations will be discussed.

CHAPTER III: METHODOLOGY

The purpose of this study is to describe the relationship between principals' tenures and students' achievement. This quantitative study will analyze archival data obtained from TEA. TEA provided the researcher with data regarding principals' demographics, including tenure and gender, by campus and district beginning with the 2011-2012 school year until the 2020-2021 school year, totaling nine years of data. Also included was school type. Lastly, the researcher obtained 3rd and 4th grade reading STAAR assessment data from the same time period. As previously stated, in an effort to keep other school factors consistent, the researcher chose to focus on only 3rd and 4th grade reading STAAR scores. The reasoning is that 3rd and 4th grade reading STAAR exams are administered in the same elementary school setting. As students matriculate through grade levels, the grade-level divisions between elementary, intermediate, middle, and high school are more inconsistent and may result in students testing in one school with one principal for their first exam and another school with a different principal for the following exam. The archival data was filtered into a purposive sampling of elementary principals, with 3rd and 4th grade units, and their corresponding campuses. This chapter will present an overview of the research problem, operationalization of theoretical constructs, research purpose and questions, research design, population and sample selection, instrumentation employed, data collection procedures, data analysis, study validity and reliability measures, privacy and ethical considerations, and potential limitations to the study.

Overview of Research Problem

It has been said that public schools were designed to “prepare young people for productive work and fulfilling lives,...accomplish certain collective missions aimed at

promoting the common good,... [and] preparing youth to become responsible citizens, [by] forging a common culture from a nation of immigrants, and reducing inequalities in American society” (Kober, 2007, p. 1). At the same time, for decades, countries around the world have competed for top academic billing and the right to assert itself as an educational leader (Kauppi, 2018). As a result, school leaders, such as principals, have continued to look for and analyze ways to maximize school effectiveness. In many instances, the effectiveness of the American education system is measured and reported using standardized test results in core content areas including reading (McZeal-Walters, 2017).

The research is rich with studies and examples revealing that teachers are one the strongest determiners of student achievement (Boyd et al., 2011; Guarino et al., 2006; Hughes, 2012; Kelly et al., 2019; Minarik et al., 2003). In addition, experience has been found to increase efficacy (Klassen & Chiu, 2010), and efficacy has been found to positively contribute student achievement (Zysberg & Schwabsky, 2021). The purpose of this study is to determine whether the same results and connections apply to principals. There is a documented lack and need for research in this area (Brockmeier et al., 2013; Corcoran, 2017; Grissom et al., 2021). As Leithwood et al. (2020) stated, principals are the second most important determinant to student achievement. The researcher will explore whether school-related factors such as principals’ tenures’, like teachers’ tenures, have any correlation to students’ achievement. In addition, the researcher will also explore the impact of principals’ gender and school type, in conjunction with principals’ tenures, and whether that enhances or inhibits students’ achievement trends.

Operationalization of Theoretical Constructs

This study consists of two central constructs: (a) principals’ tenures and (b) students’ achievement as measured by elementary reading STAAR scores. This study

will look at whether any correlation exists between principals' tenures and students' achievement on 3rd and 4th grade reading STAAR scores. Principals' tenures are defined as the principal's decision to remain in his or her position at his or her same campus (Vanderhaar et al., 2006). Students' achievement is defined in many nuanced ways. According to Guskey, students' achievement "implies the accomplishment of something" (2013, p. 3). For the purposes of this study, student achievement will be marked as students making at least Adequate Yearly Progress (AYP) on the STAAR progress measure indicator and achieving at least "Meets Grade Level" expectations.

In addition, two secondary constructs were identified in the literature review and will also be explored in this study; these include principals' gender and district and school type. Principal gender is defined as the lead authoritative figure in a K-12 school (Grissom et al., 2021) and that individual's self-representation as male or female, or how that person is responded to by social institutions based on the individuals gender presentation" (Pardue & Wizemann, 2001). School type is defined as a system of classifying schools; in Texas, the Texas Education Agency classifies public schools into one of twelve school types (Texas Education Agency, 2021).

Research Purpose, Questions, and Hypotheses

The purpose of this study is to describe the relationship, if any, between principals' tenures and students' achievement. The following research questions will guide this study:

1. What relationship, if any, is there between the length of principals' tenures in Texas and students' achievements on the 3rd grade reading STAAR assessment?

H₀: There is not a statistically significant relationship between the length of principals' tenures in Texas and students' achievement on the 3rd grade reading STAAR assessment.

H_a: There is a statistically significant relationship between the length of principals' tenures in Texas and students' achievement on the 3rd grade reading STAAR assessment.

2. What relationship, if any, is there between the length of principals' tenures in Texas and students' achievement on the 4th grade reading STAAR assessment?

H₀: There is not a statistically significant relationship between the length of principals' tenures in Texas and students' achievement on the 4th grade reading STAAR assessment.

H_a: There is a statistically significant relationship between length of principals' tenures in Texas and students' achievement on the 4th grade reading STAAR assessment.

3. What relationship, if any, is there between the length of principals' tenures in Texas and 4th grade reading STAAR's progress measure indicator?

H₀: There is not a statistically significant relationship between principals' tenures in Texas and 4th grade reading STAAR's progress measure indicator.

H_a: There is a statistically significant relationship between principals' tenures in Texas and 4th grade reading STAAR's progress measure indicator.

4. Do other identifiers, such as district and principal gender or school type, with relation to principals' tenures, have an impact on 3rd or 4th grade reading STAAR scores or the 4th grade STAAR progress measure indicator?

Ho: Other identifiers, such as principal gender or school type, do not have an impact students' achievement on 3rd or 4th grade reading STAAR scores or the 4th grade STAAR progress measure indicator.

Ha: Other identifiers, such as principal gender or school type, do have an impact students' achievement on 3rd or 4th grade reading STAAR scores or the 4th grade STAAR progress measure indicator.

Research Design

For this study, the researcher will use a quantitative, non-experimental, explanatory design. According to Lapan and Quartaroli (2009), non-experimental research is defined by studying variables that simply exist rather than being manipulated by the researcher (i.e. principals' tenures). Also, this research sought to determine whether or not other specific demographic variables including principals' genders and school type, contribute to students' achievement results as measured by the STAAR test in the state of Texas. A purposeful sample of principals' servicing 3rd and 4th grade students across the state of Texas was included in the study.

To answer research questions 1-4, the researcher will conduct several correlation tests to determine what impact, if any, the manipulative variable has on other fixed, or dependent, variables (Chatterji, 2007). The purpose of this research design is to identify to what degree, if any, principals' tenures have on students' achievement. Following, the

series of correlation tests, the researcher will use multiple regression analysis to measure the relationship between two predictive variables, principals' tenures at an elementary school serving 3rd and 4th grade students and principals' tenure as an administrator, principals' gender and school type, and the dependent variables, students' achievement on the 3rd and 4th grade reading STAAR assessments and the STAAR progress measure indicator. The benefit of using regression analysis is to determine whether any of the manipulative variables are also predictors of students' achievement.

In addition, to correlation and regression tests, the researcher will also conduct additional tests to further measure the impact or influence of the indicators listed in research question 4. The researcher will conduct two separate one-way ANOVA tests to determine whether principals' gender or school types have an effect on students' achievement. Following the one-way ANOVA tests, the researcher will conduct Scheffe and Tukey tests to determine if differences in the means were detected between principals' genders and schools within the same school type.

Population and Sample

The unit of analysis and population for this study is elementary campuses that service both 3rd and 4th grade students. Texas currently has 1,029 public school districts (Texas Association of School Boards, Inc., 2022) and 8,589 elementary schools (GreatSchools, 2022). The purposeful sample included 3rd and 4th grade students' reading STAAR scores from 2011-2012 through 2020-2021 and the building principal from each of these campuses. This data was filtered and provided to the research from TEA. Schools and districts were only evaluated on the above criteria for participation or exclusion in this study. The criteria was set in an effort to ensure valid results.

Instrumentation

The STAAR program includes the annual state-administered assessments that measure students' mastery of the Texas Essential Knowledge and Skills (TEKS) curriculum standards (Texas Education Agency, 2020). STAAR assessments are administered in reading and mathematics for grades 3-8, in science at grades 5 and 8, social studies at grade 8, and prior to the 2021-2022 school year were also given for writing in both grades 4 and 7. In addition, end-of-course (EOC) assessments are given for the following high school courses; English I and II, algebra I, biology, and U. S. history. The STAAR test has reported students' achievement in the aforementioned areas since the spring of 2012.

The STAAR test, which replaced the Texas Assessment of Knowledge and Skills (TAKS) exam, brought several changes to Texas's assessment model. The STAAR assessments aimed at not only ensuring students were prepared for college or to enter the workplace, but also focused on core skills in deeper, more complex ways (Texas Education Agency, 2010). One of the major changes was the STAAR test focused on the curriculum standards for the grade level in which the test is administered as opposed to the TAKS test which addressed standards from several grade levels without emphasizing or prioritizing skills or expectations. Under the STAAR program, prioritized or essential TEKS are grouped and labeled as readiness standards and comprise approximately 65% of each STAAR test. The other standards that may be assessed, although not stressed or emphasized, are grouped and labeled as supporting standards and make up the approximate remaining 35% of the exam. By prioritizing and emphasizing critical or essential standards, the STAAR test purports to "better measure the academic performance of students as they progress from elementary to middle to high school" (Texas Education Agency, 2010, p. 1).

The STAAR reading and mathematics scores are expressed as both a scale score and as a performance level and describe how well students have met the academic standards (i.e. TEKS) for their grade level. Scale scores differ by test and grade level, but all tests assign the student a performance level. These performance levels are reported as:

- **Did Not Meet Grade Level:** students who did not show enough understanding of their grade-level curriculum and did not meet the expected learning goals, students will need significant assistance regarding the subject matter related to this test and subject
- **Approaches Grade Level:** students who showed some understanding of their grade-level curriculum, students will need extra help with the subject matter related to this test and subject
- **Meets Grade Level:** students who showed an understanding of their grade-level curriculum, students show sufficient understanding of the subject matter related to this test
- **Masters Grade Level:** students who showed a strong understanding of their grade-level curriculum, students are equipped to take on more challenging material related to this subject

In addition, students' progress from previous years is also shared. Progress is reported as:

- **Limited Progress:** the student has shown less than expected academic growth from last year to this year
- **Expected Progress:** the student has shown the expected academic growth from last year to this year
- **Accelerated Progress:** the student has shown more than the expected academic growth from last year to this year (Texas Education Agency, 2022)

Data Collection Procedures

The data used in this study was primarily obtained from TEA. Upon the researcher's request, TEA sent information regarding campuses, principals, including length of tenures at his or her current campus, total tenures as administrators, and gender. TEA also provided information to the researcher including overall 3rd and 4th grade reading STAAR scores, and the STAAR progress measure indicator for 3rd and 4th grade reading tests administered between 2011-2012 and 2020-2021. Any additional data was found in state-wide Texas Academic Performance Reports (TAPR) reports, from TEA's data sort program. Information collected across the various sources was cross checked to ensure consistency in the data. This was accomplished by using the TAPR data to check data acquired through the data sort function, using the data sort function to verify an accurate transfer of data from the TAPR reports, and both to ensure the accuracy of coding any data received directly from TEA. To the greatest degree appropriate, results were reported in whole groups for each of the constructs listed above and described in the literature review. Since the study used archival data that was previously collected, informed consent was not required, nor was Institutional Review Board (IRB) approval.

After successfully proposing this dissertation project and upon having acquired all of the necessary data, the researcher gathered the most relevant data for this study and entered it into the Statistical Package for Social Sciences (SPSS) software to run the appropriate statistical analysis. All collected data will be safeguarded in a password-protected folder on the researcher's computer or in locked file cabinets in the researcher's office. At the conclusion of the study, the data will be maintained for five years per CPHS guidelines. At the expiration of five years, the researcher will destroy the contents of the research files.

Data Analysis

The data used in this study are publicly accessible; as a result, IRB approval is not required. The data obtained and included in this study was obtained from two sources: TEA and the TEA website. Following data collection, the data was loaded from Microsoft Excel into an SPSS spreadsheet for further analysis.

Descriptive correlation analysis was utilized to determine if a statistically significant relationship exists between two variables (Green & Salkind, 2010). For research questions one through four, the data was analyzed using frequencies, percentages, and Pearson's product moment correlations (r) to determine whether there were any statistically significant relationships or evident patterns existing between principals' tenures, principals' gender, and school type and students' achievement on the 3rd and 4th grade reading STAAR assessment and growth on 4th grade reading STAAR assessment.

It is critical that researchers avoid assuming monocausality within research studies. Monocausality is define as the myth that a single variable is the cause of an event (Miles & Shevlin, 2001). After considering the possible correlation between principals' tenures and students' achievement and the possible assumption of monocausality, the researcher used multiple regression analyses to determine whether principals' tenures, at both a single campus and comprehensively, are significant predictors of students' reading achievement in grades 3 and 4. In addition, two additional indicators, principals' gender and school type were also analyzed for whether either is significant predictor of students' achievement. Data was compiled and entered into the SPSS software; histograms and scatterplots were generated, as well as correlation matrices, multicollinearity statistics, and simultaneous regression analysis including all of the variables in order to further explore the relationships, if any, exist between the variables.

Multiple regression models are used when researchers want to learn more about the relationship between two or more independent, predictor variables and a dependent variable (Woodside, 2013); in this study, the predictor variable is principals' tenure at a single campus and principals' overall tenure. In addition, the use of correlation matrices provides a group of correlation coefficients a numerical index indicating the relationship, if any, that exists between two variables (Salkind, 2008). By using this procedure, the researcher analyzed and reported the relationship between all included variables. The level of statistical significance, p-value, was set at $p < .05$ and the effect size, r^2 , was also measured.

In order to ensure proper consideration of any secondary predictors (i.e. principals' genders and school type) the multiple regressions were conducted by establishing a hierarchical order for the input of the various predictors within the multiple regression equations. This was appropriate because entering all independent variables into a regression analysis at the same time could yield misleading results (Miles & Shevlin, 2001). Within this study, hierarchical analysis began by simultaneously placing all confounding variables including principals' tenures, principals' gender, and school type into each of the regression equations. While the primary purpose of this study was focused on principals' tenures and students' achievement, there was value in analyzing other factors such as principals' gender and school type. After entering principals' tenure into the regression, the second and separate variable, principals' gender was entered. Finally, school types were added to regression analysis as the third entry of predictors, respectively. Each was analyzed for its potential contribution, if any, to students' achievement.

Finally, the results of the multiple regressions were analyzed to determine to which degree, if any, collinearity between two or more of the predictors exist.

“Collinearity happens because two (or more) independent variables correlate” (Miles & Shevlin, 2001, p. 127). This could have compromised the validity of the data produced in the regression analyses as combined variance is shared by a criterion and multiple predictors are impacted when those two (or more) predictors are also highly correlated. In order to determine whether collinearity falls in an acceptable range, the variance inflation factor (VIF), calculated as $VIF = 1/\text{tolerance}$ and the tolerance is calculated as $1 - R^2$ was considered. According to Williams (2009), for collinearity to be in an acceptable range, the value of the VIF must be no greater than 10 while the tolerance should not exceed .1 at a minimum. This is debatable amongst researchers as some, according to Williams, shared the tolerance should be above .4. O’Brien (2007) reports a similar perspective regarding appropriate and reasonable tolerance and VIF thresholds. O’Brien stated that the tolerance should not exceed .2 and the VIF should not be greater than 10. Based on this information, the researcher concluded that an appropriate degree of collinearity does not exist.

Validity & Reliability

In 2016, in accordance with House Bill (HB) 743, TEA commissioned Human Resources Research Organization (HumRRO) to provide an independent evaluation regarding the validity and reliability of Texas’s STAAR assessments. The evaluation consisted of three tasks including providing: (1) empirical evidence regarding the validity of STAAR test scores, (2) data regarding the projected reliability of each test, and (3) a review of scoring procedures to ensure each assessment remains valid and reliable (HumRRO, 2016).

Validity

Validity is defined as the degree of alignment regarding how accurate an instrument measures what it is intended to measure (Middleton, 2021). In terms of the 3rd

and 4th grade reading STAAR tests, validity would encompass whether these STAAR tests accurately reflect students' mastery of content and grade-level TEKS. HumRRO reviewed the available documents regarding grades 3-8 reading and math STAAR assessments including various online documents. The organization determined that STAAR scores are designed to represent students' understanding and application of the knowledge and skills related to a specific grade and subject. Secondly, HumRRO found that STAAR scores are also intended to demonstrate growth when subject tests are compared from one year to the next. Finally, it was noted that STAAR scores are also intended to be predictive in nature in that they can be used to infer how students are likely to perform in the future. To assess the validity of grades 3-8 reading and math STAAR tests, HumRRO reviewed the 2016 grades 3-8 STAAR test forms and sought to quantify how well the test aligned with each grade level's curriculum as outlined by the TEKS and available STAAR assessment blueprints. In addition, HumRRO also reviewed campus test procedures to determine whether these processes lent to validity of the intended test score interpretations.

The STAAR test is organized into three reporting categories: understanding/analysis across genres, understanding/analysis of literary texts, and understanding/analysis of informational texts. Students are tested on both readiness and supporting standards and all test questions are multiple choice. HumRRO found that 86.2% of the 3rd grade reading STAAR test questions were "fully aligned" to the intended expectations. This includes an alignment of 95.8% for reporting category 1, 94.4% for reporting category 2, and 75% for reporting category 3. For the 4th grade reading STAAR test, HumRRO found that an average of 91.5% of test questions were "fully aligned" to the intended expectations. Reporting category 1 was determined to be 100% aligned, reporting categories 2 and 3 had some discrepancies with at least one reviewer assigning

either a “partially aligned” or “not aligned” rating to one or more test questions.

HumRRO found sufficient evidence to support the validity of the 2016 reading STAAR test for grades 3-8. In terms of testing protocols and procedures that were explored in task 3 by HumRRO, the organization supports that the STAAR test, its administration, and results provide valid data that represents what students know and can do.

Reliability

Reliability refers to the degree that results of an instrument will replicate themselves when the instrument is used or implemented under the same conditions (Middleton, 2021). Reliability can be represented in many different ways, but in terms of standardized testing and scores, the most applicable reliability measure looks at how a set of test questions relate to each other when tested within the same theoretical domain or reporting category. This type of reliability is called internal consistency reliability. A second reliability measure that was explored was the standard error of measurement (SEM). SEM establishes that test scores are inherently imperfect and, therefore, every reported test score contains at least some degree of uncertainty. Both internal consistency reliability and SEM cannot be calculated until students’ testing responses are available, however researchers are able to make predictions based on item response theory (IRT).

HumRRO utilized Kolen, Zang, and Hanson’s (KZH) protocol for projecting internal consistency reliability and SEMs (1996). The KZH projected reliability and SEM for the 3rd grade reading STAAR were found to be 0.890 and 2.65, respectively. The 4th grade reading STAAR KZH projected reliability and SEM were found to be 0.913 and 2.71, respectively. KZH reliability estimates greater than 0.70 are considered acceptable, while projections greater than 0.90 are found to be excellent. In addition, the projected SEM indicates how close the students’ observed scores are to their true scores. Scores are plotted and usually form a U-shaped distribution. HumRRO found the results of the SEM

to be reasonable and aligned with most testing programs. As an added component, HumRRO also calibrated the reliability of the 2015 STAAR exams and found continuity in results indicating that tests given in a grade hold the same meaning from year to year. As a result, HumRRO found the 3rd and 4th grade reading tests to be a reliable instrument for measuring students' mastery of the TEKS.

Privacy and Ethical Considerations

Following attainment of the data from TEA and TEA's website, the researcher will ensure that all data containing identifying information will be kept in either a password-protected file on the researcher's computer or in a locked file cabinet. All data files, either electronic or hard copies, will be maintained for five years per CPHS and school district guidelines. At the conclusion of five years, the researcher will destroy all data files associated with the study.

Research Design Limitations

This study has several limitations. First, any generalizations made from this study should be done with caution as the data used in this study is from one state. Despite an inability to make broad generalizations to other states, it is important to note that Texas is a diverse setting. In its diversity, leaders and districts outside of Texas, may be able to find comparable demographics, and make limited, judicious generalizations based on the findings of this study. In addition, the results of this study may only be applied to Texas elementary principals with 3rd and 4th grade units of their campuses. Next, the study only uses STAAR data from the time span of 2011-2012 through 2020-2021. Finally, the study only measures students' achievement on the 3rd and 4th grade reading STAAR assessments as well as the 4th grade progress measure indicator. It is important that researchers and districts consider the unique mixes and compositions of their

organizations and leaders to determine the best fit related to all findings or recommendations associated with this study.

Conclusion

The purpose of this quantitative study is to describe the relationship between principals' tenures and students' achievement. This chapter identified the need to further examine the relationship between these constructs. In order to better understand the influences that contribute to positive trends in student achievement, the quantitative findings hope to add to this gap in the literature. In Chapter IV, results from the quantitative study will be discussed in further detail.

CHAPTER IV:

RESULTS

The purpose of this study was to describe the relationship between principals' tenures and students' achievement. This chapter presents the findings from a quantitative research study as it seeks to address the four research questions guiding this study. First, the researcher presents an explanation for the participants' demographics, followed by results of the data analysis for each of the research questions, and finally, concludes with a summary of the findings.

Participant Demographics

For this study, the analyzed data was provided by TEA. Included in the data set provided by TEA was all elementary campuses in the state of Texas that has both 3rd and 4th grade units. Texas currently has 1,029 public school districts (Texas Association of School Boards, Inc., 2022) and 8,589 elementary schools (GreatSchools, 2022). TEA provided data for a purposeful sample that included all 3rd and 4th grade students' reading STAAR scores from 2011-2012 through 2020-2021.

Following an initial analysis of the data, only STAAR data from the school years 2016-2017 – 2020-2021 were included in the final study. The reason for such a deviation from the original research design was TEA changed how it reported students' progress and scores beginning with the 2016-2017 school year. To ensure any conclusions offered from this study's results were both valid and reliable, only the data from school years with common reporting measures were included in the final study.

In addition to students' approaches, meets, masters, and growth data, TEA also provided the total tenure, in years, of each principal, the principal's gender, as well as school types. This data was filtered for blanks and those categories with insufficient or missing data were removed from the study. The result was 10,062 principal participants

from 3,305 campuses across Texas. The following tables and figures provide a visual display of participant demographics illustrating principals' tenures and, then, principals' tenures by both gender and school type.

Table 4.1

Participating Principals' Tenures

	%	<i>N</i>
0-2 Years	41.7	4,194
3-4 Years	29.2	2,933
5-9 Years	24.9	2,510
10+ Years	4.2	425

Table 4.2

Participating Principals by Gender and Tenure

	%	<i>N</i>
Female Principals	77.0	7,745
0-2 Years	41.1	3,181
3-4 Years	29.2	2,263
5-9 Years	25.1	1,943
10+ Years	4.6	358
Male Principals	23.0	2,317
0-2 Years	43.7	1,013
3-4 Years	28.9	670
5-9 Years	24.5	567
10+ Years	2.9	67

Figure 4.1

Participating Principals by Tenure

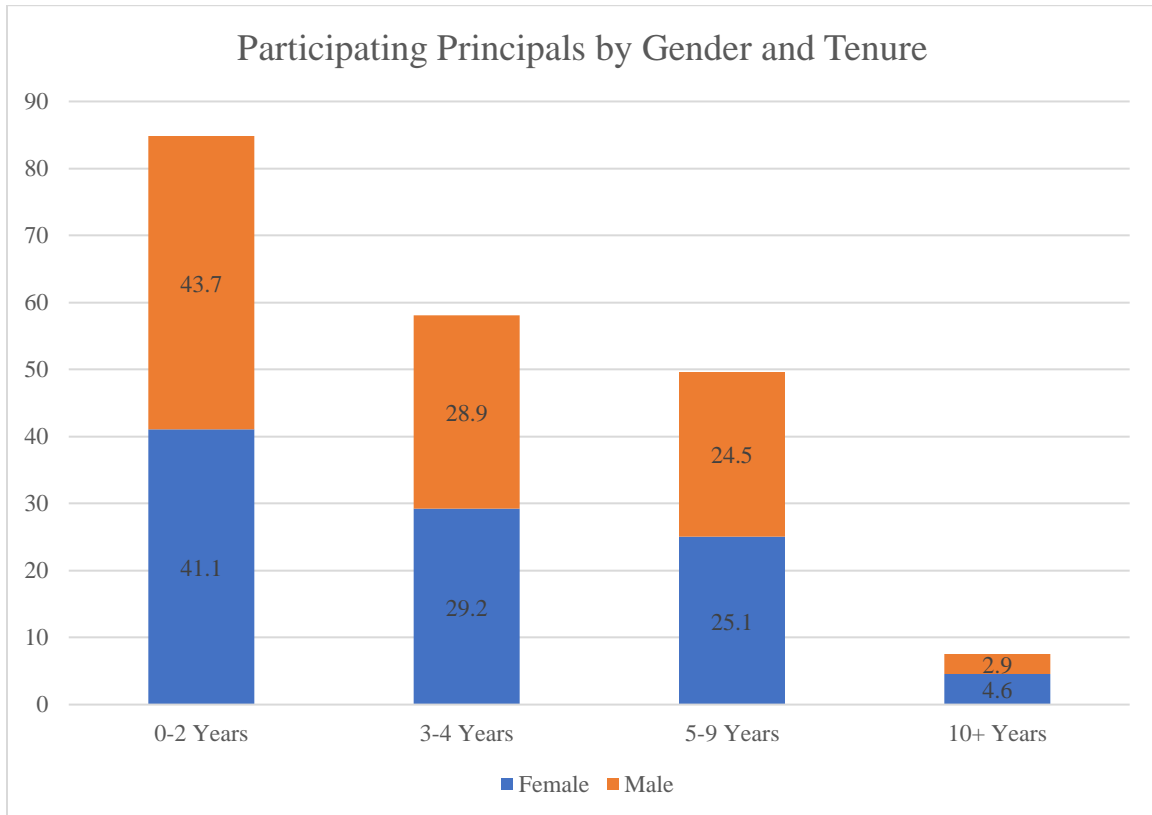


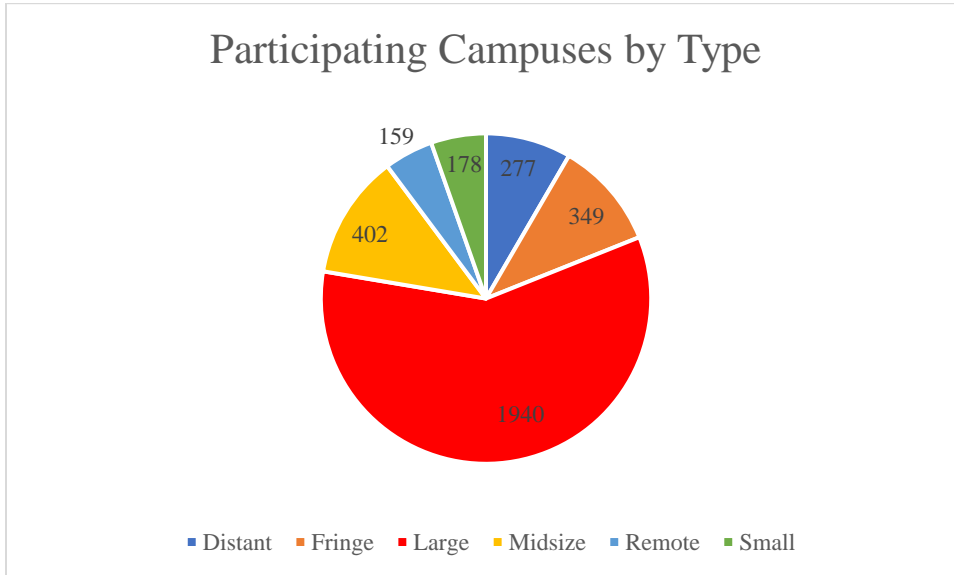
Table 4.3

Participating Campuses by Type

	%	N
Distant	8.4	277
Fringe	10.5	349
Large	58.7	1,940
Midsize	12.2	402
Remote	4.8	159
Small	5.4	178

Figure 4.2

Participating Campuses by Type



Research Question 1

Research question one, What relationship, if any, is there between the length of principals' tenures in Texas and students' achievement on the 3rd grade reading STAAR assessment?, was measured by reviewing the data requested by the researcher and supplied from TEA. TEA provided the researcher with data, by principal, denoting the district, by name and number, that he or she worked for, the campus, by name and number, years spent in a principal role, school type, and principal's gender. From there, the researcher used TEA's TAPR data downloads to initially run reports for students' approaches, meets, masters, and growth data from the 2011-2012 school year through 2020-2021 school year. However, in running these reports, the researcher discovered that TEA made several changes in how they reported progress.

Following the 2010-2011 school year, TEA rated campuses using the following scale; "Exemplary", "Recognized", "Alternative Education Accountability (AEA): Academically Acceptable", "Academically Acceptable", and "Academically

Unacceptable”. Also, the test administered at the close of the 2010-2011 school year was the last iteration of the Texas Assessment of Knowledge and Skills (TAKS) standardized test. The TAKS test was replaced the following year with the STAAR exam. Campus ratings following the 2011-2012 school year were suspended and marked as “n/a” or non-applicable as students’ achievement on the new STAAR test was not used in campus ratings until the following year. Beginning with the 2012-2013 school year until the conclusion of the 2017-2018 school year campuses were rated using the following two options; “Met Standard” or “Improvement Required”. Finally, beginning with students’ achievement on the STAAR tests in 2018-2019, campuses then were assigned an A-F letter grade to denote their progress and campus rating. Table 4.4 shows a sampling of the campus ratings’ data (campuses 1-10) provided by TEA and the changes in reporting these ratings between the 2011-2012 and 2020-2021 school years.

Table 4.4

Sampling of Campus Rating Data from TEA

Campus Number	Campus 2020 Rating	Campus 2019 Rating	Campus 2018 Rating	Campus 2017 Rating	Campus 2016 Rating	Campus 2015 Rating	Campus 2014 Rating	Campus 2013 Rating	Campus 2012 Rating	Campus 2011 Rating
1	Not Rated: Declared State of Disaster	A	Met Standard	Met Standard	Met Standard	Met Standard	Met Standard	Met Standard	n/a	Exemplary
2		C	Met Standard	Met Standard	Met Standard	Met Standard	Met Standard	Met Standard	n/a	Exemplary
3		C	Met Standard	Met Standard	Met Standard	Met Standard	Met Standard	Met Standard	n/a	Exemplary
4		C	Met Standard	Met Standard	Met Standard	Met Standard	Met Standard	Met Standard	n/a	Exemplary
5		F	Improvement Required	Met Standard	Met Standard	Met Standard	Improvement Required	Met Standard	n/a	Recognized
6		F	Improvement Required	Met Standard	Met Standard	Met Standard	Improvement Required	Met Standard	n/a	Recognized
7		F	Improvement Required	Met Standard	Met Standard	Met Standard	Improvement Required	Met Standard	n/a	Recognized
8		F	Improvement Required	Met Standard	Met Standard	Met Standard	Improvement Required	Met Standard	n/a	Recognized
9		F	Improvement Required	Met Standard	Met Standard	Met Standard	Improvement Required	Met Standard	n/a	Recognized
10		F	Improvement Required	Met Standard	Met Standard	Met Standard	Improvement Required	Met Standard	n/a	Recognized

In addition to changes made in the overall reporting of campus ratings, TEA also changed how they reported students' progress. Prior to the implementation of the STAAR test, students in Texas took the TAKS test and progress was reported using the Academic Excellence Indicator System (AEIS). Students' progress was reported as "Did Not Meet Standard", "Met Standard", or "Commended Performance". Between the school years of 2012-2013 and 2014-2015, Texas reported progress using a "phase-in, level" system that accounted for students' attainment of each year's designated minimum level of "Satisfactory Standard or Above". Then, finally, in 2016-2017, the system currently used to report students' achievement was implemented. Students were categorized, by achievement on their STAAR tests, as "Approaches Grade Level", "Meets Grade Level", or "Masters Grade Level". In addition, beginning with the 2017-2018 school year, students' progress was measured by determining the "Growth Rate" for students year to year, using each students' STAAR tests across the same subject, across grade levels. Table 4.5 shows a sampling of how TEA has reported students' achievement data starting with the 2016-2017 school year through the 2020-2021 school year.

Table 4.5

Sampling of TEA's reporting of Students' Achievement

Campus Number	2021 Grade 3 Reading Approaches	2021 Grade 3 Reading Meets	2021 Grade 3 Reading Masters	2021 Grade 4 Reading Approaches	2021 Grade 4 Reading Meets	2021 Grade 4 Reading Masters	2019 Grade 3 Reading Approaches	2019 Grade 3 Reading Meets	2019 Grade 3 Reading Masters	2019 Grade 4 Reading Approaches	2019 Grade 4 Reading Meets	2019 Grade 4 Reading Masters	2019 Grade 4 Growth Rate Reading
1	92	71	50	82	64	42	89	61	36	81	62	40	79
2	85	43	39	77	51	17	80	43	20	77	37	18	51
3	85	43	39	77	51	17	80	43	20	77	37	18	51
4	83	50	35	58	33	13	87	30	22	84	32	4	32
5	54	19	11	46	22	8	57	31	18	58	31	17	47
6	54	19	11	46	22	8	57	31	18	58	31	17	47
7	54	19	11	46	22	8	57	31	18	58	31	17	47
8	54	19	11	46	22	8	57	31	18	58	31	17	47
9	54	19	11	46	22	8	57	31	18	58	31	17	47
10	54	19	11	46	22	8	57	31	18	58	31	17	47

Campus Number	2018 Grade 3 Reading Approaches	2018 Grade 3 Reading Meets	2018 Grade 3 Reading Masters	2018 Grade 4 Reading Approaches	2018 Grade 4 Reading Meets	2018 Grade 4 Reading Masters	2018 Grade 4 Growth Rate Reading	2017 Grade 3 Reading Approaches	2017 Grade 3 Reading Meets	2017 Grade 3 Reading Masters	2017 Grade 4 Reading Approaches	2017 Grade 4 Reading Meets	2017 Grade 4 Reading Masters
1	85	57	28	86	66	39	76	67	42	26	91	67	39
2	85	54	33	77	47	24	71	65	42	18	84	55	31
3	85	54	33	77	47	24	71	65	42	18	84	55	31
4	93	55	28	74	47	26	44	90	57	48	67	38	21
5	67	29	18	60	33	11	63	62	27	13	60	37	19
6	67	29	18	60	33	11	63	62	27	13	60	37	19
7	67	29	18	60	33	11	63	62	27	13	60	37	19
8	67	29	18	60	33	11	63	62	27	13	60	37	19
9	67	29	18	60	33	11	63	62	27	13	60	37	19
10	67	29	18	60	33	11	63	62	27	13	60	37	19

As a result of the researcher's discovery of changes made to the reporting of students' achievement by TEA, the researcher amended the original research design plan and focused on calculating students' achievement beginning with the 2016-2017 school year until the 2020-2021 school year. The rationale was that TEA reported students' progress consistently in terms of students' achieving approaches, meets, and masters as well as measuring 4th grade's growth component beginning the following 2018-2019 school year.

Following these discoveries and changes to the original research design plan, research question one was initially analyzed using describing statistical analytical methods. Originally, the researcher planned to separate principals' tenure into three categories, "inexperienced" denoting principals with less than five years of experience as a principal, "moderately experienced" describing principals with five to nine years of experience as a principal, and "experienced" describing principals with ten or more years of experience as a principal. These stratifications were also used in another study conducted by Roede (2021). However, when the researcher used Roede's stratifications, the *n* for principals in the 0-4 years was disproportionately larger than other groupings which supported earlier findings stating that the average length of principals' tenures are approximately four years (Levin & Bradley, 2019). Therefore, the researcher decided to split the first group into two groups resulting in the following categories for principals' tenures; 0-2 Years, 3-4 Years, 5-9 Years, and 10+ Years.

Next, the researcher filtered the data according to the new tenure stratifications and found the mean of 3rd grade students' achievement each year in the following categories; approaches, meets, and masters. Table 4.6 provides this data.

Table 4.6

*Students' Yearly 3rd Grade STAAR Reading Achievement AMM Means by Principals' Tenure (2016-2017 – 2020-2021)**

Principal Tenure	2021 Grade 3 All Students Approaches Grade Level	2021 Grade 3 All Students Meets Grade Level	2021 Grade 3 All Students Masters Grade Level
0-2 Years	65.10735250	28.17858920	17.29549299
3-4 Years	65.71189711	28.43279743	17.64180064
5-9 Years	65.09621514	28.17978088	17.29482072
10+ Years	65.10882998	28.18776161	17.30785330
Principal Tenure	2019 Grade 3 All Students Approaches Grade Level	2019 Grade 3 All Students Meets Grade Level	2019 Grade 3 All Students Masters Grade Level
0-2 Years	75.64411501	43.66202368	26.31618744
3-4 Years	76.09946409	44.08167203	26.63729904
5-9 Years	75.64870518	43.66723108	26.32051793
10+ Years	75.64231613	43.66085310	26.32180586
Principal Tenure	2018 Grade 3 All Students Approaches Grade Level	2018 Grade 3 All Students Meets Grade Level	2018 Grade 3 All Students Masters Grade Level
0-2 Years	77.24534872	42.72181872	23.99383146
3-4 Years	77.66087889	43.22454448	24.39163987
5-9 Years	77.24442231	42.72161355	23.99322709
10+ Years	77.25523221	42.72892167	24.00548136
Principal Tenure	2017 Grade 3 All Students Approaches Grade Level	2017 Grade 3 All Students Meets Grade Level	2017 Grade 3 All Students Masters Grade Level
0-2 Years	71.96507810	44.47875833	27.98049945
3-4 Years	72.39474812	44.94855305	28.37952840
5-9 Years	71.95587649	44.47988048	27.97988048
10+ Years	71.97279251	44.49471796	27.99601355

*2020 STAAR Scores not reported due to COVID-19

The researcher, then, found the mean of students' achievement from all years included in this study for 3rd grade in the areas of approaches, meets, and masters. Table 4.7 provides this data.

Table 4.7

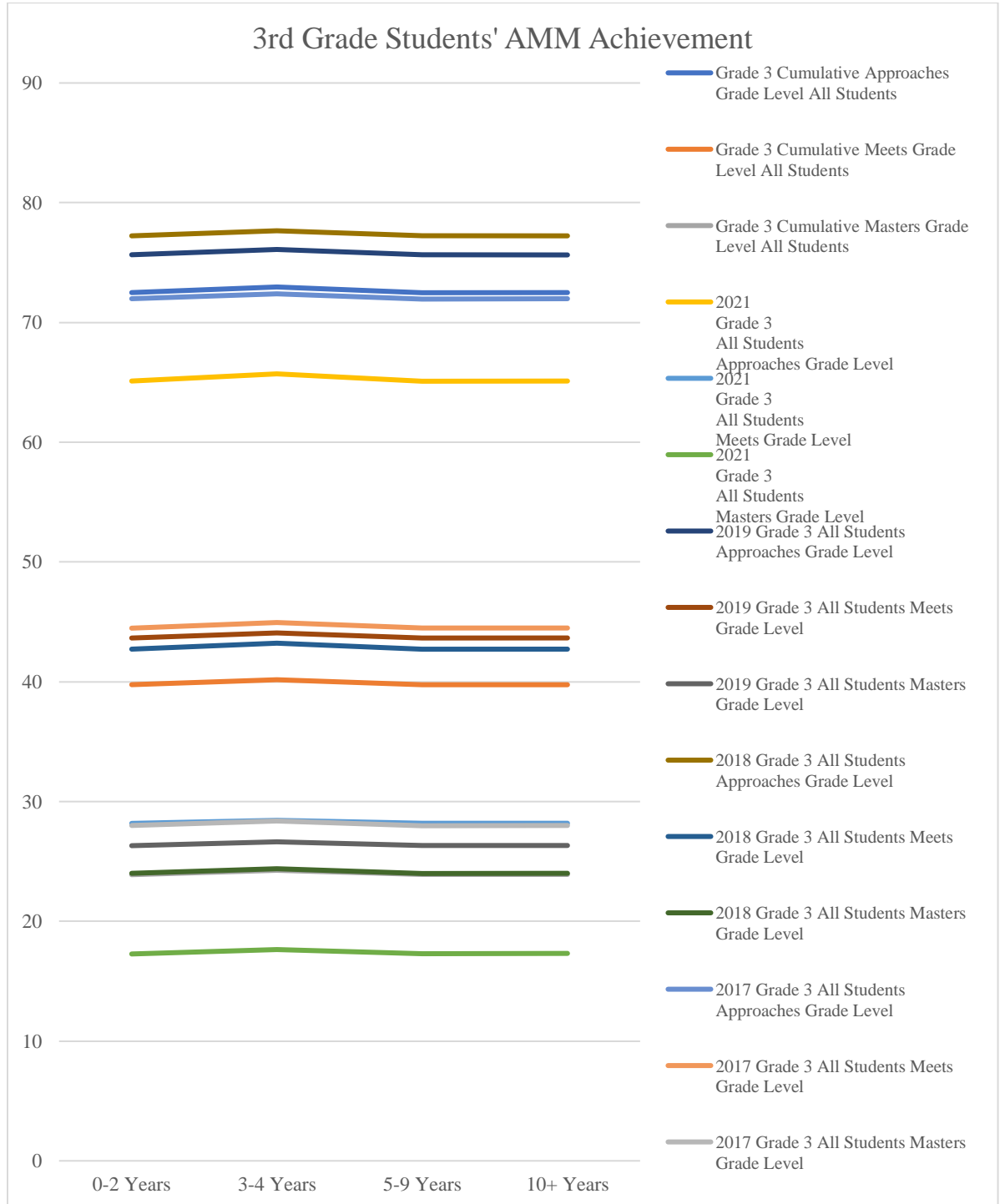
Students' Mean 3rd Grade STAAR Reading Achievement AMM by Principals' Tenure from 2016-2017 – 2020-2021

Principal Tenure	Grade 3 Approaches Grade Level All Students	Grade 3 Meets Grade Level All Students	Grade 3 Masters Grade Level All Students
0-2 Years	72.49047358	39.76029748	23.89650284
3-4 Years	72.96674705	40.17189175	24.26256699
5-9 Years	72.48630478	39.76212649	23.89711155
10+ Years	72.49479270	39.76806358	23.90778852

Finally, the researcher analyzed the data and saw very little variance between students' 3rd grade reading achievement, as measured by STAAR, and principals' tenure. The following figure, Figure 4.3, simultaneously shows students' mean 3rd grade reading achievement, in conjunction with principals' tenures, for each year included in the study (2016-2017 through 2020-2021), as well as the collective AMM means of all years included in the study.

Figure 4.3

Students' Mean 3rd Grade Reading Achievement, Both by each year and collectively



Research Question 2

Research question two, What relationship, if any, is there between the length of principals' tenures in Texas and students' achievement on the 4th grade reading STAAR assessment?, was again measured by reviewing the data requested by the researcher and supplied from TEA. As research question two is very similar to research question one, the same issues that initially confronted the researcher were handled the same way as with research question one; the researcher focused on calculating students' achievement beginning with the 2016-2017 school year until the 2020-2021 school year. The rationale was that TEA reported students' progress consistently in terms of students' achieving approaches, meets, or masters beginning the following 2018-2019 school year.

Research question two was analyzed using describing statistical analytical methods. The researcher used the same principals' tenures stratifications that were used in research question one; 0-2 Years, 3-4 Years, 5-9 Years, and 10+ Years. The researcher filtered the data according to these tenure stratifications and found the mean of students' achievement each year in the following categories; approaches, meets, and masters. Table 4.8 provides this data.

Table 4.8

*Students' Yearly 4th Grade STAAR Reading Achievement AMM Means by Principals' Tenure (2016-2017 – 2020-2021)**

Principal Tenure	2021 Grade 4 All Students Approaches Grade Level	2021 Grade 4 All Students Meets Grade Level	2021 Grade 4 All Students Masters Grade Level	2019 Grade 4 All Students Approaches Grade Level	2019 Grade 4 All Students Meets Grade Level	2019 Grade 4 All Students Masters Grade Level
0-2 Years	60.45955626	34.10595961	15.70729281	74.20127351	43.23709084	21.08606109
3-4 Years	60.98756699	34.56109325	15.94748124	74.70911040	43.77845659	21.44780279
5-9 Years	60.45049801	34.08944223	15.69262948	74.20737052	43.23027888	21.07938247
10+ Years	60.47089894	34.11152083	15.71506877	74.20440502	43.24267491	21.08839944
Principal Tenure	2018 Grade 4 All Students Approaches Grade Level	2018 Grade 4 All Students Meets Grade Level	2018 Grade 4 All Students Masters Grade Level	2017 Grade 4 All Students Approaches Grade Level	2017 Grade 4 All Students Meets Grade Level	2017 Grade 4 All Students Masters Grade Level
0-2 Years	72.77534574	45.16893841	23.03870262	67.59765197	41.92030644	22.60133320
3-4 Years	73.24072883	45.67995713	23.45101822	68.02240086	42.38327974	22.94523044
5-9 Years	72.77788845	45.17101594	23.03725100	67.59322709	41.91792829	22.60079681
10+ Years	72.77087901	45.16882599	23.04245565	67.61490931	41.93860873	22.61849711

*2020 STAAR Scores not reported due to COVID-19

The researcher, then, found the mean of students' achievement from all years included in this study for 4th grade in the areas of approaches, meets, and masters. Table 4.9 provides this data.

Table 4.9

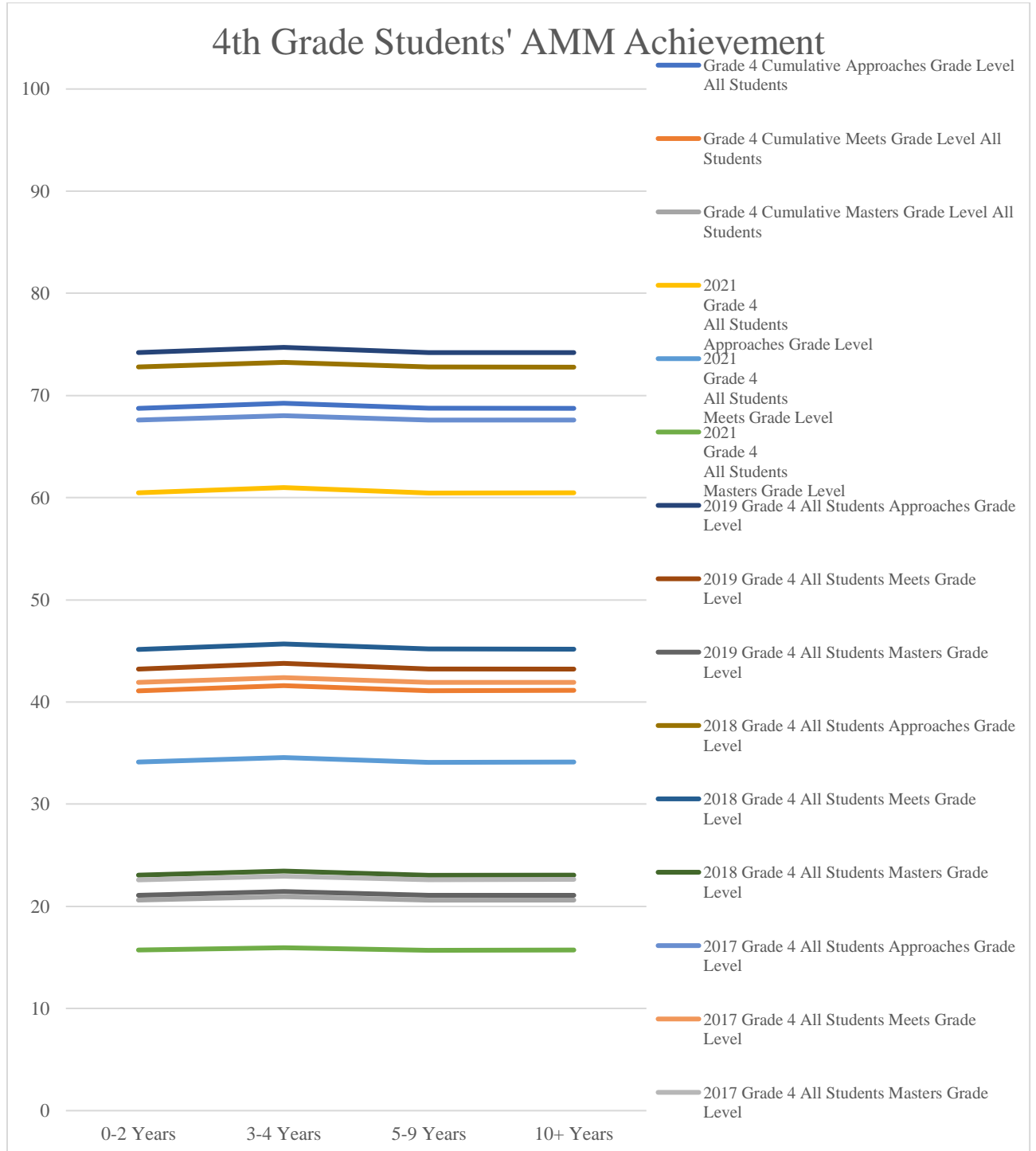
Students' Mean 4th Grade STAAR Reading Achievement AMM by Principals' Tenure from 2016-2017 – 2020-2021

Principal Tenure	Grade 4 Approaches Grade Level All Students	Grade 4 Meets Grade Level All Students	Grade 4 Masters Grade Level All Students
0-2 Years	68.75845687	41.10807382	20.60834743
3-4 Years	69.23995177	41.60069668	20.94788317
5-9 Years	68.75724602	41.10216633	20.60251494
10+ Years	68.76527307	41.11540761	20.61610524

Finally, the researcher analyzed the data and saw, as with research question one, very little variance between students' 4th grade reading achievement, as measured by STAAR, and principals' tenure. The following figure, Figure 4.4, simultaneously shows students' mean 4th grade reading achievement, in conjunction with principals' tenures, for each year included in the study (2016-2017 through 2020-2021), as well as the collective AMM means for all years included in the study.

Figure 4.4

Students' Mean 4th Grade Reading Achievement, Both by each year and collectively



Research Question 3

Research question three, What relationship, if any, is there between the length of principals' tenures in Texas and 4th grade reading STAAR's progress measure indicator?, was measured by reviewing the data requested by the researcher and supplied from TEA. The researcher attempted to calculate students' growth trends beginning with the 2016-2017 school year until the 2020-2021 school year. However, several years of growth data were unavailable due to several reasons.

The reason for the lack of progress data is that 4th grade reading growth rates are measured by comparing students' 3rd and 4th grade reading STAAR scores. Following the 2016-2017 school year, there was no previous STAAR test to compare and obtain growth data; therefore, no growth data exists for that year. In addition, no growth data exists for the 2019-2020 and 2020-2021 school years due to school closures, remote learning, and other issues related to the COVID-19 pandemic.

Like the previous two research questions, research question three was analyzed using describing statistical analytical methods. The researcher used the same principals' tenures stratifications that were used in the previous research questions; 0-2 Years, 3-4 Years, 5-9 Years, and 10+ Years. The researcher filtered the data according to these tenure stratifications and found the mean of students' progress, or growth rate, for each available year included in this study. Table 4.10 provides this data.

Table 4.10

*Students' Yearly 4th Grade STAAR Reading Achievement Growth Rate by Principals' Tenure (2016-2017 – 2020-2021)**

Principal Tenure	2021 Growth Rate for Grade 4 All Students	2020 Growth Rate for Grade 4 All Students	2019 Growth Rate for Grade 4 All Students	2018 Growth Rate for Grade 4 All Students	2017 Growth Rate for Grade 4 All Students
0-2 Years	Growth not calculated due to COVID-19	Growth not calculated due to COVID-19	60.97761417	63.45995423	Growth Not Reported Due to New Reporting System
3-4 Years			61.23922830	63.65744909	
5-9 Years			60.98515936	63.46623506	
10+ Years			60.97917082	63.45276061	

The researcher, then, found the mean of students' growth rates from all years included in this study for 4th grade. Table 4.11 provides this data.

Table 4.11

Students' Mean STAAR Reading Achievement AMM by Principals' Tenure from 2016-2017 – 2020-2021

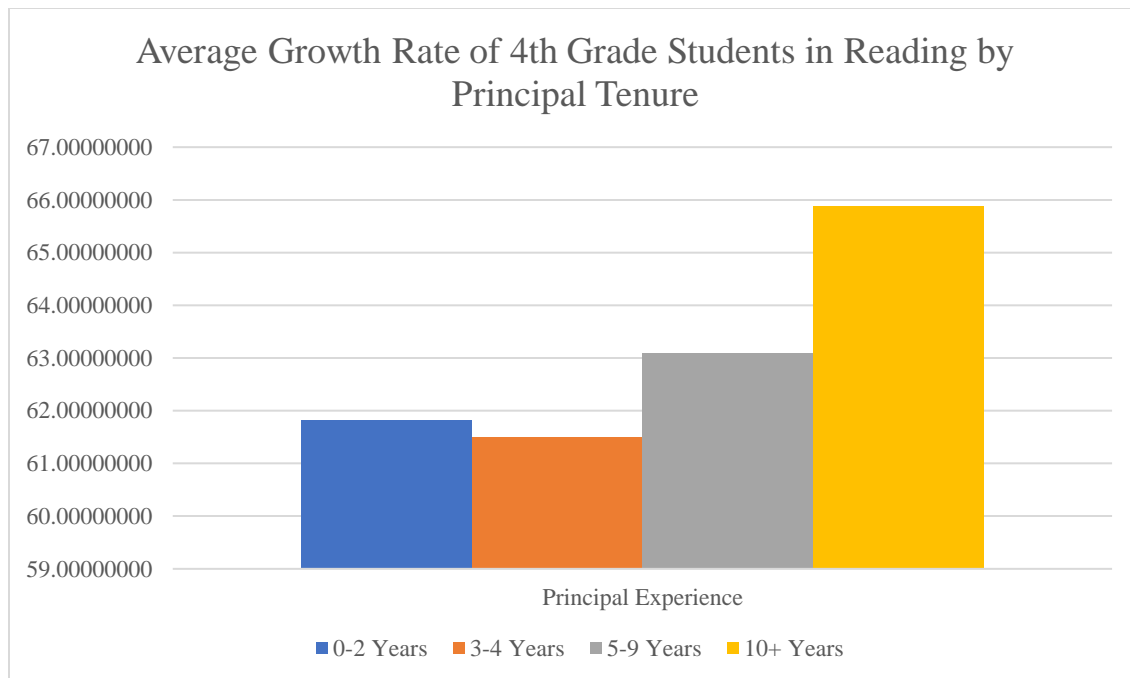
Principal Tenure	Average Growth Rate of Grade 4 STAAR Reading All Students
0-2 Years	61.8191
3-4 Years	61.4983
5-9 Years	63.0867
10+ Years	65.8800

Finally, the researcher analyzed the data and saw, as with the previous research questions, seemingly little variance between students' 4th grade growth rates in reading, as measured by STAAR, and principals' tenure. The following figure, Figure 4.5,

simultaneously shows students' mean 4th grade growth rates, in conjunction with principals' tenures.

Figure 4.5

Students' Mean 4th Grade Growth Rates by Principal Tenure



Although the means represented in Table 4.11 appear to be similar and represent seemingly little variance between each principals' tenure stratification, when graphed, the growth rate of 4th grade students' in reading appear to be disproportionately greater within the 10+ Years group of principal tenure. This prompted the researcher to run a one-way analysis of variance (ANOVA) test to determine whether these mean differences were significant. A one-way ANOVA test is appropriate because there is one continuous, dependent variable (i.e. 4th grade students' growth rate on reading STAAR) and an independent variable (i.e. principals' tenures) with four levels. The researcher entered the dataset in SPSS. The researcher ran a one-way ANOVA, with descriptive statistics, and post-hoc tests to determine whether there was any statistically significant difference in 4th

grade students' growth on their reading STAAR exams when principals' tenures were taken into consideration.

The one-way ANOVA was conducted to evaluate the null hypothesis that there is no statistically significant relationship between principals' tenures in Texas and 4th grade reading STAAR's progress measure indicator ($N=10,062$). The independent variable, principals' tenures, included four groups: 0-2 Years ($M=61.8191$, $SD=8.31807$, $n=4,194$), 3-4 Years ($M=61.4983$, $SD=8.32446$, $n=2,933$), 5-9 Years ($M=63.0867$, $SD=8.17809$, $n=2,510$), and 10+ Years ($M=65.8800$, $SD=8.86460$, $n=425$).

The assumption of homogeneity of variances was tested and found tenable using Levene's Test, $F(3, 10,058) = 1.535$, $p = .203$. The ANOVA was found to be significant, $F(3, 10,058)$, $p = <.001$, $\eta^2=.014$. Thus, there is significant evidence to reject the null hypothesis and conclude there is a statistically significant difference between 4th grade students' reading STAAR's progress measure indicator based on principals' tenure. However, the actual difference in the mean scores between groups was quite small based on Cohen's (1988) conventions for interpreting effect size.

Post-hoc comparisons were conducted to evaluate, pairwise, differences among group means. The researcher used both the Tukey Honestly Significant Difference (HSD) and Scheffe tests since equal variances were tenable. Both post-hoc tests were used as a means of further proving a statistically significant result from the one-way ANOVA test. Both the Tukey HSD and Scheffe tests revealed significant pairwise differences between the mean scores of principals' with 10+ years' experience and students' average growth rates represented in the reading STAAR's progress measure indicator when compared to all other tenure stratifications (i.e. 0-2 Years, 3-4 Years, and 5-9 Years).

Research Question 4

Research question four, Do other identifiers, such as principal gender or school type, with relation to principals' tenures, have an impact on 3rd or 4th grade reading STAAR scores or the 4th grade STAAR progress measure indicator?, was measured by reviewing the data requested by the researcher and supplied from TEA. As previously mentioned, TEA provided the researcher with data, by principal, denoting the district, by name and number, that he or she worked for, the campus, by name and number, years spent in a principal role, principal's gender, and school type. From there, the researcher began to filter the data by both principals' tenure stratifications and the other fixed variables (i.e. principals' gender and school type) included in this study.

Principals' Gender

Table 4.12 and Figure 4.6 provide a visual representation of students' 3rd and 4th grade means for AMM and growth across all years included in this study, while also taking into account principals' tenures and gender. In addition, Figure 4.6 presents a comparison between students' 3rd and 4th grade reading achievement (i.e. both AMM means and growth rates) on STAAR and principals' gender. Again, the researcher analyzed the data and saw, as with previous research questions, very little variance between students' 3rd and 4th grade reading achievement and growth rates, as measured by STAAR, and principals' tenure, even when principals' genders are factored in. The following figure, Figure 4.6, simultaneously shows students' mean 4th grade growth rates, in conjunction with principals' tenures.

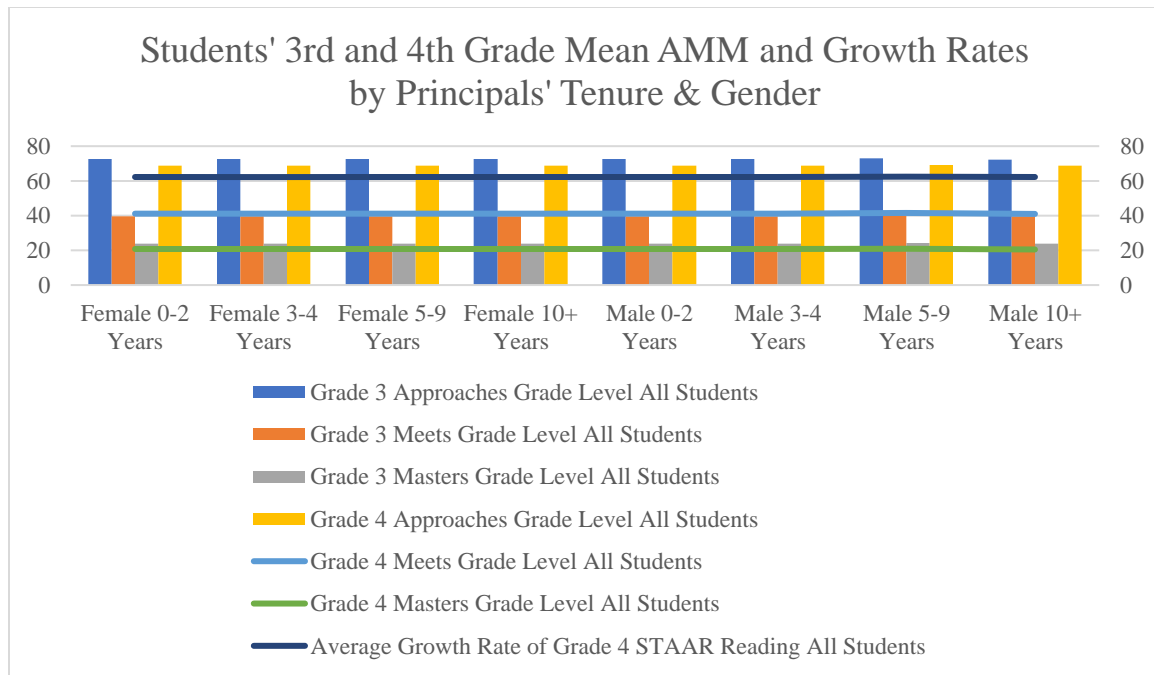
Table 4.12

Students' Mean AMM and Growth Rates in 3rd and 4th Grade by Principals' Tenure &xxx Gender from 2016-2017 – 2020-2021

	Grade 3 Approaches Grade Level All Students	Grade 3 Meets Grade Level All Students	Grade 3 Masters Grade Level All Students	Grade 4 Approaches Grade Level All Students	Grade 4 Meets Grade Level All Students	Grade 4 Masters Grade Level All Students	Average Growth Rate of Grade 4 STAAR Reading All Students
Female Principal Tenure							
0-2 Years	72.49119403	39.76094527	23.89736318	68.75845771	41.10768657	20.60840796	62.21835821
3-4 Years	72.49177517	39.75854786	23.89571116	68.75554120	41.10349369	20.60384157	62.21180797
5-9 Years	72.48630478	39.76212649	23.89711155	68.75724602	41.10216633	20.60251494	62.22569721
10+ Years	72.49479270	39.76806358	23.90778852	68.76527307	41.11540761	20.61610524	62.21596572
Male Principal Tenure							
0-2 Years	72.49669022	39.76689727	23.90093072	68.76480689	41.11322915	20.61176090	62.22237707
3-4 Years	72.48782613	39.76269667	23.89733121	68.75761800	41.10264390	20.60276837	62.22415853
5-9 Years	72.91313924	40.13364847	24.23861195	69.18451869	41.55154168	20.92388268	62.43709712
10+ Years	72.38023451	39.69878036	23.79530465	68.65104167	40.98385155	20.50900335	62.24513191

Figure 4.6

Students' Mean 3rd and 4th Grade AMM and Growth Rates by Principals' Tenure and Gender



School Type

Next, the researcher analyzed the data looking at whether school type, in conjunction with principals' tenure, had any effect on students' 3rd and 4th grade reading achievement on STAAR and/or their 4th grade growth. Table 4.13 and Figure 4.7 provide a visual representation of students' 3rd and 4th grade means for AMM and growth across all years included in this study, by both principals' tenures and school type. In addition, Figure 4.7 presents a comparison between students' 3rd and 4th grade reading achievement (i.e. both AMM means and growth rates) on STAAR and school type. Again, the researcher analyzed the data and saw, as with previous analyses, very little variance between students' 3rd and 4th grade reading achievement and growth rates, as measured by STAAR, and principals' tenure, even when school types are factored in. The following

figure, Figure 4.7, simultaneously shows students' mean 3rd and 4th grade AMM means as well as 4th grade growth rates, in conjunction with principals' tenures and school types.

Table 4.13

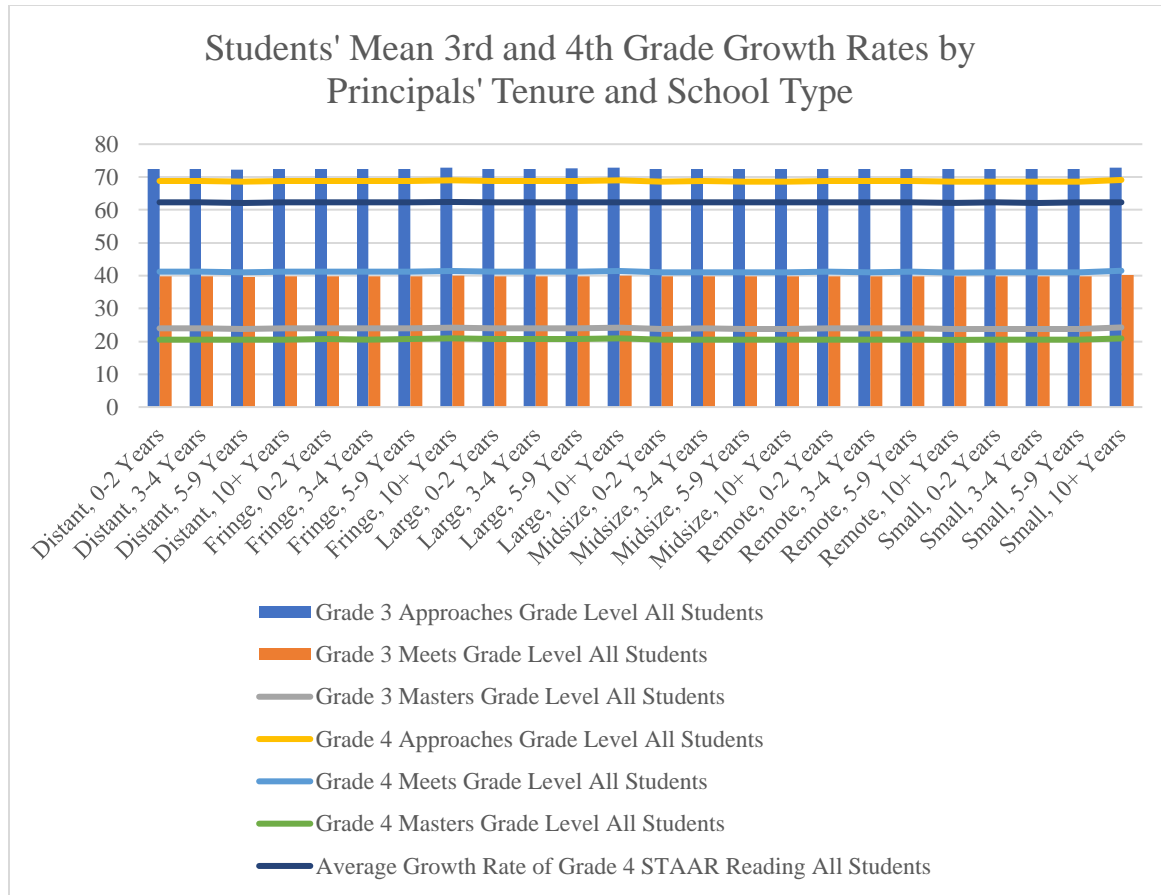
Students' Mean AMM and Growth Rates in 3rd and 4th Grade by Principals' Tenure & School Type from 2016-2017 – 2020-2021

	Grade 3 Approaches Grade Level All Students	Grade 3 Meets Grade Level All Students	Grade 3 Masters Grade Level All Students	Grade 4 Approaches Grade Level All Students	Grade 4 Meets Grade Level All Students	Grade 4 Masters Grade Level All Students	Average Growth Rate of Grade 4 STAAR Reading All Students
Distant School Type and Principals' Tenure							
0-2 Years	72.49673675	39.76586788	23.90397071	68.75772220	41.10945596	20.61149861	62.21637106
3-4 Years	72.49766099	39.76552702	23.90230915	68.76318802	41.10978402	20.60943565	62.21314820
5-9 Years	72.34044840	39.64949324	23.75104934	68.60542076	40.91697379	20.45743755	62.19906839
10+ Years	72.49247333	39.76512810	23.90596650	68.76166384	41.11177849	20.61379723	62.21468448
Fringe School Type and Principals' Tenure							
0-2 Years	72.49705408	39.79242623	23.93027999	68.76618995	41.12909155	20.62105952	62.23164468
3-4 Years	72.49110623	39.77315879	23.91148696	68.76081743	41.10749975	20.60932347	62.21020286
5-9 Years	72.51299679	39.79679346	23.92545664	68.78766058	41.14497190	20.62565235	62.25065235
10+ Years	72.84014767	40.07626185	24.16715341	69.09235177	41.44555874	20.84527221	62.40836456
Large School Type and Principals' Tenure							
0-2 Years	72.49040632	39.80786990	23.93512723	68.76097886	41.13936487	20.63646624	62.25389904
3-4 Years	72.53577294	39.84133135	23.97302915	68.80748306	41.18594744	20.66490454	62.25918703
5-9 Years	72.57948467	39.88014297	24.01074882	68.84931084	41.22536515	20.69425015	62.30040115
10+ Years	72.77927904	40.05047749	24.13070627	69.06928849	41.42187008	20.83217022	62.37989296

Midsize School Type and Principals' Tenure	Grade 3 Approaches Grade Level All Students	Grade 3 Meets Grade Level All Students	Grade 3 Masters Grade Level All Students	Grade 4 Approaches Grade Level All Students	Grade 4 Meets Grade Level All Students	Grade 4 Masters Grade Level All Students	Average Growth Rate of Grade 4 STAAR Reading All Students
0-2 Years	72.38103537	39.70033316	23.80169144	68.64495131	40.98669913	20.50963608	62.21604305
3-4 Years	72.42490758	39.74671390	23.86511604	68.69826967	41.05840522	20.57432224	62.24974327
5-9 Years	72.41351172	39.73787476	23.85324363	68.68745523	41.04573826	20.55973089	62.24368157
10+ Years	72.40921645	39.73312193	23.84083470	68.67640139	41.03066182	20.54638912	62.23107610
Remote School Type and Principals' Tenure							
0-2 Years	72.49793430	39.76821802	23.90181682	68.76607765	41.11426083	20.61244400	62.22309607
3-4 Years	72.48582461	39.76310414	23.89895366	68.75458396	41.10072247	20.59830593	62.21828600
5-9 Years	72.49319270	39.76832735	23.90392480	68.76022342	41.10687213	20.60672252	62.22366846
10+ Years	72.42882269	39.72326042	23.74549302	68.65255029	40.90680994	20.44402001	62.12438166
Small School Type and Principals' Tenure							
0-2 Years	72.37753578	39.69416126	23.78024920	68.64396046	40.96697045	20.48640717	62.22299454
3-4 Years	72.42444574	39.76103214	23.85926063	68.64925215	41.00668293	20.53572186	62.16468654
5-9 Years	72.37658521	39.69757191	23.78095680	68.64114857	40.96772863	20.48628725	62.22208475
10+ Years	72.90029624	40.16162291	24.24204229	69.11593866	41.48271956	20.88409038	62.38812732

Figure 4.7

Students' Mean 3rd and 4th Grade AMM and Growth Rates by Principals' Tenure and School Type



Summary of Findings

The purpose of this study was to describe the relationship between principals' tenures and 3rd and 4th grade students' reading achievement in Texas. In addition, the study also incorporated other fixed variables, principals' genders and school type, in conjunction with principals' tenure, in order to see if any other trends regarding students' achievement emerged. This quantitative study represented elementary campuses across the state of Texas that both had 3rd and 4th grade units and tested students from at least the 2016-2017 school year through the 2020-2021 school year. Changes in Texas's progress

reporting required the researcher to make adjustments to the original research design outlined in Chapter III.

These changes included the incorporation of revised state standards (i.e. Texas Essential Knowledge and Skills [TEKS]), the transition from the TAKS to STAAR tests, and how progress was both measured and reported. It was not until the 2016-2017 school year that the current progress monitoring and reporting system was implemented and utilized. In addition, initial principal tenure stratifications needed to be amended in order to get more proportional tenure groups.

The researcher began assessing research question one, What relationship, if any, is there between the length of principals' tenures in Texas and students' achievement on the 3rd grade reading STAAR assessment?, by using descriptive statistics and calculated the means for 3rd grade students' AMM yearly and cumulative averages. In looking at principals' tenures and 3rd grade students' reading achievement, the researcher found very little variance between these two variables. The same was found in regard to research questions two and three; What relationship, if any, is there between the length of principals' tenures in Texas and students' achievement on the 4th grade reading STAAR assessment? and What relationship, if any, is there between the length of principals' tenures in Texas and 4th grade reading STAAR's progress measure indicator?, respectively. The researcher repeated the same process of using descriptive statistics to calculate the means for 4th grade students' reading growth rates and found a small, but distinct, variance across principals' tenures. This prompted the researcher to run a one-way ANOVA test to determine whether these mean differences were statistically significant. In running the one-way ANOVA the researcher determined that there was a statistically significant difference in the means of principals' with 10+ years' experience and 4th grade growth data when compared to all other tenure stratifications included in

this study. This indicates that while principals' tenures may not appear impactful when comparing students' achievement year to year, across cohorts of students, students' growth, within the same cohort, do appear to be positively correlated to principals' tenures.

While much of the data collected from this study contradicts the literature that states principals' tenures do have a positive correlation with students' achievement, the researcher was able to show a positive correlation between principals' tenure and students' growth on the 4th grade reading STAAR. The researcher's lack of data to support the other assertions regarding students' AMM and cumulative progress in both 3rd and 4th grade on the reading STAAR calls for further exploration as to what levers, within the principal's control, do actually show to have an impact on students' AMM achievement as represented by standardized test scores. The results of this study seem to support Leithwood et al.'s claims that principals, although important, are secondary influences on students' achievement while teachers have a more direct impact (2021).

Promoting teachers' self-efficacies by focusing on increasing teachers' feelings of success and value is one way that principals may be able to positively influence students' achievement. Increases in teachers' feelings of success and value may be associated with successful support structures instituted by principals (Whalen et al., 2019). However, supportive structures, if not effectively executed through sound principal leadership, can also serve as a barrier to teachers' feelings of self-efficacy. It is critical that principals are strategic about their implementation of such initiatives which also corresponds to the research stating that an individual's experience and its corresponding investment of time has been shown to have a positive impact on students' achievement (Bartanen et al., 2019; Borman et al., 2003; Dixon et al., 2021; Mascall & Leithwood, 2010).

Maximizing students' achievement requires a delicate implementation, execution, and balance of a variety of school factors. Principals' tenures, and their commitment and investment in increasing both their self- and the collective-efficacies of their stakeholders, may still have a positive, yet indirect, influence on students' achievement. It would be prudent for principals to use the information provided in this study to take a reflective look at their own practices, solicit feedback from stakeholders, and work to ensure that they manipulate the right levers at their campuses in order to achieve positive increases in students' achievement.

Conclusion

This chapter presented results from a quantitative study. Overall, principals' tenures, both in isolation and in conjunction with principals' gender or school type, did not appear to have a significant impact on students' achievement. However, the research does still reinforce the importance of school principals and the indirect influence they still may have on students' achievement. In the next chapter, the study's findings will be connected, compared, and contrasted with prior studies documented in the literature review. In addition, implications of this study's results will be discussed with consideration towards how school principals may still be able to maximize students' achievement. Further research considerations will also be identified.

CHAPTER V: ANALYSIS AND CONCLUSIONS

The purpose of this study was to describe the relationship between principals' tenures and students' achievement. The researcher also explored whether other fixed variables such as principals' genders or school type, in conjunction with principals' tenures, had a relationship or affected students' achievement. Four research questions were explored within this study. The first question asked: What relationship, if any, is there between the length of principals' tenures in Texas and students' achievement on the 3rd grade reading STAAR assessment? The second question asked: What relationship, if any, is there between the length of principals' tenures in Texas and students' achievement on the 4th grade reading STAAR assessment? The third question asked: What relationship, if any, is there between the length of principals' tenures in Texas and 4th grade reading STAAR's progress measure indicator? Finally, the fourth question asked: Do other identifiers, such as district and principal gender or school type, with relation to principals' tenures, have an impact on 3rd or 4th grade reading STAAR scores or the 4th grade STAAR progress measure indicator?

In a time when educational leaders and stakeholders are called to do more to maximize student outcomes while drawing on dwindling resources, it is prudent to analyze all factors that contribute to increases in students' achievement trends. Earlier research has focused on the role teachers and principals have played in students' achievement. The research also supports that teachers' tenures are positively correlated with students' achievement. However, little attention has been given to the exploration of the impact principals' tenures may have on students' achievement. The purpose for this research was to describe the relationship, if any, that exists between principals' tenures and students' achievement. In addition, the researcher, in an effort to avoid

monocausality, wanted to explore other fixed variables such as principals' gender and school type, in conjunction with principals' tenures, to see whether these items provide any additional insight into students' achievement trends. It is the researcher's hope that the results of this study adds to the body of research and further aids districts and leaders with effectively meeting students' needs and maximizing students' outcomes.

Summary of Findings

This study was based on the theoretical frameworks of self-efficacy and situated learning theory (Bandura, 1997; Brown et al., 1989; Lave & Wenger, 1990). Self-efficacy is defined as an individual's belief in himself or herself to use the skills and knowledge he or she has acquired effectively and when needed to achieve a desired result (Bandura, 1997). Lave & Wenger (1990) define situated learning as the learning that occurs as an unintended outcome when it has been anchored in an authentic experience or context. This may be represented by principals beginning an initiative and then soliciting feedback and reflecting on the successes and failures of the initiative's progress and, then, making the subsequent adjustments as needed. Those adjustments are the result of the learning that occurred by implementing the initiative. In this study, principals' tenures and the research regarding the relationship between experience and effectiveness (Aburizaizah et al., 2019; Hitt et al., 2018; Hong et al., 2020; Kunnari et al., 2018; Leithwood et al., 2020; Liebowitz & Porter, 2019) created the foundation and purpose of this study which was to assess whether statistically significant relationships exist between principal tenure lengths and 3rd and 4th grade reading achievement and growth on STAAR.

Principals' Tenures and 3rd and 4th Grade Achievement of Reading STAAR

The study included 10,062 principals across the state of Texas that had both 3rd and 4th grade units within their buildings. Reading STAAR assessment data was analyzed from the 2016-2017 school year through the 2020-2021 school year. The data analysis

indicates that students' reading STAAR achievement in both 3rd and 4th grade does not appear to have a statistically significant relationship with principals' tenures. This is true when looking at each year included in the study individually as well as cumulatively across all years included in the study. These results seem to echo the findings of Leithwood et al. (2020) when the researchers amended their initial 2008 claim that principals are the second most significant influence on students' learning and achievement. Following this initial claim, the researchers revised their position by stating that principals do have a significant, yet indirect, influence and impact on their schools which can "positively influence the quality of teaching and learning" (Leithwood et al., 2020, p. 2). School principals, as well as other school leaders, have the ability to manipulate organizational conditions or levers that can result in more effective teaching practices that generate further improvements in students' achievement. However, it is not a guarantee that tenure or a commitment of time will automatically garner these improvements.

As Grissom et al. (2021) found some principals' turnovers can actually serve to improve students' achievement. While principals' turnovers generally have a negative effect on students' achievement and affect other aspects of the school organization including teacher retention and school climate, when ineffective principals are replaced with more effective principals, the researchers found the results to be positive (Branch et al., 2009; Dhuey & Smith, 2018; Grissom et al., 2014). As Bartanen et al. (2019) noted, if districts have the ability to replace ineffective principals with more effective replacements, the researchers noted that within districts surveyed in their study (i.e. in Missouri and Tennessee), these districts showed improvements in school success initiatives. This finding was further supported by researchers, Walsh and Dotter (2019),

who found that replacing ineffective principals with more effective leaders led to gains in students' achievement and growth in public schools in the Washington, D.C. area.

Principals' Tenures and 4th Grade Growth

In terms of looking at the impact, if any, principals' tenure lengths have on 4th grade students' progress measure indicator, the data analysis shows that there is a statistically significant, positive correlation between these two variables. Students' progress, which is measured by students' growth in the same content exam (i.e. STAAR) from one grade level to the next. In this study, students' progress was measured using 3rd and 4th grade STAAR data from the 2017-2018 and 2018-2019 school years. The reason only these two years were included in the study is that when the study's school year range was amended to include only years with common reporting measures (i.e. 2016-2017 school year through 2020-2021 school year), several years had growth data unavailable. One reason for the unavailability of growth data included no growth could be computed the first year of the new reporting measures which came at the close of the 2016-2017 school year. A second reason was related to the COVID-19 pandemic and related school closures which resulted in TEA suspending data reporting for both the 2019-2020 and 2020-2021 school years. However, a statistically significant positive trend was found when analyzing 4th grade students' cumulative reading STAAR growth data from the 2017-2018 and 2018-2019 school years.

When analyzing the average growth rates of 4th grade students in reading, in conjunction with principals' tenures, there is a statistically significant, positive correlation between growth and tenure. That is, as principals' tenures increase from 3-4 years through 10+ years, 4th grade students' reading growth rates increase. This aligns to previous research stating that principals' tenures have been seen to have a positive impact on students' achievement and especially growth (Corcoran, 2017; Grissom & Bartanen,

2019; Grissom et al., 2021; Yan, 2020). This finding also connects to Hall and Hord's (2020) claim that change processes take, on average, three to five years to achieve maximum efficacy and results. It, therefore, makes sense that the positive 4th grade growth trends that were seen consistently beginning with principals' tenures within the 3-4 Years stratification and continue to grow with the following two stratifications (i.e. 5-9 Years and 10+ Years). Again, as Leithwood et al. (2020) states, these trends may largely be due to the indirect influence principals' have on students and their achievement.

As stated, principals have the ability to manipulate "levers" or components within their school in order to generate stakeholder buy-in, efficacy, and results (Brockmeier et al., 2013). Specifically, principals can influence the social constructs within their schools by focusing on establishing norms and a compelling purpose in order to motivate teachers, students, and families and build collective efficacy (Park et al., 2019). This is aligned to findings of Whalen et al. (2019) who found that promoting stakeholders' collective efficacies was one way principals could positively contribute to their students' achievement growth. This included developing supportive structures that removed barriers, appreciated stakeholders' experiences, and respected their time commitment to the field of education. In addition, these supportive structures have been shown to positively impact students' achievement (Bartanen et al., 2019; Dixon et al., 2021). There is a delicate balance that exists between the facilitation and fostering of supportive structures and removing the barriers that both exist and arise when engaging in organizational changes; when one outweighs the other it can impact students' achievement trends both in positive and negative directions. Leaders in education would be prudent to take a reflective look at the ways their schools and districts are fostering supportive structures and the research regarding the important, yet secondary role, school leaders, specifically principals, play in developing highly effective schools.

Principals' Tenures and Other Fixed Variables

The final research question, Do other identifiers, such as principal gender or school type, with relation to principals' tenures, have an impact on 3rd or 4th grade reading STAAR scores or the 4th grade STAAR progress measure indicator?, guiding this study was implemented in an effort to provide additional context to this study's result as well as avoid the common pitfall of monocausality. Monocausality is defined, by Miles and Shevlin (2001), as the myth that a single variable is the cause of an event. In terms of this study, the researcher did not want to imply that tenure was the sole cause of students' achievement trends, only to determine whether or not it was a statistically significant factor. As such, the researcher incorporated two additional fixed variables, principals' genders and school type, to determine if either of these factors, in conjunction with principals' tenures had any affect on student's achievement trends.

Principals' Tenures and Gender

Researchers have long studied the impact principals' genders have on schools (Brezicha & Fuller, 2019; Nichols & Nichols, 2014; Roser et al., 2009). Often the concept of principal gender is described through the traits each gender most commonly exemplifies while in this particular role of school leadership. However, this quantitative study simply looked at whether gender, in conjunction with principals' tenure, had a statistically significant impact on students' achievement. The findings of this study show that gender and tenure do not have a statistically significant impact on students' 3rd or 4th grade reading STAAR achievement, nor is there a statistically significant impact on 4th grade students' progress measure indicator or growth.

That is not to say the principals' genders do not matter in schools. Researchers have discussed the role and importance trust has in schools. As Krüger (1999) shared stakeholders often have different perceptions of female versus male principals. These

perceptions are neither all-together positive or negative, but often seek to describe the characteristics and leadership differences between both genders as it relates to their role as principal and the appeal of those characteristics and leadership styles to their stakeholders. For example, researchers have shared that female principals tend to be perceived as more instructionally-focused, while male principals are perceived to be more focused on administrative tasks such as teacher observations and discipline (Newton et al., 2003; Young & McLeod, 2001). Both perceptions and accompanying qualities are important, but may appeal to different stakeholders; if this is acknowledged and capitalized on by principals, it may serve to improve students' achievement trends (Hallinger et al., 1996; Nichols & Nichols, 2014; Shaked et al., 2018; Shaked et al., 2021).

Principals' Tenures and School Type

The same results presented themselves when looking at principals' tenures along with school type. School type describes the school's size and location as it relates to the nearest urban area. Numerous researchers have studied the impact school type has on students' achievement (Busby et al., 2020; Leithwood & Jantzi, 2009; Stewart, 2009). Much of the research also includes some aspect of finances in its studies such as the socio-economic makeup of the school's student body or school's revenue generated by its tax base (Baker, 2021; Busby et al., 2020; Han & Whitacre, 2018). In this study, monetary issues and stratifications were not taken into account, simply the school type as assigned by NCES and TEA and students' achievement. The researcher found no statistically significant relationship between principals' tenure lengths, school type, and students' 3rd and 4th grader reading STAAR achievement nor with 4th grade students' growth. Again, this is not to say that school type is not important to school leaders or students' achievement; it is that this study was not able to show that these items, when

isolated from other factors and analyzed in conjunction with principals' tenures, have a significant impact on 3rd and 4th grade students' reading STAAR achievement trends.

Implications

Based on the literature, it is clear that the success of schools is dependent on a myriad of factors including, but not limited to principals' tenures, principals' genders, or school type. These factors are important, but at least in the context of this study, these factors, alone, do not wholly account for the nuances in 3rd and 4th grade students' reading STAAR achievement. As a result, it would be prudent to look at additional factors in conjunction with principals' tenures to see whether more statistically significant trends may be able to be identified. As for the one area that the researcher did find a statistically significant correlation between principals' tenures and 4th grade students' progress measure indicator or growth, it may be beneficial for school districts to establish a principal mentoring program. A principal mentoring program would solicit input from veteran principals within the same area and/or district as novice principals. These veteran principals could provide support and the insight he or she has gained to novice principals working within that same district or area.

It is also important to acknowledge the impact the COVID-19 pandemic has had on schools. Out of the five years included in this study, two years (i.e. 2019-2020 and 2020-2021 school) had incomplete or missing data due to the pandemic and testing exemptions from the state. In addition, other amendments needed to be made to the original research design due to changes in how TEA reported progress. From the literature, it is clear that the variables explored in this study are important to school success and students' achievement, but that future research is needed to fully explain their importance and relation to students' achievement.

Study Limitations

There are several limitations associated with this study. The researcher used pre-existing publicly available data that constantly evolved from multiple sources as instruments. Even though the reliability and validity of these instruments were independently vetted, in extracting and combining this data, the researcher assumed some responsibility for the data's reliability and validity. The study was also limited to principals and their tenure data from across the state of Texas where these principals had 3rd and 4th grade units on their campus. Principals' gender and school type data were also obtained for only those included in the study's parameters. In addition, only 3rd and 4th grade reading STAAR achievement data, including growth, was utilized.

In addition to the limitations associated with the study's parameters, instituted by the researcher, there are also limitations regarding the data that was obtained. For example, the availability of growth data was limited to two years due to changes in testing measures and issues associated with the COVID-19 pandemic. The resulting two years of available growth data make any derived conclusions tenuous, at best. However, future research recommendations will address this limitation as well as others that were presented in this section.

Recommendations for Future Research

Future research in the area of principals' tenures and students' achievement is needed to fully understand and develop systems that result in positive student achievement trends. One of the study's limitations was that changes in TEA's reporting measures since the first administration of the STAAR assessments required the researcher to make adjustments to years included in this study. The five years included in this study may not be long enough to see the impact principals' tenures have on students' achievement. This, again, corresponds to Hall and Hord's (2020) claim that for change-

process cycles to reach their optimal level of efficacy a time commitment of between three to five years is required. To address this issue, it may be helpful to look at different or previous standardized tests, like TAKS, administered in Texas or other states to see if different trends emerge when a longer time span is utilized.

Similarly, to address the limitations associated with the researcher's lack of available growth data, it may be warranted to look at other exams, still in use, to explore the correlation, if any, that exists between principals' tenures and students' achievement. Some exams to explore include the American College Testing (ACT), Preliminary Scholastic Aptitude Test (PSAT), and Scholastic Aptitude Test (SAT). Utilizing these long-standing exams may better illuminate tenure/achievement trends that may exist and provide a more comprehensive and conclusive insight into the role principals' tenures may have on students' achievement, long-term. It would also include looking at a different subset of students as these exams are traditionally given during students' high school careers. Additionally, a study of this nature would also include a much larger population as students across the United States, and not just Texas, participate in these exams.

Another potential area for future research would be to follow a cohort of principals through their careers to see whether their tenure impacted their individual campuses. In addition, looking at other fixed variables outside of principals' genders and school type may also be beneficial. A last recommendation for future research may also include developing a qualitative component to the study in which principals and other school leaders could share what they believe to attribute to students' achievement and growth on standardized tests. An added benefit of soliciting principals' inputs regarding what they believe may increase students' achievement and growth, is also gaining insight regarding why principals' tenure lengths seem to, on average, cap at approximately four

years despite the research stating that longer tenures are needed to yield maximum results from change process initiatives (Hall & Hord, 2020).

Conclusion

It is largely understood and accepted that principals play an important role in schools and that they do have an impact on students' achievement (Acton, 2021; Cherkowski & Walker, 2016; Supovitz et al., 2010). The purpose of this study was to describe the relationship between principals' tenures and students' achievement, and then to look at two other fixed variables to see whether they have any impact on students' achievement on the 3rd and 4th grade reading STAAR exams in Texas. This quantitative study analyzed standardized testing and campus demographic data provided to the researcher by TEA. The researcher compiled 3rd and 4th grade STAAR AMM and growth rate percentage data from the 2016-2017 school year through the 2020-2021 school year.

Researchers, Leithwood et al. (2008, 2020), claimed that principals are a significant influence on students' achievement through their work and manipulation of various organizational levers. The results of this study offer insight into the role principals' tenures have on students' reading achievement in 3rd and 4th grade, which has been an understudied area in education research. In this study, it was revealed that principals' tenures, both alone and in conjunction with principals' genders or school type, do not appear to have an impact on students' 3rd or 4th grade AMM averages. However, this study does indicate that there is a statistically significant positive correlation between principals' tenures and students' 4th grade progress measure indicator or growth.

The findings identified in this study can still positively impact schools by stimulating principals' and other school leaders to focus on the variables within their control that garner stakeholder trust and promote both self- and collective efficacies. The building and sustaining of trusting partnerships amongst stakeholders requires a time

commitment that may best be represented through the tenure lengths of effective principals (Hong et al., 2020; Lencioni, 2002; Supovitz et al., 2010; Tschannen-Moran & Gareis, 2015). This study is part of a continued and on-going effort to help maximize the efficacy of schools in garnering maximum student outcomes and achievement.

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