THE RELATIONSHIPS BETWEEN SCHOOL CLIMATE, TEACHER SELF-EFFICACY,

AND TEACHER BELIEFS

by

Paige Kindley Lacks

Liberty University

A Dissertation Presented in Partial Fulfillment

of the Requirements for the Degree

Doctor of Education

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ABSTRACT

This quantitative study examined the relationship between school climate, teacher self-efficacy, and teacher beliefs. Teachers at two middle schools in rural southern Virginia participated in the study. Middle school teachers were surveyed using the School Climate Index to collect information about teacher-perceived views on their school's climate and the Teacher Sense of Efficacy Scale to gather information about teacher self-efficacy. Pearson Product-Moment Correlations were used to measure the relationship between school climate and teacher self-efficacy as well as teacher self-efficacy and four teacher-perceived climate factors, including collegial leadership, teacher professionalism, academic press, and community engagement. Data analysis did not provide evidence of a significant relationship between school climate and teacher self-efficacy. A positive correlation, however, was found in the relationship between teacher self-efficacy and community engagement. Recommendations for future research include replicating this study in elementary and high schools as well as in schools with different demographics, populations, and accreditation statuses to determine generalizations about school climate and teacher self-efficacy.

Keywords: school climate, teacher self-efficacy, collegial leadership, teacher professionalism, academic press, community engagement, student achievement

Dedication

I dedicate my dissertation to my family, whose love, support, and encouragement have been the driving forces to navigate me throughout my journey.

To my husband, David, who has been a constant source of unconditional love, strength, and understanding since God brought us together in the middle of this process. David, I love you more than words can express, and I appreciate your patience and selflessness as I worked to complete my research, writing, and editing. I thank God for allowing me to share this life with you and for the blessing to call you my husband. Together, we have fulfilled the promise that you made to my father that I would finish this mission.

To my parents, Larry and Velva, who instilled the importance of education in me from an early age and always supported me in achieving my goals. Mama and Daddy, thank you for your unconditional love and for believing in me and never letting me settle for anything less than my best. From the very beginning, you have always stood proudly beside me. Throughout my life, one by one, you have given me the tools to overcome any challenge thrown my way. God truly blessed me by giving me you as my parents.

To my brother, Kyle, who achieved his childhood dream of becoming a medical doctor. Whether you realized it or not, even though you are younger than I, you always pushed me to reach my educational dreams because I had no doubt that you would accomplish your own.

Acknowledgments

"But those who wait on the LORD shall renew their strength; They shall mount up with wings like eagles, They shall run and not be weary, They shall walk and not faint." – Isaiah 40:31.

First and foremost, I give thanks to my Lord and Savior, Jesus Christ, for giving me wings like eagles to successfully soar through this journey. By His grace, my strength to persevere through this research was renewed when the light at the end of the tunnel seemed dim.

From the first day that I sat in his class overwhelmed at the task before me, Dr. Scott Watson, my committee chair, demonstrated an exorbitant amount of patience with me. He walked with me through every step of the process. Most importantly, Dr. Watson, thank you for believing in me and never giving up on me.

I would also like to express my appreciation and gratitude to the other members of my committee, Dr. Pamela Aerni and Dr. Christy James. When I was at a crossroads in my writing, Dr. Aerni took the time to talk to me about my educational interests and helped me see the path that I wanted to take. I will always be thankful for her guidance and support. Dr. James agreed to be a part of my committee because she believed in me even though I never had the privilege of taking a course under her leadership. Thank you both for your advice and insight.

Finally, I would like to thank three others who shared their invaluable knowledge and expertise with me to help me navigate through this expedition. Sarah Fenwick took time out of her busy schedule to guide me through my statistical understandings of my research. She was eager to share her passion of math and statistics with me. Carole Griffin used one of her many gifts from God to help me by editing my work. I am blessed to have such a wonderful sister in Christ and for her friendship over the years. Dr. F. Darnell Carter and I enjoyed experiencing our dissertation journey together. I appreciate him serving as my accountability partner and for

his encouraging me to go home and work on my research even after a long day of work. I was

grateful to have him to talk things through and discuss ideas about my research. Even though he

defended before me, I am proud to be fulfilling my promise that I would not be far behind him.

Thank you, Sarah, Carole, and Darnell for your encouragement and friendship.

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CHAPTER ONE: INTRODUCTION TO THE STUDY

School climate is one of the most significant factors in solidifying an effective learning environment. In today's complex educational system, leaders face daily challenges in the world of high stakes testing and state accreditation that force them to ensure that they have implemented reforms that will provide sustained improvement in student achievement. As a result, school leaders and teachers must possess the ability to change and adapt to their conditions for continuous organizational improvement despite possible resistance from stakeholders. Moreover, with an often diverse teacher experience level, leaders consistently assess and evaluate the instructional practices in their building to empower teachers to engage and motivate their students (Kelley, Thornton, & Daugherty, 2005). Thus, the school's educational leader and the climate that he or she helps to establish directly impacts the school's environment and teachers' perception of that environment.

Even though educational leaders make the most decisions, teachers have the most contact with students throughout the day. Their attitudes about their profession can positively or negatively affect the student and the school. Teachers who display a positive passion for teaching and a positive morale have a major positive influence on students and the school, while teachers who have a negative disposition have a negative influence on students and the school. Educational leaders face the challenge of curtailing the hurtful mindset of such teachers and reset it to a positive morale in which teachers desire to positively affect student achievement.

Problem Statement

With the increased accountability of teachers to have students meet annual measureable goals, there is a lack of research focusing on the relationship between school climate and teacher self-efficacy and beliefs. The purpose of this study was to determine if a relationship exists

between teachers' perception of school climate and teacher self-efficacy and beliefs. This study assessed the beliefs of middle school teachers regarding the impact that school climate has on teacher self-efficacy.

Purpose Statement

As a result of the impact that teachers have in equipping students with global knowledge and academic skills that they need to be productive citizens in the 21st century, there is a need for teachers to have a positive mindset about their abilities to produce a conducive environment for their students. Therefore, it was important to determine how teachers perceived their ability to teach students given various climate, leadership, and professional situations. The purpose of this quantitative study was to determine the impact of school climate on teacher self-efficacy. The predictor variables of interest were the overall school climate, as well as the subcategories of collegial leadership, teacher professionalism, academic press, and community engagement. The criterion variable was the teacher self-efficacy level. Certified teachers from two middle schools in rural southern Virginia were targeted to participate in this study.

With more pressure on student achievement than ever before, it is critical for educational leaders to understand the factors that affect teacher morale (Rowland, 2008). The leaders who make it a priority to keep and support effective teachers create a familial environment through a positive, sustaining culture that makes teachers feel celebrated and accomplished. Thus, the focus of the study was to evaluate the relationship between school climate and teacher self-efficacy.

Research Questions and Hypotheses

RQ1: Is there a relationship between teacher-perceived school climate (as measured by the School Climate Index) and teacher self-efficacy (as measured by the Teacher Sense of Efficacy Scale)?

H_01: There will not be a statistically significant correlation between teacher-perceived school climate (as measured by the School Climate Index) and teacher self-efficacy (as measured by the Teacher Sense of Efficacy Scale.)

RQ2: Is there a relationship between teacher-perceived collegial leadership (as measured by the School Climate Index) and teacher self-efficacy (as measured by the Teacher Sense of Efficacy Scale) when teacher professionalism, academic press, and community engagement are controlled?

H_02: There will not be a statistically significant correlation between teacher-perceived collegial leadership (as measured by the Student Climate Index) and teacher self-efficacy (as measured by the Teacher Sense of Efficacy Scale) when teacher professionalism, academic press, and community engagement are controlled.

RQ3: Is there a relationship between teacher-perceived teacher professionalism (as measured by the School Climate Index) and teacher self-efficacy (as measured by the Teacher Sense of Efficacy Scale) when collegial leadership, academic press, and community engagement are controlled?

H_03: There will not be a statistically significant correlation between teacher-perceived teacher professionalism (as measured by the School Climate Index) and teacher self-efficacy (as measured by the Teacher Sense of Efficacy Scale) when collegial leadership, academic press, and community engagement are controlled.

RQ4: Is there a relationship between teacher-perceived academic press (as measured by the School Climate Index) and teacher self-efficacy (as measured by the Teacher Sense of Efficacy Scale) when teacher professionalism, collegial leadership, and community engagement are controlled?

H$_0$4: There will not be a statistically significant correlation between teacher-perceived academic press (as measured by the School Climate Index) and teacher self-efficacy (as measured by the Teacher Sense of Efficacy Scale) when teacher professionalism, collegial leadership, and community engagement are controlled.

RQ5: Is there a relationship between teacher-perceived community engagement (as measured by the School Climate Index) and teacher self-efficacy (as measured by the Teacher Sense of Efficacy Scale) when teacher professionalism, collegial leadership, and academic press are controlled?

H$_0$5: There will not be a statistically significant correlation between teacher-perceived community engagement (as measured by the School Climate Index) and teacher self-efficacy (as measured by the Teacher Sense of Efficacy Scale) when teacher professionalism, collegial leadership, and academic press are controlled.

Research Design

This research was a correlational study. The study was conducted to determine if a statistical relationship exists between middle school teachers' perception of their self-efficacy and their school climate. The two survey instruments used in this study were the School Climate Index (SCI), developed by Megan Tschannen-Moran and Anita Hoy and the Teacher Sense of Efficacy Scale (TSES) also developed by Tschannen-Moran, Wayne Hoy, and John Hannumb. The four variables of interest were measured through teachers' self-reported perceptions of

school climate from the SCI survey. These climate indicators were as follows: collegial leadership, teacher professionalism, academic press, and community engagement. The TSES was used to measure teacher self-efficacy. The two surveys were distributed to all teachers working at two middle schools in Virginia. The research hypothesis was evaluated for a relationship between school climate and teacher self-efficacy as well as a relationship between one or more of the four SCI subscales (collegial leadership, teacher professionalism, academic press, and community engagement) and the TSES total using Pearson Product-Moment Correlation Coefficient tests.

<h2 style="text-align:center">Significance of the Study</h2>

The study was significant to the field of education because it examined teachers' perception of their self-efficacy and their school climate, which may impact schools and their ability to improve student achievement. Data collected and analyzed as part of this research study may increase the awareness of school administrators to consistently monitor teacher self-efficacy in order to maintain an effective school climate. Administrator attentiveness of teachers' feelings may lead to educational leaders discovering the significance of collegial leadership, teacher professionalism, academic press, and community engagements in regards to maximizing the effectiveness of the learning environment for students. Areas of deficiency may lead school leaders to provide increased resources to help teachers improve their ability to impact student learning and growth. Therefore, an increased awareness may help teachers to realize that their attitudes toward their own abilities may greatly impact their teaching and student achievement.

In addition, the study focused on a rural school system, which had six of its eight schools to not earn full accreditation status for the 2014-2015 school year, two of which were middle

schools. Thus, there was a significant need to target weak areas and implement a plan of improvement to increase student achievement. The study provided an in-depth look at challenges of teacher self-efficacy and climate that may have impacted the challenges that the schools were facing to improve student achievement. As a result, the study can lead to improvements in school climate that may lead to an improvement in teacher morale. With the increased pressure to regain a full accreditation status by the state, looking at how teachers feel about their abilities to make an impact on student achievement may benefit school leaders. By determining specific areas for needed improvement, school leaders and teachers may work toward ensuring that their school's climate provides a positive environment for all stakeholders, which in return could help to increase student achievement.

Definition of Terms

Academic Press – the degree to which a school is focused by a pursuit for excellence, in
      which teachers and school principals have a nature that is structured, organized, and
      focused on academics (SCI)

Collegial Leadership – the behavior of the school leader that is democratic, caring, and
      compassionate. The school leader has established expectations and maintains
      standards that he or she expects his or her teachers to meet but remains open to
      change and remains concerned about the welfare of his or her teachers. (SCI)

Community Engagement – the level to which the school has fostered a productive and
      beneficial relationship with its community and its ability to be able to rely on parents
      and community members for support (SCI)

School Climate – the character and quality of school life based on its values and norms, social
      interactions, interpersonal relationships, and organizational structures (National School
      Climate Center, 2015)

Self-Efficacy – an individual's personal beliefs about his or her abilities to organize and

perform actions that will result in predicted types of outcomes, such as

improved student achievement (Bandura, 1997)

Teacher Professionalism – a teacher's ability to commit to students and engage them through

the teaching and learning process and display mutual respect to their colleagues

by providing support and expertise through open dialogue (SCI)

CHAPTER TWO: REVIEW OF THE LITERATURE

The purpose of this study was to determine if a relationship exists between teachers' perception of school climate and teacher self-efficacy and beliefs. When teachers believe that they have the capability to effectively teach to meet the diverse learning needs of all of their students, they will strive to create and deliver valuable instruction. This chapter will review the conceptual framework, review of the literature, and a summary of the literature review.

Conceptual Framework

The conceptual framework for the study was primarily based on Albert Bandura's Social Cognitive Theory and Julian Rotter's Locus of Control Theory. First, Bandura publically announced his theory in 1977, while he was a professor at Stanford University, and he continued to devote his research to the subject throughout his life. He then expanded his research to distinctively define self-efficacy and what it means to the teaching profession. Second, Rotter's Locus of Control Theory is essential to self-efficacy because it focuses on causal beliefs of actions and outcomes and whether or not those actions and outcomes have internal or external controls (Bandura, 1977; Rotter, 1966).

Social Cognitive Theory

In the 1960s, Alberta Bandura developed the Social Learning Theory, but after further research and study, in 1986, his theory evolved into what is today known as the Social Cognitive Theory. Through the Social Cognitive Theory, Bandura emphasized that the reciprocal interaction of a behavior, person, and environment is where learning occurs in a social setting (Boston University School of Public Health, 2013). Thus, there is a strong influence on social factors and the role of internal and external reinforcements that may affect those factors. What makes the Social Cognitive Theory unique compared to many other social theories is the way

that it looks at how individuals acquire a behavior and their ability to maintain it coupled with determining the social environment in which one exhibits the behavior (Bandura, 1986).

While initially creating the Social Learning Theory, Bandura explained the breakdown of his theory by developing five constructs: reciprocal determinism, behavioral capacity, observational learning, reinforcements, and expectations (Boston University School of Public Health, 2013). Bandura added a sixth construct, self-efficacy, when the initial theory transformed into the Social Cognitive Theory. Due to its analysis of cognitive, behavioral, and environmental factors, Bandura's theory is studied in conjunction with one experiencing personal and social change (Bandura, 1986). Since change and development is a lifelong process, perception and feelings can undergo numerous changes. Therefore, researchers across various disciplines have studied self-efficacy in medicine, military, economy, and education (Eroglu and Unlu, 2015). For this study, it is Bandura's study of self-efficacy that is the focal point of the research.

Bandura (1997) defined self-efficacy as "beliefs in one's capacity to organize and execute the courses of action required to produce given attainments" (p. 3). Bandura (1986) clarified in earlier research that self-efficacy "is concerned not with the skills one has but with judgments of what one can do with whatever skills one possesses" (p. 391). Thus, self-efficacy views can produce positive and empowering feelings, or it can yield negative, discouraging feelings. Hoy (2003-2004) asserted that teachers with a high sense of self-efficacy typically have an easier time producing cognitive growth in their students and motivating them. Such teachers recover quickly from setbacks and have an optimistic approach to trying new concepts or techniques. Consequently, teachers with low efficaciousness tend to be critical and more controlling of their teaching style (Kirk, 2013).

Bandura's research sought to justify a difference in the constructs of the terms "self-efficacy" and "self-concept." Before his research, the two terms were used interchangeably, but Bandura (1997) emphasized a specific distinction in the two noting that "self-efficacy" relates to personal judgments about one's ability compared to "self-concept" which is determined based on one's feelings of self-worth.

In addition, Bandura's Social Cognitive Theory relates to school climate. The basis for the theory derives from the reciprocal interactions of people, their environment, and their behavior (Boston University of School and Public Health, 2013). Specifically, Bandura's constructs of behavioral capacity, observational learning, and reinforcements are characteristics that can affect a school's climate. Wang and Degol (2015) stated, "Climate shapes the quality of the interaction of all students, teachers, parents, and school personnel, and reflects the norms, values, and goals that represent the broader educational and social missions of the school" (pg. 1). Thus, school climate focuses on the environment as a whole and how the behaviors of individuals affect the overall environment.

Locus of Control Theory

Julian Rotter's Locus of Control Theory, developed in 1966, is essential to self-efficacy. Rotter (1966) defined his theory in terms of one's general cross-sectional belief about feelings of internal and external controls that determine outcomes and actions. Individuals are classified based on a continuum from extremely internal to extremely external based on their beliefs (Mearns, 2014). The theory states that people who possess an internal locus of control will conclude that their self-efficacy is measured by factors they personally control. These people believe that they can control their own lives because responsibility lies within them. As a result, any success or failure that they encounter is solely due to their own efforts. In contrast,

individuals possessing an external locus of control feel that outside factors for which they have no control determine outcomes and actions. External factors include luck, chance, or powerful beings (Bandura, 1997; Rotter, 1966; Mearns, 2014). Therefore, these individuals do not believe their knowledge and skills control outcomes and actions. It is imperative to note, however, that Bandura (1997) stated that not all individuals who have a strong internal locus of control will always have a strong self-efficacy. In fact, Bandura found that individuals who typically have an internal locus of control but believe that they are incompetent at performing a certain task may possess an external locus of control and a weak self-efficacy (Aerni, 2008; Mearns, 2014).

The Research and Development Corporation, otherwise known as RAND, published two studies related to efficacy and Rotter's Locus of Control Theory, while using the Locus of Control Theory as its theoretical framework. In the studies, the Locus of Control Theory was based on the definition from Rotter stating it is the degree to which a person believes his or her behavior that determines specific life outcomes (Rotter, 1966). The RAND researchers used an existing questionnaire and added two questions to measure the concept of teacher efficacy, which produced powerful results (Armor et al., 1976).

Inspiration for the two questions came from the article that Rotter published in 1966, and they were created to assess if student learning and motivation, the two reinforcements, were within the teacher's control. The first item read, "When it comes right down to it, a teacher really can't do much because most of a student's motivation and performance depends on his or her home environment" (Tschannen-Moran and Woolfolk Hoy, 2001, p. 784). Teachers who stated that they agreed with this statement believe that reinforcement is external, or outside, to their control because environmental factors supersede any power that teachers can exert on what a student is learning or doing in their classroom (Tschannen-Moran & Woolfolk Hoy, 2001).

The question extends beyond the individual capabilities of a teacher and how he or she feels about outside factors impacting him or her at school. Tschannen-Moran et al. (1998) cite that "factors such as conflict, violence, or substance abuse at home or in the community; the value placed on education at home; the social and economic realities of class, race, and gender; and the physiological, emotional, and cognitive needs of a particular child all have a very real impact on a student's motivation and performance in school" (p. 204). Thus, researchers categorized teachers' beliefs about the power of such external factors as general teaching efficacy (Tschannen-Moran et al., 1998).

The second of the RAND items read, "If I try hard, I can get through to even the most difficult of unmotivated students" (Tschannen-Moran and Woolfolk Hoy, 2001, p. 785). Teachers who agree with the statement display an internal control that signifies confidence in their abilities to help students learn, despite any difficult outside factors. Moreover, they show confidence that they have the experience and training to help students overcome obstacles with their learning. Teachers who display this aspect of efficacy show a personal teaching efficacy that may or may not be different from what teachers believe in general (Tschannen-Moran et al., 1998). Thus, Rotter's theory is significant to the educational field when trying to understand teacher self-efficacy.

Development of Self-Efficacy

Bandura (1986, 1997) proposes four sources of teacher's self-efficacy: mastery experiences, which he notes as the most significant factor, vicarious experiences, verbal persuasion, and physiological arousal. First, mastery experiences are defined by a teacher's perception of his or her past teaching experiences. Hoy (2003) asserts that if one has a positive perception (successful mastery), his or her expectations of teaching will be proficient, unless the

amount of work to get the positive perception requires a massive work level that the teacher feels that he or she cannot sustain. In contrast, if one believes his or her teaching has been a failure, he or she is apt to think that future teaching performances will provide the same result.

Vicarious experiences, or observing the practices of another teacher, also greatly affects one's self-efficacy. Such experiences typically occur when one observes another's teaching and are prevalent in pre-service teacher programs, mainly during the pre-service field experiences. Therefore, Bandura (1997) asserts that modeling from another individual is an effective means for enhancing the self-efficacy of an individual during a vicarious experience. During a field experience, this occurs when the field experience teacher (the student) acts as a participating or passive observer while the in-service teacher (the model) teaches. As a result, the in-service teacher has the ability to influence the field experience teacher's teaching efficacy. When one observes a successful model, individual efficacy is typically raised. In contrast, when one observes an individual fail while modeling, individual efficacy typically declines (Bandura, 1997).

In order for a vicarious experience to be deemed effective, the observer must view the individual being observed as competent. Bandura (1997) states that competence of the model is a more effective trait in influencing efficacy than the age, sex, or other personal characteristics of the model. Bandura (1997) proposes "Model competence is an especially influential factor when observers have a lot to learn and models have much they can teach them by instructive demonstration of skills and strategies" (p.101).

The third source in the development of teacher self-efficacy is verbal and social persuasion. This is derived from talking to others, participating in professional development, course work, and feedback from colleagues, students, or supervisors. Thus, verbal persuasion

can prove to have positive and negative connotations (Mulholland & Wallace, 2001). Hoy (2000) asserts that the way a new teacher to the profession is socialized in the school setting has a potentially powerful impact on a teacher's sense of efficacy.

Psychological and emotional arousal is the final source of self-efficacy, which can affect feelings of competence and capability. Tschannen-Moran & Hoy (2007) stated, "The feelings of joy or pleasure a teacher experiences from teaching a successful lesson may increase her sense of efficacy, yet high levels of stress or anxiety associated with a fear of losing control may result in lower self-efficacy beliefs" (p. 945).

Printy and Marks (2006) suggested that teacher self-efficacy relates to the hard work and commitment of a teacher who continually strives to help students learn. Teachers become more committed to teaching when they experience success at helping students become academically successful (Ross & Gray, 2006). Researchers whose studies focused on school improvement have discovered that increased teacher efficacy is a consistent indicator among teachers who are willing to try new teaching ideas (Ross & Gray, 2006).

Thus, if teachers have positive mastery experiences, vicarious experiences, verbal persuasions, and psychological and emotional states, they will have a strong sense of efficacy. Jerald (2007) stated that such teachers exhibit the follow characteristics: greater levels of planning and organization, openness to new ideas and more willingness to experiment with new methods to better meet the needs of their students, persistence and resilience when things do not go smoothly, less criticism of students when they make errors, and less inclination to refer a difficult student to special education (qtd in Protheroe, p. 43).

Influencing Factors

There are several influencing factors that can positively or negatively affect a teacher's self-efficacy. Teachers who have positive experiences tend to be intrinsically motivated and put a high degree of effort in the planning of their teaching. In contrast, teachers who have negative experiences may extend little effort and avoid challenging tasks because they do not believe that they can be successful.

One factor begins on the onset of one's career as a teacher. Hoy (2000) suggests that "some of the most powerful influences on the development of teacher efficacy are mastery experiences during student teaching and the induction year." First-year teachers typically experience a decline in their efficacy during the year. Research supports, however, that novice teachers who had principals who provided a support system to them did not experience a decline. Chester and Beaudin (1996) stated that teachers who received frequent observations and feedback from their principal did not display a decline in self-efficacy during their induction year.

Principals and school leadership also greatly influence teacher self-efficacy. The school principal is responsible for establishing the ground rules and the operational environment in the school (Hunter-Boykin & Evans, 1995). Hipps (1996) found that principals who modeled behaviors such as risk taking and cooperation had teachers with high levels of efficacy in their building. Thus, they inspired a group atmosphere, which led to a shared vision to create a student-centered environment. Principals who successfully inspired a common purpose while delineating expectations for student behavior had teachers with high self-efficacy. In addition, positive self-efficacy was also found in teachers with principals who encouraged them to have control over their classroom management while still providing resources to stop disruptive

behaviors (Hipp & Bredeson, 1995). Also, principals who modeled professional behavior and provided performance-based rewards had teachers with a high sense of efficacy (Lee, Dedrick, & Smith, 1991).

A principal's primary point of improving student achievement is through his or her teachers. The mindset begins through inspiring teachers to have a student-centered environment that positively impacts student achievement (May & Supovitz, 2010; Leithwood, Patten, & Jantzi, 2005). Leithwood, Patten, & Jantzi (2005) conducted meta-analysis research from 1996-2005 and found that transformational school leadership positively impacts school culture, teacher job satisfaction, teacher efficacy, student engagement, and student academic outcomes.

Collective efficacy comprised with teacher self-efficacy and collective school culture is influenced by principal leadership. Demir (2008) reviewed the relationship of transformational leadership with collective teacher efficacy and then further looked at the self-efficacy of teachers and the collective school culture. Conducting the study in Turkey, the researcher surveyed 218 teachers from 66 elementary schools. The results indicated that transformational leadership of principals determined a variance of 35% of collective teacher efficacy, 49% of self-efficacy of teachers, and 58% of collaborative school culture (Demir, 2008). Thus, the researcher's findings strengthen the evidence that a relationship exists between transformational leadership and collective efficacy, teacher self-efficacy, and collaborative culture. Moreover, his results also showed that teacher self-efficacy and collaborative school culture may weaken the relationship between transformational leaders and collective teacher efficacy. Therefore, leadership can be an influencing factor for collective school efficacy as well as individual self-efficacy.

Principals who share the decision-making process with teachers also have schools with higher efficacy. Moore & Esselman (1992) researched teachers in an urban Midwestern school

district and found that the more freedom that teachers had in decision making, the greater their sense of efficacy. Goddard (2001) also found that schools with shared decision making on school-wide issues produced stronger beliefs about the collective capability of its faculty to help its students to prosper.

Sarafidou and Chatziioannidis (2013) studied levels of teacher involvement in decision making in primary schools in Greece. They distributed questionnaires following a Likert-type scale to 143 teachers. Using a multidimensional approach, they found that teachers participating in decision making about matters concerning teacher and student issues were high, but teachers participating in making decisions about managerial issues was low. Moreover, they determined that the strongest predictor in a teacher's job satisfaction and self-efficacy was their ability to participate in decision-making issues concerning teachers. Therefore, teachers feel empowered when they are able to be included in making decisions, which positively affects their self-efficacy.

Teacher Self-Efficacy

Albert Bandura (1997) proposed that behavior is determined based on one's beliefs about his or her capabilities more than what they are able to actually accomplish. As a result, it is one's self-belief that motivates his or her teaching and professional accomplishments. Ross (1994) researched teacher efficacy studies in over 88 settings and determined that teachers with a high sense of efficacy are more likely to "learn and use new approaches and strategies for teaching, use management techniques that enhance student autonomy, provide special assistance to low achieving students, build students' self-perceptions of their academic skills, set attainable goals, and persist in the face of student failure" (qtd in Hoy, 2003-2004).

Teachers who know that they encompass the ability to make positive advances in their students' growth and learning have a strong sense of self-efficacy. Perhaps the best outcome of high teacher self-efficacy is the effect that it has on student achievement. Research shows a vital link between teacher self-efficacy and student achievement (Protheroe, 2008; Hoy, Sweetland, & Smith, 2002). Hoy, Sweetland, and Smith (2002) discovered that collective efficacy was more important in determining school achievement than socioeconomic status. Moreover, Brinson and Steiner (2007) note the positive effects of collective efficacy lead to a positive impact on parent-teacher relationships.

All teachers have a sense of self-efficacy; however, there are two specific types of belief systems that make up this broad term. First, a teacher's *personal* teaching efficacy is defined by a teacher's own feelings of confidence in terms of his or her teaching skills and abilities to improve student learning. The other belief, a *general* teaching efficacy, is based on a general belief that one has about the power of teachers to reach difficult children (Protheroe, 2008). General teaching efficacy relies heavily on external issues that are out of the teacher's control. These factors include home environment, socioeconomic status, IQ, school conditions, and parental involvement (Gibson & Dembo, 1984; Dembo & Gibson, 1985). Gibson & Dembo (1984) best described this mindset in their Rand study through its description of response stem, Rand 1, which was included in its factor analysis: "when it comes right down to it, a teacher really can't do much because most of the students' motivation and performance depends on his or her home environment" (pg. 572). Furthermore, these two beliefs can be independent from one another. For example, a teacher may have a positive sense of general teaching efficacy but lack a personal teaching sense.

Teacher Self-Efficacy and Attitude

Over the past couple of decades, researchers have conducted numerous studies in relation to teacher self-efficacy. Several variables have been linked with teacher self-efficacy including student achievement, teacher burnout, student attitudes, and school climate (Gibson & Dembo, 1984; Tschannen-Moran and Hoy, 2001).

Attitudes, or the way that teachers feel about the teaching profession, may change overtime, so it is important to determine if those entering the teaching profession have high levels of efficacy from the onset. Eroglu and Unlu (2015) studied physical education pre-service teachers' self-efficacy levels and their attitudes toward the teaching profession. The study was designed to detect the relationship between the teacher candidates' self-efficacy levels and their attitudes toward the teaching profession. They sampled 601 candidates from six universities in Turkey. Participants completed the "Teacher Self-Efficacy Scale" or TSES and the "Attitude Scale for the Profession of Physical Education Teaching" or ASPPET. Using t-test, Pearson Product-Moment Correlation Coefficient, and Multiple Regression Analysis, the researchers discovered that teacher candidates' attitudes increase in correlation to an increase in their self-efficacy. Therefore, as Eroglu and Unlu (2015) stated, teacher candidates with high self-efficacy levels show that "teacher candidates have the professional competence required by the teaching profession, they have classroom management, education planning, implementation, and assessment knowledge and skills, and they are equipped with the skills required to motivate students in their class and in their overall education" (pg. 209).

Pre-Service Teaching Training and Self-Efficacy

Many researchers believe that the key to a strong self-efficacy foundation begins at the onset of one's teaching career. Bhatia (2014) studied the self-efficacy of individuals entering the

teaching profession in Montessori schools. Thirty-five pre-service teachers were identified throughout the United States. Each conducted a survey prior to beginning teaching and then another survey during their internship. The researcher found that those who displayed high levels of self-efficacy from their survey results tend to share strong mastery experiences based on their attitudes and teaching goals. Thus, during teacher training, individuals who stay focused and are determined to overcome early obstacles show strong self-efficacy toward their future teaching profession.

Velthuis, Fisser, & Pieters (2013) conducted a research study similar in nature for studying pre-service teachers' self-efficacy beliefs for teaching science. Their goal was to identify influencing factors that could help colleges and universities to adapt their curriculum to support the needs of teachers to develop and enhance a high self-efficacy. They sampled 292 pre-service teachers who were in a teacher-training program at two universities over the period of four years. They found that pre-service teacher self-efficacy improved during the first and second year but not during the third and fourth year of training. They further identified that those who felt highly knowledgeable in the given subject matter displayed high levels of self-efficacy for teaching that same subject matter, which in this case was science. The subjects from the university who included content courses as part of their first-year course requirements showed significantly higher self-efficacy than those pre-service teachers from the university who did not offer such courses. Interestingly, the difference was not present after the second year of teacher training (Velthuis, Fisser, & Pieters, 2013).

Teacher Self-Efficacy and Teacher Burnout

Several of the research studies conducted on teacher self-efficacy focus on its relationship with teacher burnout. Teacher burnout is best defined as a teacher experiencing chronic

emotional exhaustion, depersonalization, and lower personal accomplishment to the point that it affects his or her desire to teach (Aloe et al., 2013, Maslach, 1976). Teacher burnout has been studied throughout the world. It has been associated with dissatisfaction with the profession in all stages of a teacher's career, from student teaching to retirement. Burnout affects several aspects of a teacher's attitude about his or her ability to effectively lead the classroom, including his or her ability to work, mental health, emotional regard, perfectionism, job satisfaction, and teacher turnover (Aloe et al., 2013). Most notably, Aloe, Amo & Shanahan (2013) proposed, "Teachers with higher levels of burnout, as well as teachers with lower levels of self-efficacy, are more likely to leave the profession" (pg. 102). Therefore, teacher burnout is a significant factor that can greatly affect teacher self-efficacy.

Dicke, Parker, Holzberger, Kunina-Habenicht, Kunter, & Leutner (2015) studied beginning teachers' self-efficacy and their level of exhaustion as related to burnout. The researchers sampled a group of first-year teachers in Germany to determine whether the information and knowledge they gleaned during their pre-service studies prior to their first year of teaching could help to determine if their levels of exhaustion would change during their first year of teaching. They discovered that both emotional exhaustion and teacher self-efficacy did increase during the first year of teaching, but emotional exhaustion increased more (Dicke et al., 2015). As a result, exhaustion and teacher burnout are prevalent during one's first year of teaching.

Wang, Hall, and Rahimi (2015) reviewed teachers' self-efficacy and their attributions to stress and job satisfaction to predict burnout and quitting intentions. They sampled 523 teachers from Canada, with 51.4% employed at a primary or elementary school, 42.5% employed at a secondary or high school, and 6.1% employed at a junior college. The teachers had 12.92 years

mean teaching experience. After the teachers completed the online self-reporting questionnaire, the researchers discovered that teacher self-efficacy for student engagement and their ability to control attributions were the strongest predictors in determining a teacher's level of burnout (Wang, Hall & Rahimi, 2015).

Further, Aloe, Amo, and Shanahan (2013) used a multivariate meta-analysis to study teacher classroom management self-efficacy in relation to teacher burnout. After analyzing the results from sixteen studies, they found that a significant relationship exists between classroom management self-efficacy and emotional exhaustion, depersonalization, and lowered personal accomplishments, which they noted as the three main characteristics of burnout. Therefore, teachers with low levels of classroom management self-efficacy are more likely to experience feelings of burnout, while teachers with high levels of classroom management self-efficacy are not as likely to experience burnout feelings (Aloe et al., 2013). Since the studies show a strong connection of teacher self-efficacy to teacher burnout, it is imperative that researchers consider burnout as a factor in determining teacher self-efficacy as part of their future research.

Teacher Self-Efficacy and Student Achievement

Teacher self-efficacy impacts students in numerous ways. Regardless if negative or positive, their actions and mannerisms toward students may impact learning and student achievement. Printy and Marks (2006) suggested that teachers with high self-efficacy are continually committed and work hard to help students improve their learning. Thus, a strong link exists between high teacher self-efficacy and student achievement (Bandura, 1997). Goddard, Hoy, and Hoy (2000) report that administrators who want to see improvements in student achievement should first start with building the collective efficacy of their faculties.

The first study that the Rand Corporation published measured teacher characteristics and student outcomes (Armor et al., 1976). The Los Angeles Unified School District's Board of Education contracted with the Rand researchers to determine the effects of their school's reading program that had been initiated four years prior to target reading achievement of sixth grade African-American and Mexican-American students. The researchers discovered that teacher efficacy positively affected African-American students' reading scores (Armor et al., 1976). As a result, they discovered the significant impact of teachers' perceptions of their own capabilities, or self-efficacy, to influence students' reading achievement.

Researchers have conducted other studies linking teacher self-efficacy and student achievement. Several studies noted that students of teachers with high levels of self-efficacy perform better on standardized tests than their counterparts who have teachers who display low self-efficacy (Moore & Esselman, 1992; Muijs & Reynolds, 2015). Moreover, Chan, Chan, Cheung, Ngan and Yeung (1992) performed a study of 4,545 primary students and the 132 school teachers who taught them in Hong Kong. They discovered that teachers' perception of self and of their pedagogical self were significant factors of teacher behavior, which was a predictor of student achievement.

Collective Efficacy

Some researchers believe that teacher efficacy can be enhanced to a greater capacity level called collective teacher efficacy. Goddard, Hoy, and Hoy (2000) define collective efficacy as "the perceptions of teachers in a school that the efforts of the faculty as a whole will have a positive effect on students" (p. 480). The positive results of high student achievement are especially predominant in schools with a high sense of collective self-efficacy. Moreover, Goddard, Hoy, and Hoy (2000) studied 47 elementary schools located in a large urban

Midwestern district and found that a school's level of collective efficacy was a forecasting factor of reading and mathematics achievement.

Lee and Smith (1996) studied data on almost 12,000 students and 10,000 teachers in 820 high schools across the United States. They found that schools where teachers take collective responsibility for their students' academic success or failure instead of making excuses by blaming students for their own failure produced significantly higher student achievement gains. They also discovered that such schools produced smaller achievement gaps over time due to the strong collective efficacy of teachers who pushed their disadvantaged students to keep on pace with their peers.

Other studies have found that a strong correlation to collective efficacy has a greater impact on student achievement than student demographics. Goddard, LoGerfo, and Hoy (2004) studied ninety-six rural, suburban, and urban high schools and found that the strongest predictor of student achievement in reading, writing, and social studies was a school's collective efficacy, which outranked variables including school size, minority enrollment students' socioeconomic status, and students' prior achievement. Moreover, Goddard, Hoy, and Hoy (2000) explained the results of their study by stating, "The negative association between SES [socioeconomic status] and achievement is more than offset by the positive association between collective teacher efficacy and students' achievement" (pg. 500). Thus, a link exists between school climate and student achievement (Wang & Degol, 2015). The collective efficacy of a school can impact a school's climate.

Belfi, Gielen, DeFraine, Verschueren, & Meredith (2015) also studied the association between collective teacher efficacy and school socioeconomic status. They sampled teachers from 183 primary schools in Belgium between 2006 and 2008. They discovered that a

relationship does exist between the two factors but that teachers' perceptions of their schools' social capital was the main factor in their relationship. Thus, collective efficacy has the potential to produce high student achievement results in all schools.

Angelle and Teague (2014) observed the relationship between teacher perceptions of teacher leadership and collective efficacy. Using three school districts in the southeastern United States, they collected data using two instruments and an ANOVA analysis to examine the mean differences by district. They found that a strong relationship exists between collective efficacy and teacher leadership. Moreover, teachers who perceive that they have a leadership role in their school display higher levels of collective efficacy. This emphasizes the significant role that teacher leaders play in the collective efficacy process. Teachers who feel empowered in the decision-making process and believe their principal is open to sharing power produce higher levels of collective efficacy.

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School Climate

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School climate has been recognized as a key factor in school performance since the 17th century (Schoen & Teddlie, 2008). Even though it has been studied much more intensively for the past four decades, the last two decades have generated a better appreciation for the significance that school climate plays into the overall function of a school (Peterson & Deal, 2009; Thapa et al, 2013).

Several researchers have defined school climate. Hoy and Miskel (2005) explained it as "the set of internal characteristics that distinguish one school from another and influence the behaviors of each school's members" (pg. 185). Van Houtte (2005) emphasized that school climate is comprised of common beliefs and shared experiences between school authorities and colleagues. Perhaps one of the most widely accepted definitions written by Haynes et al (1997)

stated that it is "the quality and consistency of interpersonal interactions within the school community that influence children's cognitive, social, and psychological development" (p. 322). Thus, due to its connection to attitude and perception, climate plays a significant role in the overall makeup of a school.

Harris (2002) noted that each school is unique, largely in its culture and climate. The distinctive interpersonal climate of every school setting is a result of various psychological and institutional attributes (Kuperminc, Leadbeater, Emmons, & Blatt, 1997). A school's psychological feel and its physical features directly affect one's school climate (Van Houtte, 2005). A school's climate is shaped by factors that are in many cases uncontrollable, such as the school's size, location (rural, suburban, or urban), age of students, and school type. Such factors play a role in the students' learning climate and the teachers' working climate, which impact the overall climate of the school (Meristo & Eisenschmidt, 2014).

Measuring a school's climate and culture is a complex process. Part of the complexity is based on the fact that there is no universal definition of school climate. Researchers have reviewed the various characteristics that uniquely identify one school's climate over another. Since schools have different organizational, cultural, and individual values, researchers have emphasized the use of subgroups to assess the various factors of school climate. Lindahl (2011) proposed that a single element can be powerful enough to deter a school from moving forward for improvement. Since one factor can be so significant, school leaders must be able to identify specifically where there is a deficit. Due to the fact that there is no universal set of core values and beliefs, many researchers have identified several domains that have proven to have commonalities (US Department of Education, 2009).

Since research has shown to link school climate with positive outcomes for students, it has received the attention of many national organizations. The National School Climate Center reviewed over 200 references and concluded that five prevalent domains determine a school's climate: safety, relationships, teaching and learning, institutional learning, and the school improvement process (Thapa et al, 2013). Likewise, the Safe and Supportive Schools model by the United States Department of Education recognizes three domains, which include safety, student engagement, and the school environment (US Department of Education, 2009). The United States Department of Education furthered its stance on school climate in 2014, when it announced its School Improvement School Climate grants. They assert the significance of school climate by stating:

Schools must be both safe and supportive for effective teaching and learning to take place. Three key principles can guide efforts to create such productive learning environments. First, work in a deliberate fashion to develop positive and respectful school climates and prevent student misbehavior before it occurs. Ensure that clear, appropriate, and consistent expectations and consequences are in place to prevent and address misbehavior. (US Department of Education, 2014, p. 2)

Other researchers have identified and studied four key factors that shape school climate: safety, relationships, teaching and learning, and the institutional environment (National School Climate Council, 2007). Each of these areas systematically measure individual subgroups that make up the consistency of the overall climate of a school. The Center for Social and Emotional Education (2010) produced indicators for each of the four dimensions. First, the safety of the school can be determined by the rules and norms, physical safety, and social and emotional security. Teaching and learning is broken down into two subgroups, support for learning and

social and civic learning. The third subgroup, interpersonal relationships, is defined by a school's respect for diversity and social support for adults and for students. Finally, the CSEE measured its last category, institutional environment, by measuring school connectedness and engagement and physical surroundings (Center for Social and Emotional Education, 2010).

Koth, Bradshaw, and Leaf (2008) investigated the factors that influence student perceptions of a positive school climate. They used a multilevel analysis to determine the relationship among various conditions and their subsequent effect on school climate. They surveyed almost 2,500 fifth grade students and their teachers, and they examined data on the students and teachers as well as the overall function of the school, especially noting classroom factors and general school characteristics. Results indicated that factors such as school size, racial/ethnic demographics, teacher turnover, and a teacher's years of experience as being major elements that impacted students' perception of their school climate.

Mitchell, Bradshaw, and Leaf (2010) conducted a study using a multilevel approach to compare teacher and student perceptions of school climate and its emphasis on academics. They also sought to determine if teacher and student perceptions aligned. Their subjects were 1881 fifth grade students and 90 fifth grade teachers. The researchers compared the student and teacher results to determine the overall level of influence of school and classroom factors of school climate. They also studied the individual characteristics of the schools and classrooms to determine which ones impact school climate. They found that each group had distinctive characteristics that determined their perspective on their school's climate. Students cited student-teacher relationships and principal turnover while teachers named classroom factors, such as classroom management and student behavior, as their main source (Mitchell, Bradshaw & Leaf, 2010).

Physical Environment

The physical environment of a school affects its climate. The condition of the facilities, classrooms, buildings, and grounds create either positive, proud feelings or negative, embarrassing feelings (Rutter et al, 1979). Other factors such as classroom temperature, arrangement of the classroom, and noise also impact the physical environment aspect of school climate (Zullig & Kooperman, 2010). Also, physical disorder that causes impairment to the physical environment, such as broken windows, trash, and graffiti can cause social disorder and thus impede the climate of the school (Plank, Bradshaw, & Young, 2009). When teachers and students view their environment as chaotic, students are less likely to learn and be successful in school (Bradshaw et al, 2014).

Social Relationships

Social relationships and connectedness are significant factors in school climate. More specifically, principal-teacher, teacher-student, and student-student relationships impact student achievement (Wilson, 2004). For students, this is measured by the existence of students having defining roles that give them a sense of value, the level of engagement in their learning, the amount of public recognition they receive for their accomplishments, and the comfort they receive from their teachers (Bradshaw et al, 2014; Zullig & Kooperman, 2010). Rhodes et al (2009) categorized social aspects of climate into two categories: psychological attributes and institutional attributes. Psychological attributes include cooperation, trust, and openness among faculty, staff, and students. Institutional attributes are defined by teaching practices, level of collaboration, and the expectations of students, parents, and faculty.

Social relationships are a vital aspect of school climate. Many teachers do not have a relationship with any of their colleagues other than as an acquaintance. Teachers must establish

a team approach by building a climate of trust and support. Through such relationships, teachers

have a foundation for sustainable collaboration where they may work together to improve

student achievement and provide a positive learning climate. Conner (2014) studied elementary

school teachers and their perceptions of school climate in relation to collegial relationships and

camaraderie among faculty. Conducting a cross sectional and ex post facto study using

participants from one elementary school, Conner (2014) analyzed data that teachers completed

using a random survey, "Survey for Instructional Staff." Of the thirty-nine questions on the

survey, only seven were applicable for the study. The researcher found that relationships are

essential for a successful school climate, and camaraderie is essential for building relations.

After educators establish a relationship among themselves that foster collaboration,

communication, and camaraderie, they must work to build strong teacher-student relationships to

optimize student learning and achievement.

Devos, Dupriez, and Paquay (2012) also studied the effects of the social working

environment and its ability to affect a teacher's self-efficacy. Conducting two quantitative

studies, they discovered that the structure of a school's culture does affect self-efficacy as well as

feelings of depression. Such factors as collaboration with colleagues helped to improve self-

efficacy while other factors, such as mentoring or meetings with the principal, did not signify a

relationship to self-efficacy.

Lee, Dedrick, and Smith (1991) researched the impact of the social organization of

schools on teachers and students. They sampled 8,488 teachers in 307 public schools and forty-

seven private Catholic schools. The participants took two surveys, High School & Beyond

(HS&B) and Administrator and Teacher Survey (ATS). They discovered that such factors as

principal leadership, teacher control, an organized environment, and school organization greatly influenced one's self-efficacy and school climate.

Positive School Climate

A positive school climate provides a sense of belonging to all stakeholders, which promotes bonding and unity (Howard, Howell & Brainard, 1987). Several studies support that a positive school climate positively affects teachers' self-efficacy, their health, and their effectiveness over student learning (Ciani et al, 2008). Moreover, a supportive atmosphere encourages feelings of trust and respect while promoting shared values and beliefs (Manning & Saddlemire, 1996). Teachers who work in schools with a positive climate report higher job satisfaction (Taylor & Tashakkori, 1995).

A positive school climate is imperative for students to maximize their functioning at school and their social and emotional development. Berg and Aber (2015) reviewed several characteristics of children to measure the interpersonal climate based on the perception of elementary school children. The survey included demographic, behavioral, academic, and social-cognitive questions designed to determine students' views about negative school climate and teachers' perceptions about safety and respect. The researchers had 4,016 fourth grade students serve as participants from 83 public elementary schools. After analyzing the results, the researchers discovered that students' level of empathy, victimization, and academic understanding affected their perception of their interpersonal climate (Berg & Aber, 2015).

Taylor and Tashakkori (1995) conducted a study to measure the significance of decision participation, school climate, teacher self-efficacy, and job satisfaction. They distributed surveys to 25,000 students and 9,987 teachers in 1,296 schools. Of the four variables, they determined that school climate was the strongest predictor of teacher job satisfaction, proving to be a much

stronger variable compared to decision making. Looking specifically at school climate, the strongest indicators to maintain a positive school climate were a lack of teaching obstacles and the leadership of the principal. Moreover, the best predictors for a positive sense of self-efficacy were similarly, a lack of teaching obstacles, as well as faculty communication. Thus, Taylor and Tasakkori (1995) solidified the interconnectedness between teacher self-efficacy and school climate.

Many researchers have emphasized that a positive school climate has a great effect on a child's academic and social performance. O'Malley, Voight, Renshaw, and Eklund (2015) evaluated the extent of the positive effects of school climate on the student's ability to overcome obstacles from his or her family structure. The researchers sampled 490,000 students in the ninth grade and eleventh grade from 902 public high schools in California. The survey asked students to report their grade point average, or GPA, as well as their family structure, specifically whether or not they lived in a two-parent, one-parent, homeless, or foster care home. They discovered that despite the familial structure, students who had a positive perception of their school climate reported having higher GPAs than those students who had a negative perception of their school climate. Thus, positive experiences in school can help students to be successful academically even though they may not have a structured family environment.

School Climate and the Principal

Perhaps one of the biggest factors in determining teachers' perception of school climate is the principal, or educational leader. Thus, creating a supportive school climate is the responsibility of the school leader. They must foster a community where teachers can share ideas and feel comfortable sharing experiences that positively influence the atmosphere (Meristo & Eisenschmidt, 2014). The everyday interactions that principals have with their teachers can

affect trust and collegiality and the teachers' ability to influence decisions. Moreover, when such relationships exist, they impact student achievement and performance, as teachers feel supported and mutually respected (Edgerson et al, 2006; Friedkin & Slater, 1994). They also work together to problem solve and achieve common goals. As a result, teacher perceptions of support from their principal directly impact teacher commitment, turnover, and collegiality (Singh & Billingsley, 1998).

Rhodes, Camic, Milburn, and Lowe (2009) conducted a study to determine if a collaborative school-based intervention could effectively modify the relationship between administrators and teachers. After analyzing the responses of teachers and students, the treatment proved to improve teachers' attitudes and well as their perceptions of their school climate and their principal support. Similarly, students whose schools participated in the initiative reported advances in their school climate. Such strategic interventions customized specifically to a school's needs can result in a successful revitalization of a school setting.

In contrast, a lack of connectedness between the principal and teacher can have negative consequences on school climate. Negative perceptions can cause a teacher to become disengaged from the teaching and learning environment (Gimbel, 2003). Operational weaknesses which impede teacher independence weaken the level of trust between administrators and teachers, which damages the school climate. Leaving teachers out of the decision-making process may undermine teachers' sense of independence in their classrooms. They feel their input is not valued and, thus, feel an absence of ownership and sense of value in the school. A lack of support from administrators makes teachers more vulnerable to burnout and stress (Rhodes et al, 2009).

Crum and Sherman (2008) conducted a study to determine common themes of successful schools in Virginia. Using qualitative methods, they interviewed 12 principals in schools that produced high student achievement to determine the characteristics for success. The principals were selected based on the fact that their schools met both state and federal accreditation standards. The principals had at least two years of leadership experience, and the researchers followed a standard interview guide to ensure that they sought the same information from all participants. In the interviews, principals were encouraged to talk about their daily practices, and the researchers identified six common themes based on the results: facilitating leadership and developing personnel, delegation of task through empowerment, recognizing ultimate accountability, communication, facilitating instruction, and supervising change. In the interview, principals noted that the teachers were responsible for student achievement since they were the ones who deliver instruction in the classroom (Crum and Sherman, 2008).

School Climate and Teachers

Collie, Shapka, and Perry (2012) examined the relationship between teachers' perceptions of their social-emotional learning and the climate within their schools. They measured three variables to determine the type and level of relationship that exists between the three: teachers' sense of stress, teaching efficacy, and job satisfaction. Sampling 664 elementary and secondary school teachers, each participant completed an online questionnaire to measure teacher perceptions of their school climate and social-emotional learning. Of the factors reviewed, teachers' perceptions of student motivation and behavior had the most significant impact on school climate. It was also named as a variable that meaningfully predicted one's teaching efficacy. Two other specific factors, workload stress and student behavior stress, were

also highly noted as factors that determined one's sense of teaching efficacy (Collie, Shapka & Perry, 2012).

Imants and Zoelen (1995) studied teacher absenteeism and its effect on school climate and teacher self-efficacy. More specifically, they compared the school climates of schools with low absentee rates to schools with high absentee rates. The researchers collected samples from 66 teachers in 16 schools, eight of which had low teacher absenteeism and eight with high teacher absenteeism. The results of the MANOVA test showed that three factors – collegial relations, leadership style, and directivity of the principal – were the most influencing reasons for teacher absences. Furthermore, schools with high absentee rates proved to have collegial relations and leadership style with a much more friendly and informal atmosphere compared to their counterparts. In comparison, schools with a low absenteeism rate typically had teachers who perceived their principal to have a more directive leadership style. Moreover, the researchers discovered that there was no significant difference in teacher self-efficacy in the categories of student-related tasks and school-related tasks (Imants & Zoelen, 1995). Thus, the frequency of teacher absenteeism can negatively impact school climate.

Bear, Yang, Pell, and Gaskins (2014) studied a sample of administrators, teachers, and support staff in 132 schools across all grade levels (elementary, middle and high schools) to study teachers' perceptions of school climate. Using the Delaware School Climate Survey-Teacher/Staff, the researchers used a multi-group confirmatory factor analysis studying seven specific factors of school climate: teacher-student relations, student-student relations, teacher-home communication, respect for diversity, school safety, fairness of rules, and clarity of expectations. Researchers found evidence across all grade levels that showed a positive correlation with student academic achievement and a negative correlation to school suspensions

and expulsions. Of the seven, the student-student relations factor correlated the highest to academic achievement and suspensions and expulsions. Therefore, schools where students have amicable relationships centered on respect have higher academic achievement and fewer behavioral issues compared to their counterparts.

School Climate and Students

Not only does a school's climate affect teachers, but it also majorly impacts students. The American Psychological Association (2013) asserts that school climate is linked to academic achievement, learning, and development. Researchers have documented a link among positive school climate and academic motivation, self-esteem, conflict resolution, and social motivation (Payne et al, 2003; Plank et al, 2009).

More specifically, school climate plays a factor in dropout rates, absenteeism, truancy, and suspension. Moreover, the climate can also create an increase in student drug use. A lack of discipline leads to more aggressive and violent behaviors in school (Welsch, 2000). Thapa, Cohen, Guffey, and Higgins-D'Alessandro (2013) argued that "in schools without supportive norms, structures, and relationships, students are more likely to experience violence, peer victimization, and punitive disciplinary actions, often accompanied by high levels of absenteeism and reduced academic achievement" (p. 360).

As a result, to maintain order, school leaders must sustain a structured environment for students. Schools that exhibit fair discipline practices that encourage positive relationships with students typically have fewer behavioral problems (Gregory et al, 2011). Bradshaw, Waasdorp, and Leaf (2012) studied 12,344 students in 37 elementary schools over the course of four years. Using multilevel analyses on teachers' ratings of their students' behavioral problems, referrals to the office, and suspension rates, the researchers found that schools that had implemented a

school-wide behavioral intervention and supports program showed significant gains on behavioral problems and social behavior compared to schools who did not have supports in place. Moreover, students in schools with the program were 33% less likely to receive a discipline referral compared to students in other schools. Thus, in order to encourage students to enrich their educational experience through a constructive, structured environment, school leaders should implement systematic practices that promote a positive school climate at all times through positive relationships.

MacNeil, Prater and Busch (2009) examined the relationship between school climate and academic performance. They surveyed 29 schools in Texas by reviewing the rate that the state had given them as being exemplary, recognized, or acceptable. Using the Organizational Health Inventory, the researchers found that schools labeled as exemplary had significantly higher school climate than schools labeled as acceptable. Results from the Organizational Health Inventory also showed that two of the measured factors, goal focus and adaptation, were the strongest indicators. The instrument defined goal focus as one's ability to understand and support goals and objectives, and adaptation as one's ability to cope with stress in a stable manner while remaining receptive to change.

McGuigan & Hoy (2006) concluded that a school culture centered on academic optimism is linked to student achievement. The researchers defined academic optimism as "a shared belief among faculty that academic achievement is important, that the faculty has the capacity to help students achieve, and that students and parents can be trusted to cooperate with them in this endeavor-in brief" (p. 204). Believing that low socioeconomic status was the dominant factor in determining a student's academic achievement, they sought to determine if other factors had a greater impact on student achievement. They concluded that

three properties had just as much influence as socioeconomic status: the teachers' collective

efficacy, teachers' trust in students and parents, and academic emphasis. McGuigan & Hoy

(2006) emphasized that the actions of the principal affect each of the three properties. They

recommend that the principal organize his or her school to ensure academic success. Such efforts

can make quantifiable differences in student achievement.

Peguero & Bracy (2015) examined how school climate, order, and procedural justice

within a school were related to school dropout. Using a multilevel analysis, they found the

strongest factor in the likelihood of a student dropping out of school was the amount of formal

sanctions its school had set in place. Schools that had several formal sanctions had a dropout

rate that was lower compared to schools that had a lower number of sanctions in place. As a

result, they emphasized the need for schools to have structured school discipline and safety

policies and procedures in place.

Summary of Literature Review

In summary, the conceptual framework for the study was focused on the Social Cognitive

Theory based on Albert Bandura's work and Julian Rotter's Locus of Control Theory. Both

theories are related to the educational field in determining if a relationship exists between school

climate and teacher self-efficacy and beliefs. Several researchers have considered the link

between teacher self-efficacy and attitude, burnout, and student achievement. Similarly, some

researchers have studied the effects on principals', teachers', and students' perception of school

climate, and they have also discovered how it influences student achievement as well as teacher

self-efficacy. Thus, within the educational realm, there was a need to study and determine the

relationship and interconnectedness of school climate and teacher self-efficacy in order to

determine its positive or negative condition and whether or not it is necessary to make changes for school improvement.

CHAPTER THREE: METHODOLOGY

The purpose for Chapter Three is to provide details of the proposed study's research design, sample, selection of instrument, methods for data collection and data analysis. The first section discusses the research design and purpose for the study. The second section outlines the sample and the process for selection of members. The next section summarizes the selection criteria for the instrument as well as the processes to demonstrate validity and reliability of the selected instrument. The fourth section reviews the selected methodology for data collections in the proposed study, and the data analysis section examines the statistical tests used to address the hypotheses for each research question.

Research Design

The study was quantitative in nature using a correlational research design. A correlational design is a focused, straightforward study, which seeks to determine if a relationship exists between variables in a single group of subjects, and if such relationship does exist, it determines the strength, or lack thereof, of the relationship (Hoy & Miskel, 2005). The study determined the results of two surveys to answer the research questions by evaluating the hypotheses. It was conducted to determine if a statistical relationship existed between middle school teachers' perception of their school's climate and the teachers' perception of their self-efficacy. The two survey instruments used in this study were the School Climate Index (SCI), developed by Tschannen-Moran, Parish, and DiPaola (2006), and the Teacher Sense of Efficacy Scale (TSES), developed by Tschannen-Moran, Hoy, and Hannumb (2001). The four variables of interest were measured through teachers' self- reported perceptions of school climate from the SCI survey. These climate indicators were as follows: collegial leadership, teacher professionalism, academic press, and community engagement. The TSES was used to measure

teacher self-efficacy. The two surveys were distributed to all certified teachers working at two middle schools in rural southern Virginia. The research hypotheses were evaluated for a relationship between overall school climate and teacher self-efficacy as well as one or more of the four SCI subscales and the TSES total using Pearson Product-Moment Correlation Coefficient tests.

Research Questions

RQ1: Is there a relationship between teacher-perceived school climate (as measured by the School Climate Index) and teacher self-efficacy (as measured by the Teacher Sense of Efficacy Scale)?

H01: There will not be a statistically significant correlation between teacher-perceived school climate (as measured by the School Index) and teacher self-efficacy (as measured by the Teacher Sense of Climate Efficacy Scale.)

RQ2: Is there a relationship between teacher-perceived collegial leadership (as measured by the School Climate Index) and teacher self-efficacy (as measured by the Teacher Sense of Efficacy Scale) when teacher professionalism, academic press, and community engagement are controlled?

H02: There will not be a statistically significant correlation between teacher-perceived collegial leadership (as measured by the School Climate Index) and teacher self-efficacy (as measured by the Teacher Sense of Efficacy Scale) when teacher professionalism, academic press, and community engagement are controlled.

RQ3: Is there a relationship between teacher-perceived teacher professionalism (as measured by the School Climate Index) and teacher self-efficacy (as measured by the Teacher Sense of

Efficacy Scale) when collegial leadership, academic press, and community engagement are controlled?

$H_0$3: There will not be a statistically significant correlation between teacher-perceived teacher professionalism (as measured by the School Climate Index) and teacher self-efficacy (as measured by the Teacher Sense of Efficacy Scale) when collegial leadership, academic press, and community engagement are controlled.

RQ4: Is there a relationship between teacher-perceived academic press (as measured by the School Climate Index) and teacher self-efficacy (as measured by the Teacher Sense of Efficacy Scale) when teacher professionalism, collegial leadership, and community engagement are controlled?

$H_0$4: There will not be a statistically significant correlation between teacher-perceived academic press (as measured by the School Climate Index) and teacher self-efficacy (as measured by the Teacher Sense of Efficacy Scale) when teacher professionalism, collegial leadership, and community engagement are controlled.

RQ5: Is there a relationship between teacher-perceived community engagement (as measured by the School Climate Index) and teacher self-efficacy (as measured by the Teacher Sense of Efficacy Scale) when teacher professionalism, collegial leadership, and academic press are controlled?

$H_0$5: There will not be a statistically significant correlation between teacher-perceived community engagement (as measured by the School Climate Index) and teacher self-efficacy (as measured by the Teacher Sense of Efficacy Scale) when teacher professionalism, collegial leadership, and academic press are controlled.

Sample

The sample for the study was comprised of middle school teachers employed at two different schools in one school division. The school system is located in Southside Virginia, a rural area known for its agricultural community. The system provided education to approximately 4,584 students and employed 350 teachers during the 2014-2015 school year. The school district contains eight schools: four elementary, two middle, and two high. The research was performed in the two middle schools in the district. In order to protect the identity of the schools, they will be labeled throughout the study as follows: MS 1 and MS 2. This labeling was randomly assigned. Both middle schools house grades 6-8, have similar demographics, and are located in rural areas.

The population of the proposed study was all middle school teachers in the school system. According to the Virginia Department of Education (2015), the school report card noted the composition of the two middle schools including that MS 1 had thirty-five certified teachers and MS 2 had fifty-one certified teachers. The sample for the proposed study will consist of all respondents from the total eighty-six certified teachers.

The middle schools selected for the research were chosen because of several factors. First, the schools are located in a rural county, whose economy has traditionally been based on agricultural production. Also, both schools have not achieved full accreditation status based on Virginia Department of Education credentials for at least three years.

The combined statistics of teachers from MS 1 and MS 2 produced several results. Sixteen percent of the teachers were in their first year of teaching, 33% had one to ten years of experience, 32% had 11 to 20 years of experience, and 19% had more than 20 years of experience. Sixty-five percent were female, and 35% percent were male. Fifty-eight percent had

a Bachelor Degree as their highest level of education, 41% had a Master Degree, and 0% had a Doctoral Degree. The ethnicity of the teachers was as follows: 76% Caucasian, 20% African American or Black, and 4% other.

The demographics for MS 1 and MS 2 were also examined separately. MS 1 had 24% percent of their teachers in their first year of teaching, 26% had one to ten years of experience, 29% had 11 to 20 years of experience, and 21% had more than 20 years of experience. Fifty-nine percent were female, and 41% percent were male. Fifty-eight percent had a Bachelor Degree as their highest level of education, 42% had a Master Degree, and 0% had a Doctoral Degree. The ethnicity of the teachers was as follows: 85% Caucasian, 12% African American or Black, and 3% other.

MS 2 had 12% of their teachers in their first year of teaching, 38% had one to ten years of experience, 34% had 11 to 20 years of experience, and 18% had more than 20 years of experience. Seventy percent were female, and 30% were male. Fifty-eight percent had a Bachelor Degree as their highest level of education, 40% had a Master Degree, and 0% had a Doctoral Degree. The ethnicity of the teachers was as follows: 70% Caucasian, 26% African American or Black, and 4% other.

The total number of surveys returned was fifty-six, which produced a 65% total return rate for both surveys at both school. For a detailed return rate and numbers for each school, see Table 1.

Table 1: Number of Surveys

School	Distributed	Returned	
	Number	Number	Percent
MS 1	35	34	97%
MS 2	51	22	43%

Total	86	56	65%

Instrumentation

The two instruments used in the study were School Climate Index (SCI), developed by Tschannen-Moran et al. (2006), and the Teacher Sense of Efficacy Scale (TSES), developed by Tschannen-Moran and Hoy (2001). Both instruments are commonly used for measuring data. Permission to use both instruments was obtained by Dr. Megan Tschannen-Moran. See Appendix A for a copy of the permission letter.

First, in order to capture the teachers' perception of their school climate, the instrument selected for the purpose of the study was the School Climate Index (SCI). The SCI consists of twenty-eight questions ranked on a five-point Likert scale. The questions measured overall school climate by dividing the items into four subcategories. The model for SCI described major aspects of school climate through focusing on four specific subscales: collegial leadership, teacher professionalism, academic press, and community engagement. See Table 2 for a title of each subscale and a list of the corresponding questions within the survey.

Table 2: School Climate Index (SCI) Questions

Category Title:	Questions:
Collegial Leadership	7, 8, 16, 17, 23, 24, 25
Teacher Professionalism	3, 4, 11, 12, 13, 18, 19, 20
Community Engagement	1, 2, 9, 10, 26, 27, 28
Academic Press	5, 6, 14, 15, 21, 22

Collegial Leadership is best described by the behavior of the school leader who is supportive and egalitarian. The principal is concerned about the welfare of his or her teachers while effectively informing them of his or her expectations of their standards of performance. Also, it is characterized by principals' openness to feedback and willingness to explore new ideas. Next, teacher professionalism is defined by the teachers' behavior through commitment to students and engagement. Teachers respect their colleagues and are open and cooperative by supporting one another. Third, academic press is examined as the degree to which the stakeholders of a school seek academic excellence. Administrators and teachers set high expectations and goals for students, and in return, students work hard to achieve them. Fourth, community engagement is the ability to which the school fosters a relationship with the community. This also relates to the ability of the school personnel to rely on support from parents and community members (Tschannen-Moran et al., 2006). For each statement, the possible answers were as follows: Very Frequently = 5, Often = 4, Sometimes = 3, Rarely = 2, and Never = 1. The higher the composite score of the responses meant the higher the teachers' perception of his or her school climate.

The authors of the School Climate Index, Tschannen-Moran et al. (2006) provided strong reliability and validity for their study. They used Cronbach's alpha coefficient of reliability for the SCI, which resulted in 0.96. Each of the four subscales also had a high reliability: collegial leadership (0.93), teacher professionalism (0.94), academic press (0.92), and community engagement (0.93). In addition, factor analysis supported construct validity with the following items: .56 to .91 for collegial leadership, .66 to .83 for teacher professionalism, and .53 to .83 for academic press and community engagement (Tschannen-Moran et al., 2006).

The second instrument used in the study was the Teacher Sense of Efficacy Scale (TSES), also developed by Tschannen-Moran and Hoy (2001). This instrument was selected to capture teacher perceptions of their self-efficacy. The TSES consists of twenty-four questions ranked on a nine-point Likert scale. The questions measured teacher self-efficacy by dividing the items in three categories: efficacy in student engagement, instructional strategies, and classroom management. The three subcategories help determine a teacher's belief in his or her capability to motivate an unmotivated learner while helping them to make gains in his or her learning. See Table 3 for a title of each subscale and a list of the corresponding questions within the survey.

Table 3: Teacher Sense of Efficacy Scale (TSES) Questions

Category Title:	Questions:
Efficacy in Student Engagement	1, 2, 4, 6, 9, 12, 14, 22
Efficacy in Instructional Strategies	7, 10, 11, 17, 18, 20, 23, 24
Efficacy in Classroom Management	3, 5, 8, 13, 15, 16, 19, 21

For each statement, the possible answers were as follows: A Great Deal = 9, Quite a Bit = 7, Some Degree = 5, Very Little = 3, and None at All = 1. The higher the composite score of the responses meant the higher the teachers' perception of his or her sense of self-efficacy. Even though the TSES survey can be broken down into three subcategories, only the overall score of the TSES was used for analysis in this study.

The authors of the Teacher Sense of Efficacy Scale, Tschannen-Moran and Hoy (2001) provided strong reliability and validity for their study. Like the SCI, they used Cronbach's alpha coefficient of reliability for the TSES, which resulted in 0.94. Each of the three subscales also

had a high reliability: efficacy in student engagement (0.87), efficacy in instructional strategies (0.91), and efficacy in classroom management (0.90). In addition, factor analysis supported construct validity with the following items: .56 to .91 for collegial leadership, .66 to .83 for teacher professionalism, and .53 to .83 for academic press and community engagement (Tschannen-Moran & Hoy, 2001).

Data Collection and Procedures

The researcher obtained permission from the superintendent of the two middle schools in this study. Further, once permission was received from the Institutional Review Board (IRB) from Liberty University, data collection began. A copy of the IRB approval letter is located in Appendix B. The researcher then met with both the principals of the middle schools to determine the best process for distributing and collecting the surveys. The principals provided a total number of all teachers within their school to verify the number of surveys needed. Both the surveys and the means of correspondence, located in Appendix C, were discussed with the principals prior to the distribution of the recruitment letter and surveys.

After obtaining a total number of each school's faculties, the researcher made every effort to protect the anonymity of the teachers and of the middle schools. The researcher attended a morning faculty meeting at both middle schools to distribute the cover letters. The meeting for MS 1 took place on May 6, 2016. The researcher introduced herself and provided the faculty with a copy of the cover letter, located in Appendix D, and consent form, located in Appendix E. The researcher told the faculty that they had two weeks to complete and return the surveys and that if their school had a return rate of 65% or higher of their total faculty, they would receive an incentive breakfast. The researcher attended a faculty meeting for MS 2 on May 11, 2016, and followed the same procedures listed above for recruitment.

Each participant received a cover letter and consent form. The consent form explained the purpose of the research, the guarantee of confidentiality of the school and participants, a description of how the researcher would secure and dispose of the surveys, an explanation that participation was voluntary, and directions for completing and returning the surveys. The consent form also contained an explanation that participation would not affect their relationship to the researcher, the local school system, or Liberty University. The later part of the letter contained contact information for the researcher and for Liberty University. Participants who read the consent form and chose to participate received an envelope containing their surveys. A return envelope was also provided to protect the anonymity of the respondents. Participants had two weeks to return the surveys to a designated mailbox located in the main office.

After the first week, the researcher sent the first of two emails to the faculties to remind teachers of the surveys and the incentive for completion. The email also informed participants that they could request additional surveys if they misplaced their original one. The second email was sent three days before the end of the second week. It provided similar information from the first email in addition to a reminder that the surveys would be collected at the end of the second week. The second email also thanked the teachers for their participation and informed them that they would be notified if their faculty earned a breakfast based on their return rate. A copy of the means of correspondence is located in Appendix C. The researcher personally collected the surveys from both schools at the end of the second week.

Once the surveys were collected, the researcher determined that MS 1 had a return rate of 97% and MS 2 had a return rate of 43%. Therefore, MS 1 had a return rate of 65% or higher to receive the incentive breakfast. The researcher contacted the principal of the school to schedule a date for providing breakfast to the faculty.

Data Analysis

Data Organization

Data collected through the two survey instruments, School Climate Index (SCI) and the

Teachers' Sense of Efficacy Scale (TSES), was analyzed to determine if there is a relationship

between school climate and teacher self-efficacy and beliefs. The researcher compiled the data

in Excel and used a summary sheet to score each respondent's survey. Each survey was given a

unique identification code to pair it with a scoring sheet so that it may be matched in the event of

a discrepancy. The SCI scoring sheet was separated to provide a total score as well as a score for

each of the four subcategories. The TSES scoring sheet included the total overall sum of each

participant's score.   To ensure accuracy, each survey was scored and then double-checked.

Charts and discussion of the raw data are presented in Chapter 4. The presentation of the data is

shown for the SCI, TSES, and the various categorical means for the subgroups of the SCI survey.

Statistical Procedures

First, descriptive statistics were calculated for both surveys as well as the subcategories

of the SCI in order to test the hypotheses and assess the research questions. The statistical test

selected to analyze the data collected was the Pearson Product-Moment Correlation Coefficient

(Pearson *r*) to calculate the correlation coefficients. SPSS software was utilized to analyze data

for the study. The Pearson *r* was used to calculate correlation coefficients for the cumulative

scores on both the SCI and the TSES and the cumulative of the TSES compared with each

subcategory of the SCI. Based on the results, the Pearson Product-Moment Correlation

Coefficient was assessed to determine if a statistical significance existed for each of the

relationships as evaluated by the hypotheses. All results are presented in Chapter 4.

Summary of Methodology

Understanding the relationship and interconnectedness of school climate and teacher self-efficacy is vital for instructional leaders to determine areas of strength and needed growth within their schools. On a daily basis, teachers accept the task of preparing their students for learning standards measured by state testing while also teaching them to become productive, lifelong learners in an ever-changing world. Thus, this study expanded on established research on the relationship of school climate and teacher self-efficacy by examining two middle schools in rural southern Virginia. A quantitative correlational study was conducted and delineated based on the methods outlined in this chapter that also contained a detailed description of the participants, methods of gathering data, instrumentation used, research procedures, and the means of data analysis. The data was analyzed by SPSS software to measure the Pearson Product-Moment Correlation Coefficient to determine if a relationship existed between school climate and teacher self-efficacy as well as between teacher self-efficacy and the four subcategories of collegial leadership, teacher professionalism, academic press, and community engagement.

CHAPTER FOUR: FINDINGS

As previously established, the purpose of this study was to determine if a relationship exists between teachers' perception of school climate and teacher self-efficacy and beliefs. The research attempted to examine if a school's climate as perceived by middle school teachers had a significant correlation to their teaching self-efficacy and beliefs. The results of the surveys are presented in this chapter through the findings of a quantitative study. The data will be presented for each of the research questions. The conclusion of the chapter will provide a summary of the major findings of the study.

The quantitative study was conducted within two public middle schools located in rural southern Virginia and produced results from two teacher surveys through displaying Pearson Product-Moment Correlation Coefficient tests. First, descriptive statistics are provided from the School Climate Index (SCI), which was used to measure teachers' perception of their schools' climate, and the Teacher Sense of Efficacy Scale (TSES), which was used to measure teacher self-efficacy and beliefs. Second, the findings of the Pearson Product-Moment Correlation Coefficient that addressed the research questions and hypotheses are presented.

Research Questions and Null Hypotheses

The study sought to determine the relationship of school climate and teacher self-efficacy as well as each of the four subcategories of school climate and how they related to teacher self-efficacy, both jointly and independently. Specifically, the research questions and hypotheses for the study were as follows:

RQ1: Is there a relationship between teacher-perceived school climate (as measured by the School Climate Index) and teacher self-efficacy (as measured by the Teacher Sense of Efficacy Scale)?

H$_0$1: There will not be a statistically significant correlation between teacher-perceived school climate (as measured by the School Climate Index) and teacher self-efficacy (as measured by the Teacher Sense of Efficacy Scale).

RQ2: Is there a relationship between teacher-perceived collegial leadership (as measured by the School Climate Index) and teacher self-efficacy (as measured by the Teacher Sense of Efficacy Scale) when teacher professionalism, academic press, and community engagement are controlled?

H$_0$2: There will not be a statistically significant correlation between teacher-perceived collegial leadership (as measured by the Student Climate Index) and teacher self-efficacy (as measured by the Teacher Sense of Efficacy Scale) when teacher professionalism, academic press, and community engagement are controlled.

RQ3: Is there a relationship between teacher-perceived teacher professionalism (as measured by the School Climate Index) and teacher self-efficacy (as measured by the Teacher Sense of Efficacy Scale) when collegial leadership, academic press, and community engagement are controlled?

H$_0$3: There will not be a statistically significant correlation between teacher-perceived teacher professionalism (as measured by the School Climate Index) and teacher self-efficacy (as measured by the Teacher Sense of Efficacy Scale) when collegial leadership, academic press, and community engagement are controlled.

RQ4: Is there a relationship between teacher-perceived academic press (as measured by the School Climate Index) and teacher self-efficacy (as measured by the Teacher Sense of Efficacy Scale) when teacher professionalism, collegial leadership, and community engagement are controlled?

H₀4: There will not be a statistically significant correlation between teacher-perceived academic press (as measured by the School Climate Index) and teacher self-efficacy (as measured by the Teacher Sense of Efficacy Scale) when teacher professionalism, collegial leadership, and community engagement are controlled.

RQ5: Is there a relationship between teacher-perceived community engagement (as measured by the School Climate Index) and teacher self-efficacy (as measured by the Teacher Sense of Efficacy Scale) when teacher professionalism, collegial leadership, and academic press are controlled?

H₀5: There will not be a statistically significant correlation between teacher-perceived community engagement (as measured by the School Climate Index) and teacher self-efficacy (as measured by the Teacher Sense of Efficacy Scale) when teacher professionalism, collegial leadership, and academic press are controlled.

Descriptive Statistics

Teachers from two middle schools in rural southern Virginia were invited to participate in this study. Out of the eighty-six teachers, fifty-six participated in the study, posting a 65.11% return rate. Unfortunately, one participant's results posed as a significant outlier, so an assumption was made that he/she either did not take the task seriously or did not understand the instructions. As a result, the set of scores was eliminated from the study.

The means and standard deviations for each of the dependent variables and the independent variables are listed in Table 4. The dependent variable was the total score from the Teacher Sense of Efficacy Scale (TSES). The independent variables were the total score from the School Climate Index (SCI) and the four subcategories of the SCI (collegial leadership, teacher professionalism, academic press, and community engagement).

Table 4

Descriptive Statistics for All Variables

Variable	*N*	Mean	S.D.
TSES Total	55	169.9	17.72
SCI Total	55	94.49	12.83
Collegial Leadership	55	23.71	5.29
Teacher Professionalism	55	30.18	4.01
Academic Press	55	19.67	3.48
Community Engagement	55	20.93	3.35

Results

The data from the Teacher Sense of Efficacy Scale (TSES) and the School Climate Index (SCI) were used to answer the research questions and test the hypotheses. The TSES and SCI were coded based on their possible answers. For the TSES, answer choices ranged on a nine-point Likert scale. A response marked "A Great Deal" received the value of nine, "Quite a Bit" received the value of seven, "Some Degree" received the value of five, "Very Little" received the value of three, and "None at All" received the value of zero. In addition, there were also answer choices in between categories. Responses marked in between "A Great Deal" and "Quite and Bit" received a score of eight, responses between "Quite a Bit" and "Some Degree" received a six, responses between "Some Degree" and "Very Little" received a four, and responses between "Very Little" and "Not at All" received a two. For the SCI, a response marked "Very Frequently" received the value of five, "Often" received a value of four,

"Sometimes" received a value of three, "Rarely" received a value of two, and "Never" received a value of zero.

A Pearson Product-Moment Correlation Coefficient analysis was conducted to test each null hypothesis. Table 5 provides the Pearson correlation for each dependent variable. The linear difference between the two variables in each hypothesis is shown as a result of the Pearson *r.* Of the five dependent variables, the correlation was significant only for community engagement, with a positive correlation of .393.

Table 5

Pearson Correlations

	TSES Total
SCI Total	.190
Collegial Leadership	.009
Teacher Professionalism	.112
Academic Press	.179
Community Engagement	.393**

n=55

**Correlation is significant

Assumption Testing

The assumption of normality of the relationship between each dependent variable and the TSES is revealed in Figures 1, 2, 4, 6, 8, and 10. All figures follow a symmetrical bell curve which shows that the sampling distribution of the mean is normal (Mordkoff, 2016). Figures 3, 5, 7, 8, and 9 show no relationship between the TSES and SCI as well as the TSES and three of the subgroups of SCI, collegial leadership, teacher professionalism, and academic press as the

plots do not generally follow a straight line. Figure 11, however, reveals a data relationship

between TSES and community engagement, which does follow a straight line.

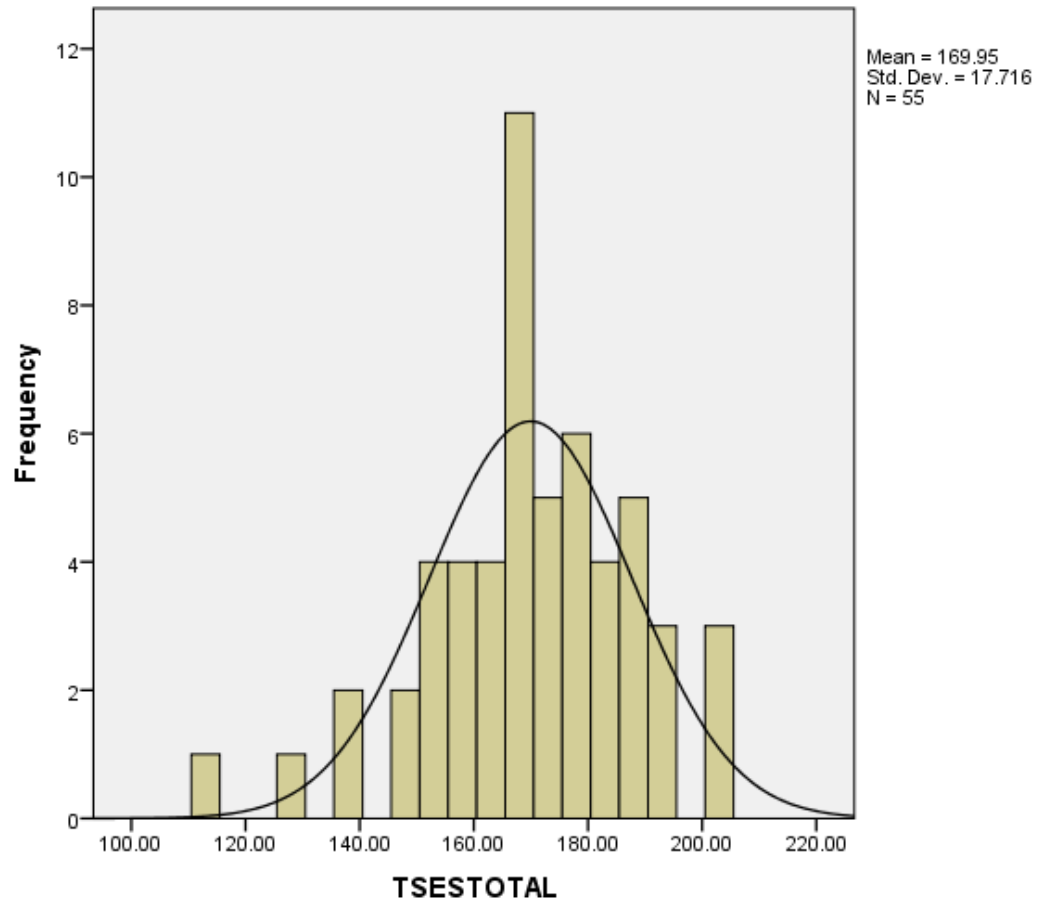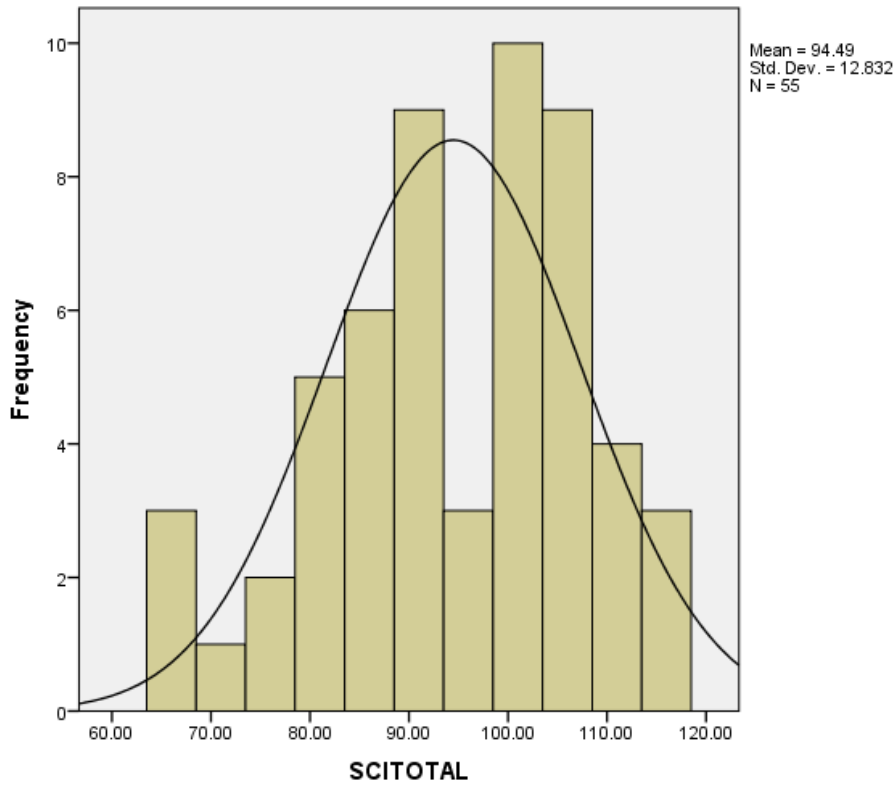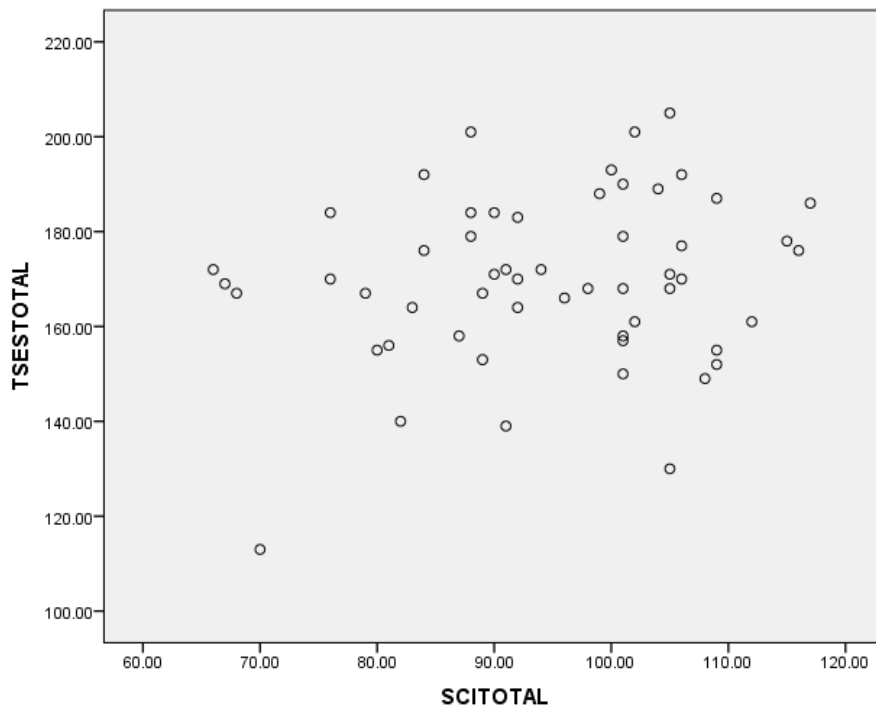**Figure 1: Teacher Sense of Efficacy Scale (TSES) Total Histogram**

Figure 2: School Climate Index (SCI) Total Histogram

Figure 3: School Climate Index (SCI) Total Scatterplot
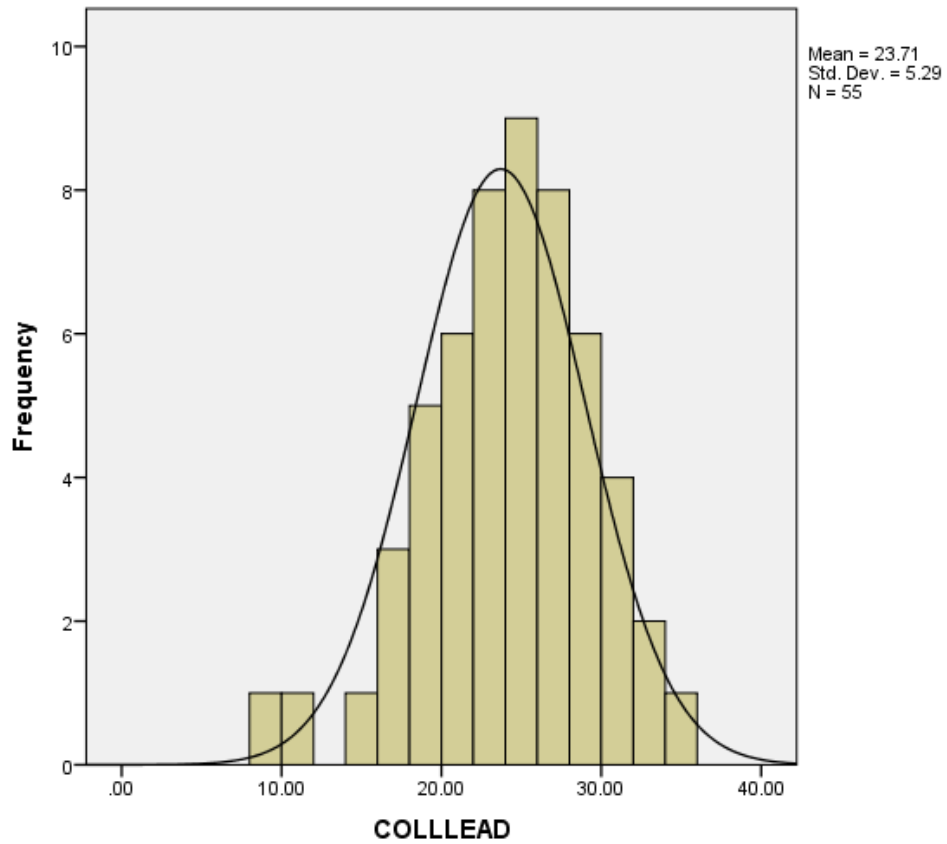
Figure 4: Collegial Leadership Histogram

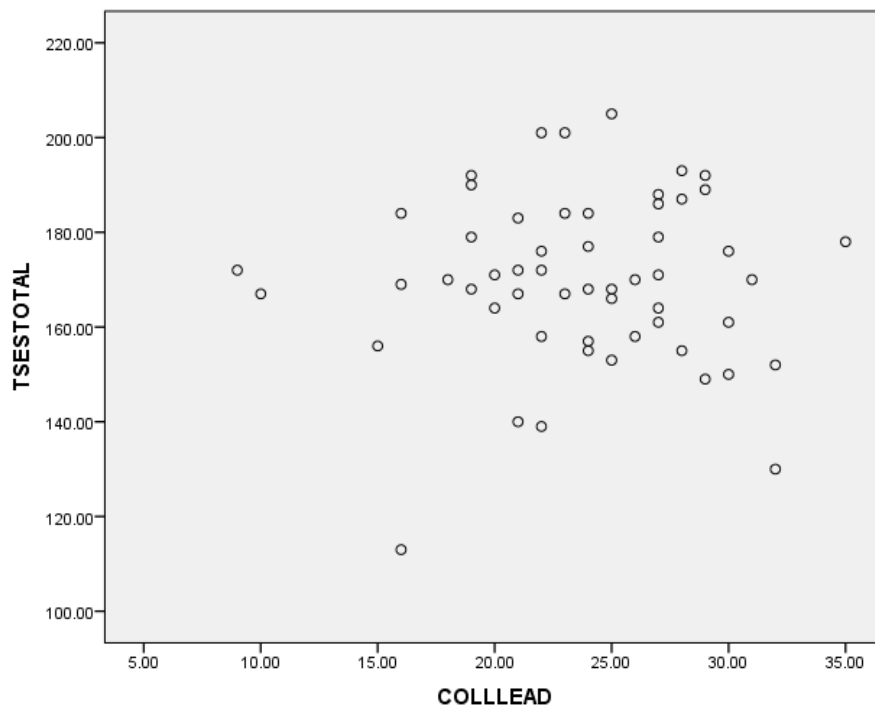**Figure 5: Collegial Leadership Scatterplot**
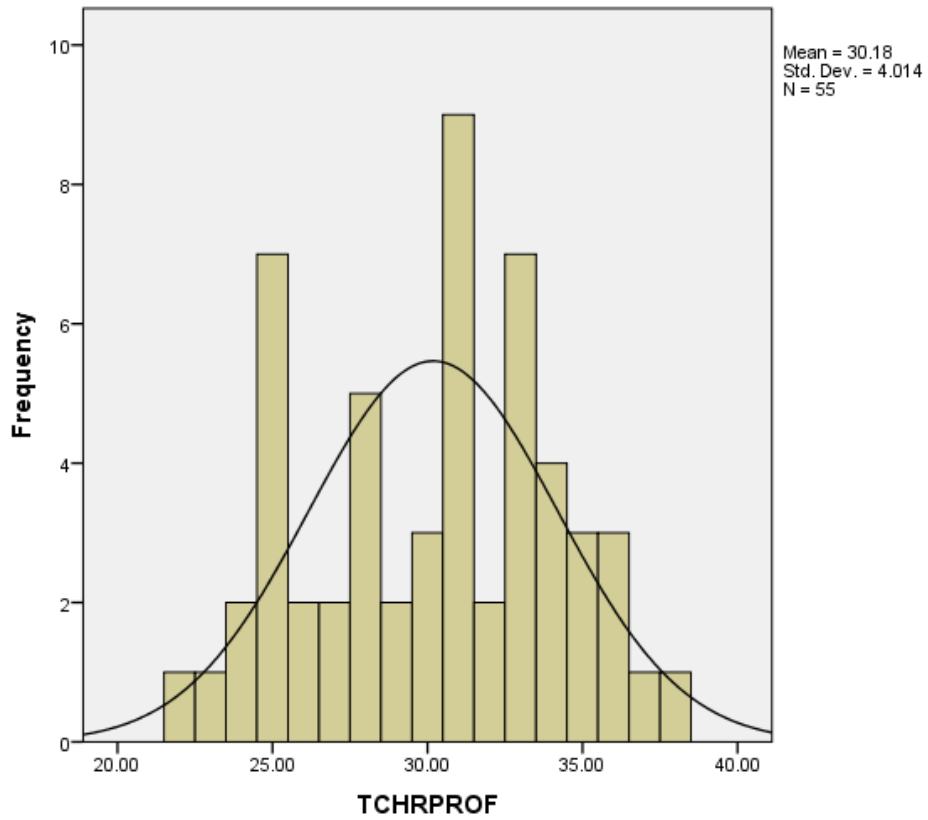
Figure 6: Teacher Professionalism Histogram

Figure 7: Teacher Professionalism Scatterplot

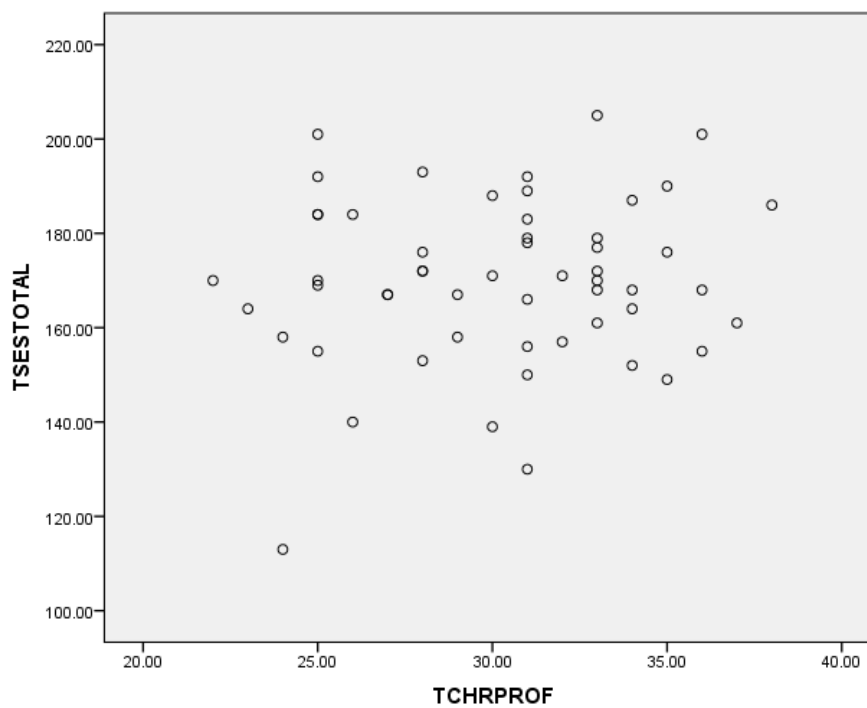**Figure 8: Academic Press Histogram**

Mean = 19.67
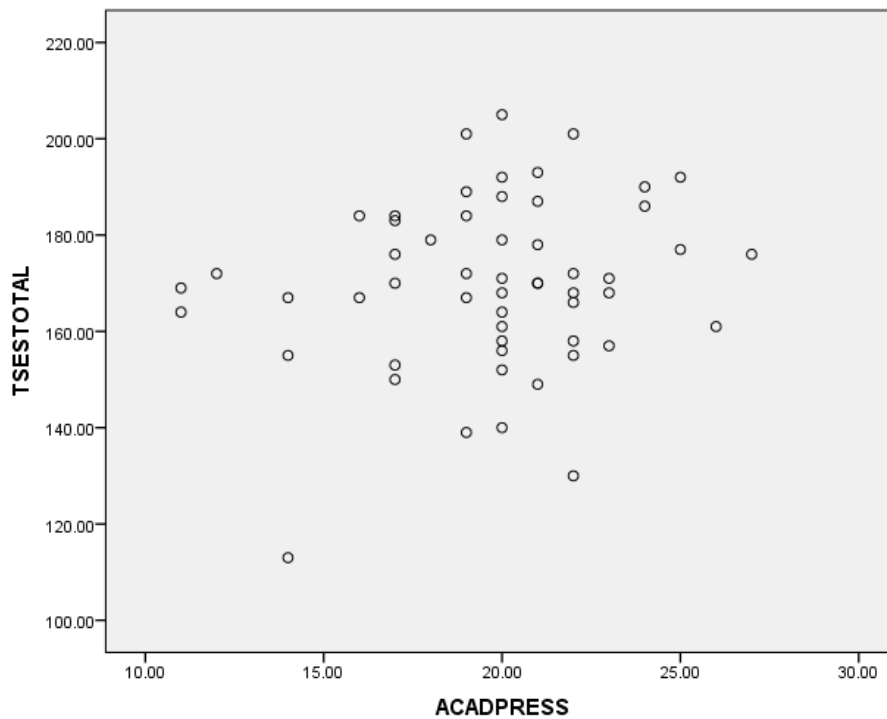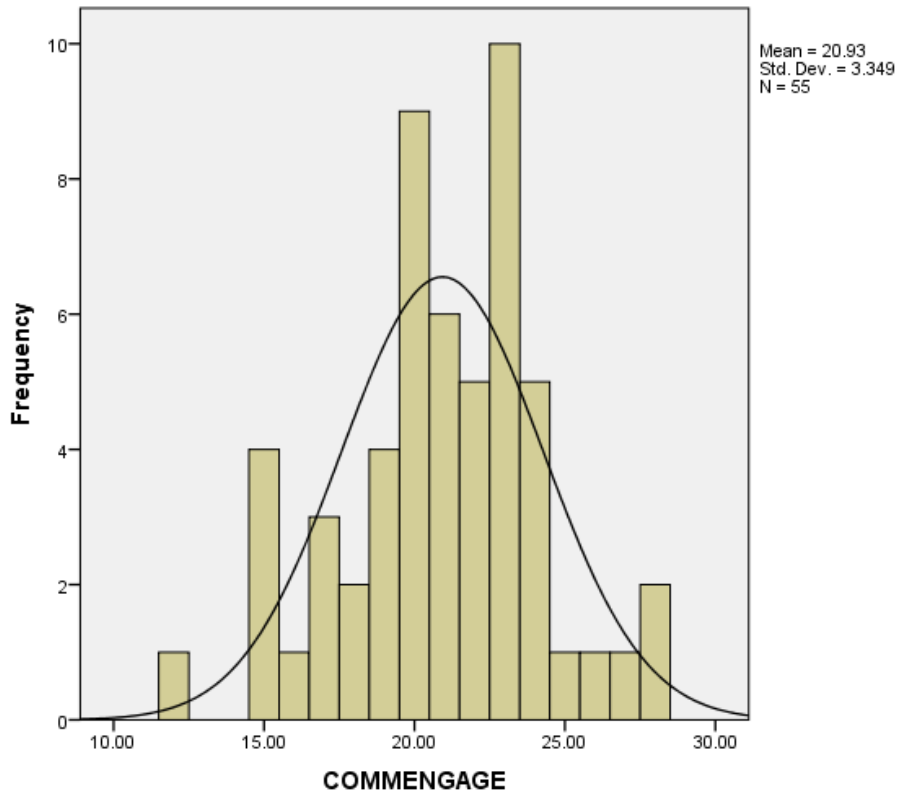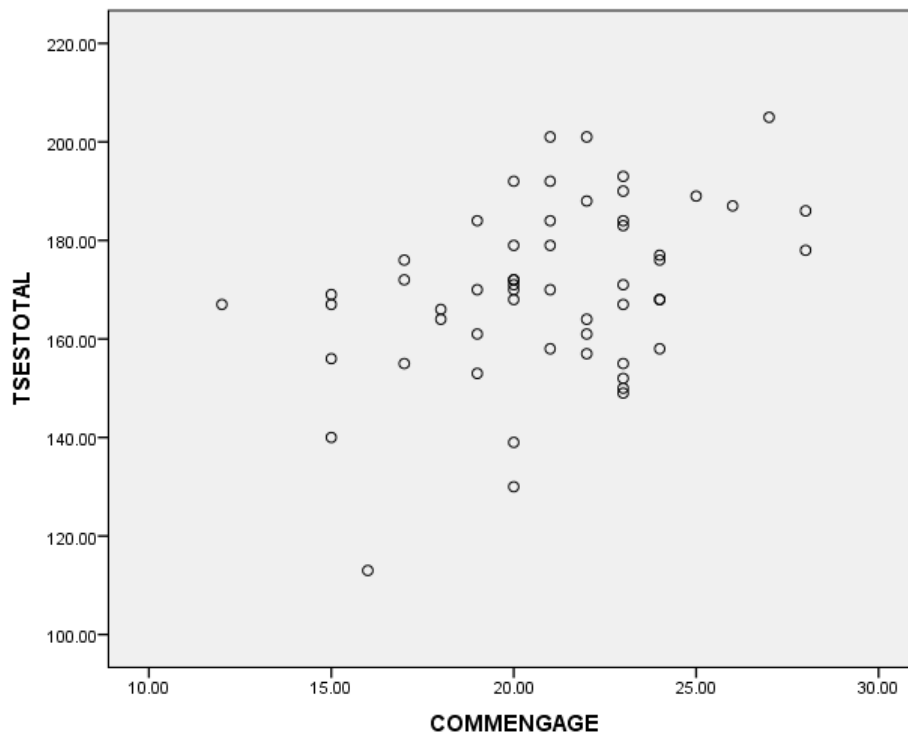Std. Dev. = 3.475
N = 55
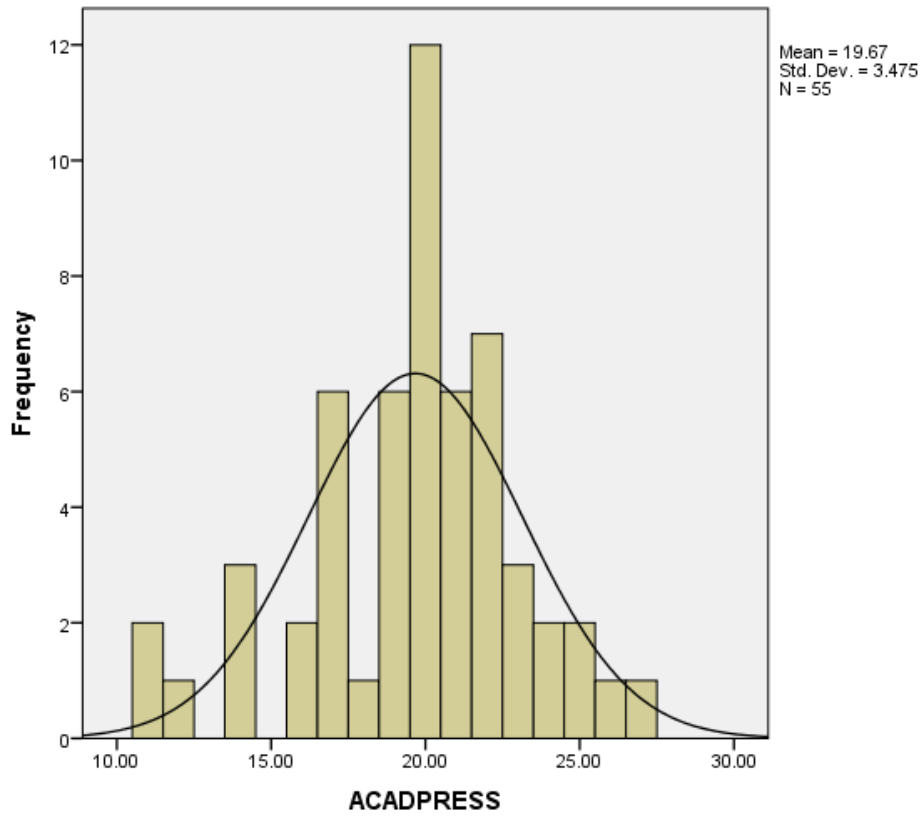
Figure 9: Academic Press Scatterplot

Figure 10: Community Engagement Histogram

Figure 11: Community Engagement Scatterplot

Null Hypothesis One

Null Hypothesis One stated that there would not be a statistically significant correlation between teacher-perceived school climate (measured by the School Climate Index) and teacher self-efficacy (measured by the Teacher Sense of Efficacy Scale). Figure 3 indicated no relationship existed as a result of the scatterplot. The Pearson Product-Moment Correlation Coefficient was calculated between the SCI (M=94.49, SD= 12.83) and the TSES (M=169.9, SD = 17.72), which also reveals a lack of correlation, r (53) = .190, p = .165. As a result, there was no significant evidence to reject the null hypothesis. Teachers' sense of self-efficacy was not significantly correlated to teachers' beliefs about school climate.

Null Hypothesis Two

Null Hypothesis Two stated that there would not be a statistically significant correlation between teacher-perceived collegial leadership (as measured by the Student Climate Index) and teacher self-efficacy (as measured by the Teacher Sense of Efficacy Scale) when teacher professionalism, academic press, and community engagement were controlled. Figure 5 indicated that no relationship existed. The Pearson Product-Moment Correlation Coefficient was calculated to determine any relationship between collegial leadership (M=23.71, SD= 5.29) and teacher sense of efficacy (M=169.9, SD=17.72). The results of the test, r (53) = .009, p = .948, revealed that there was no significant correlation between collegial leadership and teacher self-efficacy. Therefore, there was no significant evidence to reject the null hypothesis. Collegial leadership was not correlated to teacher self-efficacy.

Null Hypothesis Three

The next assumption, Null Hypothesis Three, stated that there would not be a statistically significant correlation between teacher-perceived teacher professionalism (as measured by the

School Climate Index) and teacher self-efficacy (as measured by the Teacher Sense of Efficacy

Scale) when collegial leadership, academic press, community engagement were controlled.

Figure 7 indicated no significant relationship existed as a result of the scatterplot. The Pearson

Product-Moment Correlation Coefficient was calculated between teacher professionalism (M =

30.18, SD = 4.01) and teacher sense of efficacy (M=169.9, SD=17.72). A lack of correlation

was shown as a result of r (53) = .112, p = .416. Thus, there was no evidence to reject the null

hypothesis. Teacher professionalism was not correlated to teacher sense of self- efficacy.

Null Hypothesis Four

Null Hypothesis Four stated that there would not be a statistically significant correlation

between teacher-perceived academic press (as measured by the School Climate Index) and

teacher self-efficacy (as measured by the Teacher Sense of Efficacy Scale) when teacher

professionalism, collegial leadership, and community engagement were controlled. Figure 9

indicated no relationship existed as a result of the scatterplot. The Pearson Product-Moment

Correlation Coefficient was calculated to determine if a relationship existed between academic

press (M = 19.67, SD = 3.48) and teacher sense of efficacy (M = 169.9, SD = 17.72), and the

results, r (53) = .179, p = .190, revealed a lack of correlation. Therefore, no signifiant

correlation existed between academic press and teacher sense of efficacy. In conclusion, the null

hypothesis was not rejected because there was no significant evidence.

Null Hypothesis Five

Null Hypothesis Five stated that there would not be a statistically significant correlation

between teacher-perceived community engagement (as measured by the School Climate Index)

and teacher self-efficacy (as measured by the Teacher Sense of Efficacy Scale) when teacher

professionalism, collegial leadership, and academic press are controlled. Figure 11 indicated that

a relationship existed as a result of the scatterplot. The Pearson Product-Moment Correlation Coefficient was calculated to conclude if a relationship existed between community engagement (M = 20.93, SD 3.35) and teacher sense of efficacy (M = 169.9, SD = 17.72). The test revealed a positive significant correlation between community engagement and teacher sense of efficacy, as proven by the results, r (53) = .393, p = .003. Thus, there was significant enough evidence to reject the null hypothesis. Community engagement was positively correlated to teacher sense of self-efficacy.

<div align="center">**Summary of Results**</div>

In conclusion, a quantitative study was conducted in two public middle schools located in rural southern Virginia and produced results from two teacher surveys, the School Climate Index (SCI) and the Teacher Sense of Efficacy Scale (TSES). Pearson Product-Moment Correlation Coefficient tests were used to determine if a relationship existed between the two tests, as well as between the TSES and subcategories of the SCI, which included collegial leadership, teacher professionalism, academic press, and community engagement. A lack of correlation existed for all research questions except for R5, which showed a positive correlation existing between community engagement and teacher sense of efficacy. Thus, the null hypotheses for R1, R2, R3, and R4 were not rejected, but there was evidence to reject the null hypothesis for R5.

CHAPTER FIVE: DISCUSSION, CONCLUSIONS, AND RECOMMENDATIONS

The purpose of Chapter 5 is to provide a comprehensive review of the research data and results presented in Chapter 4. It further provides a discussion of the findings and its connection to prior research, in addition to providing a conclusion, implications, limitations, and recommendations for future research.

Discussion

The purpose of this study was to determine if a relationship existed between school climate and teacher self-efficacy and beliefs in addition to determining if a relationship existed between school climate and four subcategories of teacher self-efficacy, collegial leadership, teacher professionalism, academic press, and community engagement.

Research Question One

The first research question stated, "Is there a relationship between teacher-perceived school climate (measured by the School Climate Index) and teacher self-efficacy (measured by the Teacher Sense of Efficacy Scale)?"

The discussion about school climate and teacher self-efficacy has gained researchers' attention in recent years. Research supports that there is a link to the two factors and their effects on the schools' stakeholders. Schools that exhibit a positive school climate provide a sense of belonging to stakeholders through a supportive atmosphere promoting shared values and beliefs (Manning & Saddlemire, 1996). According to Taylor and Tashakkori (1995), teachers who work in schools with a positive school climate report higher job satisfaction compared to those working in schools with perceived negative climate.

In addition, Albert Bandura's Social Cognitive Theory analyzes cognitive, behavioral, and environmental factors of self-efficacy in conjunction with personal and social change

(Bandura, 1986). Moreover, Julian Rotter's Locus of Control Theory (1966) relates to self-efficacy because it focuses on causal beliefs of actions and outcomes and whether or not those actions and outcomes have internal or external controls. Hoy (2003-2004) further stated that teachers with a high sense of self-efficacy typically have an easier time producing cognitive growth in their students and motivating them. Teachers who exhibit such characteristics recover quickly from setbacks and have an optimistic approach to trying new concepts or techniques.

The findings of the research do not align with the results of this study. The null hypothesis stated, "There will not be a statistically significant correlation between teacher-perceived school climate (measure by the School Climate Index) and teacher self-efficacy (measured by the Teacher Sense of Efficacy Scale)." The results indicated that there was no significant evidence to reject the null hypothesis. Therefore, teachers' sense of self-efficacy was not correlated to teachers' beliefs about school climate. Thus, the findings of the study contrast to the research findings of other researchers and theorists studying school climate and teacher self-efficacy.

Research Question Two

Research question two stated, "Is there a relationship between teacher-perceived collegial leadership (as measured by the School Climate Index) and teacher self-efficacy (as measured by the Teacher Sense of Efficacy Scale) when teacher professionalism, academic press, and community engagement are controlled?"

Several researchers have found a connection between collegial leadership and teacher self-efficacy. Hipps (1996) discovered that principals who modeled leadership behaviors such as risk taking and cooperation had teachers with high levels of efficacy in their buildings. Lee, Dedrick, and Smith (1991) concluded that principals who modeled professional behavior and

provided performance-based rewards had teachers with a high sense of efficacy. In addition, Goddard (2001) found that schools with principals who promoted shared decision making on school issues produced stronger teacher collective efficacy to help students to prosper compared to those who school leaders who did not share decision making with their teachers.

The null hypothesis for research question two stated, "There will not be a statistically significant correlation between teacher-perceived collegial leadership (as measured by the Student Climate Index) and teacher self-efficacy (as measured by the Teacher Sense of Efficacy Scale) when teacher professionalism, academic press, and community engagement are controlled." The results indicated that there was no significant evidence to reject the null hypothesis. Therefore, teachers' sense of self-efficacy was not correlated to collegial leadership. Thus, the finding of this research study contrasts to other research as there was no significant correlation shown between collegial leadership and teacher self-efficacy.

Research Question Three

The next research question stated, "Is there a relationship between teacher-perceived teacher professionalism (as measured by the School Climate Index) and teacher self-efficacy (as measured by the Teacher Sense of Efficacy Scale) when collegial leadership, academic press, and community engagement are controlled?"

Chan et al. (1992) discovered that teachers' perception of self and of their pedagogical self were significant factors of teacher behavior, which was a predictor of student achievement. Moreover, Devos, Dupriez, and Paquay (2012) concluded that collaboration with colleagues helped to improve teacher self-efficacy. Angelle and Teague (2014) observed a strong relationship exists between collective efficacy and teacher leadership. Moreover, teachers who perceive that they have a leadership role in their school display higher levels of collective

efficacy. Teachers who feel empowered in the decision-making process and believe their principal is open to sharing power produce higher levels of collective efficacy. Conner (2014) found that teacher relationships are essential for a successful school climate and that camaraderie is essential for building relations. When teachers have a relationship among themselves that fosters collaboration and communication, they produce strong teacher-teacher and teacher-student relationships to optimize student learning and achievement.

The null hypothesis for research question three stated, "There will not be a statistically significant correlation between teacher-perceived teacher professionalism (as measured by the School Climate Index) and teacher self-efficacy (as measured by the Teacher Sense of Efficacy Scale) when collegial leadership, academic press, and community engagement are controlled." The results of the study showed there was no evidence to reject the null hypothesis. Teacher professionalism was not correlated to teacher sense of efficacy. Based on the findings of other researchers, the research of this study contrasts with their findings, as this study found no correlation and other research found a connection between teacher professionalism and teacher self-efficacy.

Research Question Four

Research question four stated, "Is there a relationship between teacher-perceived academic press (as measured by the School Climate Index) and teacher self-efficacy (as measured by the Teacher Sense of Efficacy Scale) when teacher professionalism, collegial leadership, and community engagement are controlled?"

Crum and Sherman (2008) conducted a study to determine common themes of successful schools in Virginia and identified six common themes based on the results: facilitating leadership and developing personnel, delegation of task through empowerment, recognizing ultimate

accountability, communication, facilitating instruction, and supervising change. Thus, the principals and teachers shared a vision for ensuring student success. In addition, Printy and Marks (2006) concluded that teachers with high self-efficacy are continually committed and work hard to help students improve their learning.

Lee and Smith (1996) found that schools where teachers take collective responsibility for their students' academic success or failure instead of making excuses by blaming students for their own failure produced significantly higher student achievement gains. They also discovered that such schools produced smaller achievement gaps over time due to the strong collective efficacy of teachers who pushed their disadvantaged students to keep on pace with their peers.

Moreover, Goddard, LoGerfo, and Hoy (2004) studied ninety-six rural, suburban, and urban high schools and found the strongest predictor of student achievement in reading, writing, and social studies was a school's collective efficacy, which outranked variables including school size, minority enrollment, students' socioeconomic status, and students' prior achievement.

The null hypothesis for the research question stated, "There will not be a statistically significant correlation between teacher-perceived academic press (as measured by the School Climate Index) and teacher self-efficacy (as measured by the Teacher Sense of Efficacy Scale) when teacher professionalism, collegial leadership, and community engagement are controlled." The results of the study showed that no correlation existed between academic press and teacher sense of efficacy. Therefore, the findings of this research contrast to the researcher because the research supports that a relationship exists between academic press and teacher self-efficacy.

Research Question Five

The last research question stated, "Is there a relationship between teacher-perceived community engagement (as measured by the School Climate Index) and teacher self-efficacy (as

measured by the Teacher Sense of Efficacy Scale) when teacher professionalism, collegial leadership, and academic press are controlled?"

Tschannen-Moran et al. (1998) concluded community factors impact local schools: "conflict, violence, or substance abuse at home or in the community; the value placed on education at home; the social and economic realities of class, race, and gender; and the physiological, emotional, and cognitive needs of a particular child all have a very real impact on a student's motivation and performance in school" (p. 204). In addition, Goddard, Hoy, and Hoy (2000) discovered that a negative socioeconomic status of community can be offset when a positive relationship exists between collective efficacy of stakeholders and student achievement. Belfi et al. (2015) discovered that a relationship between collective teacher efficacy and school socioeconomic status existed between the two factors but that teachers' perceptions of their school's social capital was the main factor in their relationship.

The null hypothesis for the last research question was the following: "There will not be a statistically significant correlation between teacher-perceived community engagement (as measured by the School Climate Index) and teacher self-efficacy (as measured by the Teacher Sense of Efficacy Scale) when teacher professionalism, collegial leadership, and academic press are controlled." The results of the data analysis concluded that a positive significant correlation existed between community engagement and teacher sense of efficacy. Thus, the null hypothesis was rejected. Thus, the findings of the research study supported the studies of other researchers.

Conclusions

All stakeholders within a school and its community help to form a school's climate. Because a teacher has the most day-to-day interactions with students while he or she is at school, the teacher has an opportunity to shape the school into a positive, effective learning environment

or a negative, ineffective one. Thus, the ability of a teacher to be effective in his or her classroom is paramount for a school's success.

Even though there are many factors that influence a school's climate, research has pointed to teacher self-efficacy as one of the most conclusive. Teachers who believe that they have the ability to make a positive impact on their students by helping them make advances in their learning and growth embody a strong sense of self-efficacy. Research supports that a positive correlation exists between teacher self-efficacy and student achievement (Protheroe, 2008; Hoy, Sweetland, & Smith, 2002). Thus, it is imperative that school leaders take note of the research that identifies teacher self-efficacy and its association with school climate.

Tschannen-Moran et al. (2001) identified four variables of interest as a result of teachers' perceptions of school climate: collegial leadership, teacher professionalism, academic press, and community engagement. Research has supported each variable as a factor that determines school climate. First, within collegial leadership, school leaders must encompass the ability to model positive behaviors while promoting a shared vision to create a student-centered environment that promotes positive student behaviors (Hunter-Boykins & Evans, 1995). Teacher professionalism within the school climate is present in teachers who feel empowered to commit to making the learning experiences of their students positive by collaborating with their peers to overcome setbacks (Goddard, 2001). Research about academic press has shown that teachers' actions and mannerisms, regardless if they are negative or positive, have an impact on student learning and achievement (Printy & Marks, 2006). Finally, community engagement may come in all shapes and sizes, but schools can overcome negative community factors and produce positive results for student learning and growth within their schools (Belfi et al., 2015). Therefore, the researcher

found it necessary to study each individual factor to determine its relationship with teachers'
self-efficacy.

The basis for the research was to determine if a relationship existed between school
climate and teacher self-efficacy, as well as teacher self-efficacy and the four variables, or
subgroups, of school climate as identified by Tschannen-Moran et al. (2001). Thus, this research
continued to address the various factors in hopes of adding to the information to endorse their
value for even more research. The expectation of the research was to gain another endorsement
in support of the research that currently exists. As a result, the research provided additional
information about the relationship between school climate and teacher self-efficacy by
identifying a positive correlation between teacher self-efficacy and community engagement.
Thus, one factor of this research supported prior studies of other researchers.

This research data did not, however, reflect and support prior research studies that show
that a relationship exists between overall school climate and teacher self-efficacy. Instead, this
study showed that there was no correlation to school climate and teacher self-efficacy as well as
teacher self-efficacy and collegial leadership, teacher self-efficacy and teacher professionalism,
and teacher self-efficacy and academic press. None of these factors, therefore, aligned with the
research presented that shows that a positive relationship does exist between school climate and
teacher self-efficacy.

In summary, the research did not show that a relationship exists between school climate
and teacher self-efficacy except for the area of teacher self-efficacy and community engagement.
This study did reveal a statistically significant relationship between teacher self-efficacy and
community engagement. The relationship was a positive correlation demonstrating that when
one variable (either the teacher self-efficacy or community engagement) increases, the other

increases as well. Therefore, the relationship between the two is one that should be considered for future research.

Implications

Research has linked a connection between school climate and teacher self-efficacy (Tschannen-Moran & Woolfolk Hoy, 2001). Even though research has confirmed a relationship, there is an absence of information regarding the extent to which specific identified factors of each topic affect the overall perception of school climate and teacher self-efficacy. Moreover, there is still no conclusion as to which factors have the greatest effect on teacher self-efficacy. As a result, information as to how this research applies to school leaders and their ability to determine the relationship between their school's climate and teacher self-efficacy may or may not help them find answers for gleaning insight into how these factors may affect their own school.

Results from this research yielded that a statistical significance only existed in the correlation of teacher self-efficacy and community engagement. The statistics show a positive correlation between the two factors. This finding may mean that schools that are located in communities where stakeholders become involved in their school's activities and outreach projects have teachers with higher self-efficacy compared to communities that have stakeholders that do not become engaged in their local school. Perhaps a focus on how a community engages in a school is more of an indicator of teacher self-efficacy versus just the overall fact of if stakeholders in the community are engaging or not.

Teachers notice when their community supports the work that they are doing in the classroom to grow the future leaders of their community (Tschannen-Moran & Woolfolk Hoy, 2001). Communities with stakeholders who have a vested interest in student growth and

learning may positively affect teacher self-efficacy. Moreover, an implication of this study may

be that there is more of an effect of community engagement on teacher self-efficacy compared to

the attitudes and behaviors specifically controlled by stakeholders such as principals, teachers,

and students within the school building.

Furthermore, the results did not show a correlation between the other four hypotheses

tested. Thus, other than community engagement, there were no specific subcategories identified

as having a statistically significant effect on teacher self-efficacy. In addition, the data did not

reveal a positive or negative statistically significant correlation between school climate and

teacher self-efficacy. The findings of this study may mean that school climate alone does not

account for a teacher's self-efficacy. Due to the fact that other research contradicts the findings

of this research, this may mean that additional research is needed to clear any discrepancies in

understanding the relationship between school climate and teacher self-efficacy and their

subgroups.

Limitations

This research study was limited to two middle schools located in rural southern Virginia.

Out of eighty-six possible participants, fifty-six participants participated by completing both the

Teacher Sense of Efficacy Scale (TSES) and the School Climate Index (SCI). Based on the

location in which the study was conducted, results from this research may not be used to make

several generalizations. First, since data was gathered from teachers in the middle school setting,

the results may not be applicable to elementary school and high school populations. Moreover,

the research was conducted at schools located in a rural setting, so generalizations may not be

made by schools located in urban or suburban regions. Therefore, principals and teachers in the

elementary school and high school settings as well as in urban and suburban areas should use caution when generalizing the study's findings.

Also, the study did not use random sampling. The research was conducted through convenience sampling, which was chosen based on qualifications for completing the survey and availability. Convenience sampling is not representative of the entire population and, thus, has limitations by means of generalizing the results from the sample to the population that it represents (Gall, Gall, and Borg, 2007). In order to achieve a large enough sample to conduct research, it was believed that convenience sampling was the most suitable choice to ensure reaching an adequate sample size. Thus, the means for selecting the sample population inadvertently caused bias in the research. The researcher, however, attempted to control the bias by collecting samples only from certified teachers who had taught in the given middle school during the 2015-2016 academic year.

In addition, the data was collected from teachers through a self-reported survey. Even though the teachers were informed that their results were confidential through the anonymity of their survey and data collection process, there still could have been some fear that their principal would see their results. Thus, some respondents may have chosen not to accurately answer all questions based on their true thoughts and feelings. As a result, fear may have affected some of the answers.

Recommendations for Future Research

According to the results of the research, the relationship between teacher-perceived school climate and teacher self-efficacy was not statistically significant, nor was the relationship between teacher self-efficacy and collegial leadership, between teacher self-efficacy and teacher professionalism, and between teacher self-efficacy and academic press. There was, however, a

statistical significance in the relationship between teacher self-efficacy and community engagement.

Based on the findings, more research is recommended to further the understanding of the relationship between school climate, teacher self-efficacy, and teacher beliefs. The following recommendations should be considered for further study:

1. A qualitative study would help to bring a deeper understanding of the thoughts, feelings, and attitudes of participants about their perceptions of school climate and its impact on teacher self-efficacy.

2. A study to further the understanding of the relationship between teacher self-efficacy and community engagement would be beneficial to be able to identify the factors of community engagement that influence a school's climate.

3. This study could benefit from having a larger sample size to include middle schools from other school districts. Also, this study should be replicated in multiple states in multiple school districts to determine possible geographic similarities and differences.

4. This study could be replicated and conducted at the elementary school level or the high school level to determine if results would differ based on the age of the students in the school.

5. Since many of the questions on the two surveys relate directly to the teacher's views of the leadership qualities of the principal of the school, a study would be beneficial if conducted in schools based on principals' years of experience in their leadership position.

6. Moreover, many states grade their schools based on student achievement and performance and student testing. Therefore, a causal comparative study would be

beneficial in determining whether a school's accreditation status has a direct or indirect influence on teacher self-efficacy and school climate. Therefore, a researcher could compare groups based on their accreditations status and their results on the Teacher Sense of Efficacy Scale (TSES). Likewise, to study school climate, a researcher could compare groups based on their accreditation status and their results on the School Climate Index (SCI).

7. A study would be useful to the field of education if it examined demographic factors. Looking at elements such as age, race, gender, religion, education, and experience in the teacher profession and their effects on school climate and teacher self-efficacy would further research and understanding of the topics.

8. A final suggested study would be to conduct a similar study to the one presented, with the control variable being the School Climate Index (SCI) instead of the Teacher Sense of Efficacy Scale (TSES). The TSES has three subcategories which include efficacy in student engagement, efficacy in instructional strategies, and efficacy in classroom management. It would be beneficial to determine if a relationship exists between school climate and each of the individual subgroups while the other two subgroups are controlled.

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APPENDICES

Appendix A

Permission to Use the School Climate Index and the Teacher Sense of Efficacy Surveys

William & Mary
School of Education

MEGAN TSCHANNEN-MORAN, PHD
PROFESSOR OF EDUCATIONAL LEADERSHIP

March 28, 2016

Paige,

You have my permission to use the Teacher Sense of Efficacy Scale (formerly called the Ohio State Teacher Sense of Efficacy Scale), which I developed with Anita Woolfolk Hoy, in your research. You can find a copy of the measure and scoring directions on my web site at http://wmpeople.wm.edu/site/page/mxtsch . Please use the following as the proper citation:

> Tschannen-Moran, M & Hoy, A. W. (2001). Teacher efficacy: Capturing an elusive construct. *Teaching and Teacher Education, 17*, 783-805.

You also have permission to use the School Climate Index, which I developed with Wayne Hoy and John Hannumb, in your research. You can find the measure and scoring directions on my web site at http://wmpeople.wm.edu/site/page/mxtsch . Elements of the measure have been adapted and added since its original inception, so please use the following as the proper citations:

> DiPaola, M. F., & Tschannen-Moran, M. (2005). Bridging or buffering: The impact of schools' adaptive strategies on student achievement. *Journal of Educational Administration, 43*(1), 60–71.
>
> Hoy, W. K., Hannum, J., & Tschannen-Moran, M. (1998). Organizational climate and student achievement: A parsimonious and longitudinal view. *Journal of School Leadership, 8*, 336–359.
>
> Tschannen-Moran, M., Parish, J., & DiPaola, M. (2006). School climate: The interplay between interpersonal relationships and student achievement. *Journal of School Leadership, 16*, 386–415.

I will also attach directions you can follow to access my password protected web site, where you can find the supporting references for this measure as well as other articles I have written on this and related topics.

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

All the best,

Megan Tschannen-Moran

Appendix B

Institutional Review Board Application Approval

LIBERTY UNIVERSITY.
INSTITUTIONAL REVIEW BOARD

April 29, 2016

Paige Kindley Lacks
IRB Exemption 2506.042916: The Relationships between School Climate, Teacher Self-Efficacy, and Teacher Beliefs

Dear Paige,

The Liberty University Institutional Review Board has reviewed your application in accordance with the Office for Human Research Protections (OHRP) and Food and Drug Administration (FDA) regulations and finds your study to be exempt from further IRB review. This means you may begin your research with the data safeguarding methods mentioned in your approved application, and no further IRB oversight is required.

Your study falls under exemption category 46.101(b)(2), which identifies specific situations in which human participants research is exempt from the policy set forth in 45 CFR 46:101(b):

> (2) Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, unless:
> (i) information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; and (ii) any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation.

Please note that this exemption only applies to your current research application, and any changes to your protocol must be reported to the Liberty IRB for verification of continued exemption status. You may report these changes by submitting a change in protocol form or a new application to the IRB and referencing the above IRB Exemption number.

If you have any questions about this exemption or need assistance in determining whether possible changes to your protocol would change your exemption status, please email us at irb@liberty.edu.

Sincerely,

G. Michele Baker, MA, CIP
Administrative Chair of Institutional Research
The Graduate School

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Appendix C

Means of Correspondence

Date: May 13, 2016

Dear Teacher:

As a graduate student in the School of Education at Liberty University, I am conducting research as part of the requirements for a degree of Doctor of Education. Last week a letter was sent to you inviting you to participate in a research study. This follow-up email is being sent to remind you to complete the surveys if you would like to participate and have not already done so. The deadline for participation is May 20, 2016.

If you choose to participate, you will be asked to complete a survey, place the survey back in the envelope, and return it to the designated box. It should take approximately fifteen minutes for you to complete the procedure listed. Your participation will be completely anonymous, and no personal, identifying information will be required.

To participate, please pick up an envelope from the designated box in the main office. Please put the completed surveys back in the envelope and place it in the second designated box in the main office.

An informed consent document is attached to this email. The informed consent document contains additional information about my research, but you do not need to sign and return it.

If you choose to participate, the researcher will offer an incentive of breakfast for participation with a return rate at or above 65% for the school.

Sincerely,

Paige Kindley Lacks
Ed.D. Candidate, Liberty University

Date: May 17, 2016

Dear Teacher:

As a graduate student in the School of Education at Liberty University, I am conducting research as part of the requirements for a degree of Doctor of Education. About a week and a half ago, a letter was sent to you inviting you to participate in a research study. This follow-up email is being sent to remind you to complete the surveys if you would like to participate and have not already done so. The deadline for participation is May 20, 2016.

If you choose to participate, you will be asked to complete surveys, place the surveys back in the envelope, and return it to the designated box. It should take approximately fifteen minutes for you to complete the procedure listed. Your participation will be completely anonymous, and no personal, identifying information will be required.

To participate, please pick up an envelope from the designated box in the main office. Please put the completed survey back in the envelope and place it in the second designated box in the main office.

An informed consent document is attached to this email. The informed consent document contains additional information about my research, but you do not need to sign and return it.

If you choose to participate, the researcher will offer an incentive of breakfast for participation with a return rate at or above 65% for the school.

Thank you again to those of you who participated in my study.

Sincerely,

Paige Kindley Lacks
Ed.D. Candidate, Liberty University

Appendix D

Participant Cover Letter

Dear Teacher:

As a graduate student in the School of Education at Liberty University, I am conducting research as part of the requirements for a degree of Doctor of Education. The purpose of my research is to determine the impact of school climate on teacher self-efficacy, specifically, if a relationship exists between the two. I am writing to invite you to participate in my study.

You are receiving this letter because you are currently employed as a certified middle school teacher working in   Public Schools, Virginia. If you are willing to participate, you will be asked to participate in a brief survey regarding your thoughts about school climate and teacher beliefs. It should take approximately 15 minutes or less for you to complete the procedure listed. Your participation will be completely anonymous, and no personal, identifying information will be required.

A consent document is attached to this letter. Please read the consent information and decide if you would like to take part in the survey. If you do, your principal will provide you with an envelope that contains a survey for you to complete. Once you complete the survey, please place the survey back in the envelope and return it to the designated box.

If you choose to participate, the researcher will offer an incentive of breakfast for teacher participants from the school with a participation return rate at or above 65%.

Sincerely,

Paige Kindley Lacks
Ed.D. Candidate, Liberty University

Appendix E

Participant Consent Form

CONSENT FORM
THE RELATIONSHIPS BETWEEN SCHOOL CLIMATE, TEACHER SELF-EFFICACY, AND TEACHER BELIEFS
Paige Kindley Lacks
Liberty University
School of Education

You are invited to be in a research study about the relationships between school climate, teacher self-efficacy, and teacher beliefs. You were selected as a possible participant because you are currently employed as a certified teacher at a middle school with ⬚⬚⬚⬚⬚⬚⬚ Public Schools, Virginia. I ask that you read this form and ask any questions you may have before agreeing to be in the study.

Paige Kindley Lacks, a doctoral candidate in the School of Education at Liberty University, is conducting this study.

Background Information:

The purpose of this study is to determine the impact of school climate on teacher self-efficacy.

Procedures:

If you agree to be in this study, I would ask you to do the following thing:
- Complete a survey regarding your thoughts about school climate and teacher beliefs. This survey should take around 15 minutes or less to complete.
- Once complete, please place the survey back in the envelope and return it to the designated box.

Your answers will be anonymous. The researcher will not be able to tell to whom the data belongs.

Risks and Benefits of being in the Study:

The risks involved in this study are no more than the participant would encounter in everyday life.

There are no direct benefits for the participants in this study.

Compensation:

Your faculty will receive a breakfast for participation with a return rate at or above 65% for taking part in this study. Disbursement will occur within a month of the end date of completion of the survey.

Confidentiality:

The records of this study will be kept private. In any sort of report I might publish, I will not include any information that will make it possible to identify a subject. Research records will be stored securely and only the researcher will have access to the records. All data collected will be locked and stored in a filing cabinet. It will be shredded after three years.

Voluntary Nature of the Study:

Participation in this study is voluntary. Your decision whether or not to participate will not affect your current or future relations with Liberty University or [ ] Public Schools. If you decide to participate, you are free to not answer any question or withdraw at any time without affecting those relationships.

Contacts and Questions:

The researcher conducting this study is Paige Kindley Lacks. You may ask any questions you have now. If you have questions later, you are **encouraged** to contact her at [ ]. You may also contact the research's faculty advisor, Dr. Scott Watson, at

If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher, you are **encouraged** to contact the Institutional Review Board, 1971 University Blvd, Carter 134, Lynchburg, VA 24515 or email at irb@liberty.edu