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## Relationship Between School Climate and Student Achievement

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# RELATIONSHIP BETWEEN SCHOOL CLIMATE AND STUDENT ACHIEVEMENT

by

GAIL HOOKS GREENWAY

Under the Direction of Daniel W. Calhoun

## ABSTRACT

Increasingly public schools in the United States are finding that factors beyond curriculum and instruction impact student achievement. Much research has been conducted on the relationship between school climate and student achievement (Cohen, McCabe, Michelli, & Pickeral, 2009; Guo & Higgins-D'Alessandro, 2011). This study set out to determine if there was a correlation between school climate and student achievement in middle schools in the Central Savannah River Area Regional Educational Service Agency region in the state of Georgia. Findings from this quantitative study indicated that there is a statistically significant, positive relationship between school climate and student achievement in middle schools in this region. Discussion and implications of the findings suggest practical recommendations for schools to implement changes were needed. Recommendations for future research include expanding the research to elementary and high schools as well as other regions of Georgia.

INDEX WORDS: School climate, Student achievement, Middle schools

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CLIMATE AND STUDENT ACHIEVEMENT

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## DEDICATION

I was fortunate to be raised by two parents who instilled the importance of education in their children. My parents, Wendel and June Hooks, supported my journey and encouraged me to continue to strive for more. I dedicate this study to them with love, respect, and admiration. Unfortunately, my father did not live to see me complete this degree and that will be something that I will always regret. However, I know that his dream of me receiving a doctorate is why I was able to get through this process. My parents spent their lives running our family farm. Hard work that took many long hours. There were many days that my daddy left before daylight and did not get home until well after dark. All the while my mother was working beside him or managing to keep our household running smoothly. The lessons of hard work and determination that were taught to me by my parents have been the most valuable of my life. I can never verbalize the amount of love I have for them both, but this quote says so much about how this farmer's daughter feels about her hard-working, loving parents.

*“When he comes home late, hungry, and missing our school activities, he does not truly realize the impact he has made on us. We are proud of him and his dedication to agriculture. My father is a farmer. During harvest, he spends hours away from his family doing what he loves, the noble responsibility of feeding the world. During harvest, he eats away from his table, only to put food on everyone else’s.”*

*–Kristin Liepold*

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## **CHAPTER 1**

### **Introduction**

Leaders in public school systems in the United States (US) regularly struggle with issues surrounding student achievement and student retention. In 2015, 10% of children under the age of 18 had parents who had not earned a high school degree, 35% lived in one-parent households, and 20% were living in poverty (National Assessment of Educational Progress [NAEP], 2015). Students who were living in poverty and who did not have a parent who completed high school tended to score lower in reading, mathematics, and science in each of their first four years of school compared to their peers who had neither risk factor at kindergarten entry (National Center for Education Statistics [NCES], 2017). Also, in 2014-2015, some 1.3 million students were reported as homeless youth (NAEP, 2015). All of these factors affect how a student will achieve which may impact a student's potential to graduate on time.

According to data from the United States Department of Education's National Center for Education Statistics, the nation's high school graduation rate hit 82% in 2013-2014. As of 2015, the percentage of students graduating on time in the state of Georgia was below the national average at 78.8%. However, in Georgia's Central Savannah River Area (CSRA) Regional Educational Service Agency (RESA), the graduation rate was slightly above the national average at 84.5% (Georgia Department of Education, 2017a). Schools across the U. S. struggle with the means by which student achievement can be raised. One possible means would be a strong and positive school climate. Research revealed that school climate had been shown to have a positive effect on student achievement and student retention (Cohen, McCabe, Michelli, & Pickeral, 2009; Guo & Higgins-D'Alessandro,

2011). The National School Climate Council (2007) has defined school climate in the following way:

School climate refers to the quality and character of school life. School climate is based on patterns of students', parents' and school personnel's experiences of school life and reflects norms, goals, values, interpersonal relationships, teaching and learning practices, and organizational structures.

A sustainable, positive school climate fosters youth development and learning necessary for a productive, contributing and satisfying life in a democratic society. This climate includes norms, values, and expectations that support people feeling socially, emotionally and physically safe. People are engaged and respected. Students, families, and educators work together to develop, live and contribute to a shared school vision. Educators model and nurture attitudes that emphasize the benefits and satisfaction gained from learning. Each person contributes to the operations of the school and the care of the physical environment (p. 4).

Over the last 30 years a growing body of empirical research has shown that a positive and sustained school climate is associated with and may be predictive of positive youth development, effective risk prevention and health promotion efforts, student learning and academic achievement, increased student graduation rates, and teacher retention (Cohen & Geier, 2010).

School climate improvement is a continuous process. Effective school improvement efforts involve the students, parents, and guardians, school personnel, and community leaders (Cohen et al., 2009). Efforts to keep students on the graduation path

should be paired with efforts to close achievement gaps. It is during the middle grades, particularly in lower-performing schools that serve high-poverty populations that achievement gaps often become so large that they cannot be overcome by students as they move forward into high school (Balfanz, 2009). If middle schools provide a solid curriculum base for students and engage students in the learning process, students should be more invested in the educational process and may be more likely to complete high school. Students who end their ninth grade year on track to graduate in four years are four times more likely to earn a diploma than those who fall off-track (University of Chicago, 2012). One way to improve retention rates for high school students is to focus on achieving student success earlier in students' academic careers, namely, at the middle school level.

Eccles (2008) determined that middle school reform efforts have successfully reduced the dropout rates in secondary school. Eccles concluded that middle schools that included opportunities for students to have six types of experiences create environments that resulted in higher graduation rates. The six opportunities students should be exposed to include the following:

1. building strong personal relationships with non-familial adults;
2. strong safety nets to identify disengagement early;
3. provision of support for the mastery of learning;
4. mastery of, and a strong sense of efficacy for acquiring, the skills and competencies necessary for a successful transition to adulthood;
5. visioning a productive adulthood along with the means of obtaining the associated goals; and,



6. students should be given experiences that build a strong sense of mattering and high-quality instruction in a psychologically and physically safe environment. (Eccles, 2008)

Similarly, Balfanz (2009) found that reform efforts at the middle grades level that combine curricula and instructional practices linked to college and career readiness and enhanced teacher quality can improve student success, thus, magnifying the impact of the middle grades on student success and retention at the secondary level. Therefore, schools working to implement school improvement and reform successfully would be wise to acknowledge the impact that middle schools have to ensure that students are successful in school and in turn graduate from high school. To fully appreciate this issue, it is important to understand both how school climate and student achievement is determined in the state of Georgia and what those calculations look like at the middle school level.

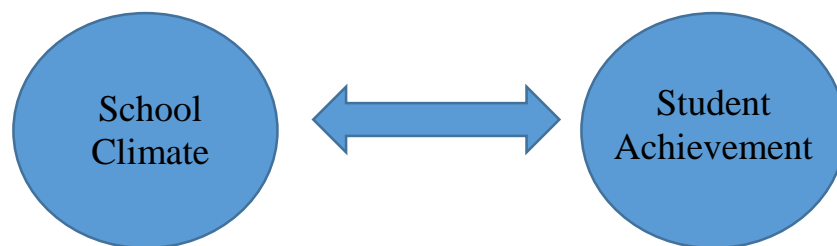
### **Statement of Problem and Purpose Statement**

Georgia schools continue to struggle to ensure that student achievement has reached targeted levels and to close the gap in student achievement. In Georgia, assessments are used to determine if schools are meeting standards identified that represent student achievement. One such measure is College and Career Readiness Performance Index (CCRPI). Another strong indicator of what is going on in a particular school or schools is the school climate calculation. The CCRPI is a comprehensive school improvement, accountability, and communication platform for all educational stakeholders designed to promote college and career readiness for all Georgia public school students (Georgia Department of Education, 2017c). A myriad of research has indicated that there is a direct and symbiotic relationship between school climate and

student achievement (Cohen et al., 2009; Guo & Higgins-D'Alessandro, 2011). However, before this study, it was unknown if this relationship existed in Georgia middle schools in the CSRA RESA district. Therefore, the purpose of this study was to examine if a relationship exists between school climate, as measured by the school climate calculation, and student achievement, as measured by CCPRI, in the Georgia middle schools located in the CRSA RESA district.

### Conceptual Framework

“A conceptual framework is a visual or written product, one that explains, either graphically or in narrative form, the main things to be studied, the key factors, concepts, or variables, and the presumed relationship among them” (Miles & Huberman, 1994 p. 18). As this study seeks to determine if there is a relationship between school climate, as measured by the school climate calculation, and student achievement, as measured by CCRPI, the following figure illustrates this relationship that is symbiotic because both factors create a special relationship with one another because they can provide a balance that only is achieved when working together.



*Figure 1.* Conceptual Framework. The figure indicates a conceptual framework for this study and the symbiotic relationship between school climate and student achievement.

### Research Questions

Research has indicated that there is a strong and direct relationship between

school climate and student achievement (Cohen et al., 2009; Guo & Higgins-D'Alessandro, 2011). However, it had yet to be determined if this relationship exists in middle schools within the CRSA RESA of Georgia. As this study sought to determine if a relationship exists, the following overarching question guided this study: What is the relationship between school climate, as measured by school climate calculation, and student achievement, as measured by the College and Career Ready Performance Index (CCRPI) in middle schools in the Central Savannah River Area (CSRA) Regional Educational Service Agency (RESA) region in Georgia? The CSRA RESA district has 31 middle schools. These middle schools have varying socio-economic rates and are located in both rural and urban locations.

In order to fully answer this question, four sub-questions were developed:

1. What is the relationship between school climate, as measured by school climate calculation, and student achievement, as measured by the College and Career Ready Performance Index (CCRPI) in urban middle schools in the Central Savannah River Area (CSRA) Regional Educational Service Agency (RESA) region in Georgia?
2. What is the relationship between school climate, as measured by school climate calculation, and student achievement, as measured by the College and Career Ready Performance Index (CCRPI) in rural middle schools in the Central Savannah River Area (CSRA) Regional Educational Service Agency (RESA) region in Georgia?
3. What is the relationship between school climate, as measured by school climate calculation, and student achievement, as measured by the College

and Career Ready Performance Index (CCRPI) in low poverty middle schools in the Central Savannah River Area (CSRA) Regional Educational Service Agency (RESA) region in Georgia?

4. What is the relationship between school climate, as measured by school climate calculation, and student achievement, as measured by the College and Career Ready Performance Index (CCRPI) in high poverty middle schools in the Central Savannah River Area (CSRA) Regional Educational Service Agency (RESA) region in Georgia?

### **Procedures**

A quantitative study is appropriate given that the research question seeks to examine the relationship between variables (Creswell, 2013). The variables, school climate calculation, and student achievement have been measured so that numbered data can be analyzed using statistical procedures (Creswell, 2013). A correlational model was used because the direction from cause to effect cannot be established with certainty, and extraneous variables can never be ruled out completely. Causal models can be extremely useful for generating hypotheses for future research and for predicting potential causal sequences in instances where experimentation is not feasible (Myers & Hansen, 2002), such as in the field of education.

The researcher used archival data to analyze the correlation between the school climate, as measured by the school climate calculation, and student achievement, as measured by CCRPI, in middle schools in the CSRA RESA district. The archival data used were collected by the Georgia Department of Education to report aspects of the CCRPI for schools in Georgia for the 2015 school-term. This is a study based on archival

data; therefore, there were no participants, per se. Instead, the researcher used the de-identified data located on the Georgia Department of Education website via <http://ccrpi.gadoe.org/2016/>. A Pearson's correlational analysis to determine the correlation was performed for each middle school in the CSRA RESA district. The Pearson's correlational analysis was used to determine whether the school climate calculation has a significant relationship with student achievement for the 31 middle school included in the study.

### **Significance of Study**

CSRA RESA is a mixed geographical area that includes both rural and urban settings. School leaders in this region need to attend to the needs of all students and school stakeholders. If a relationship exists between school climate and students achievement, then school leaders in this region might be encouraged to be purposeful and look at improving the dimensions of school climate to ensure student achievement growth. Districts and middle schools within the CSRA RESA region may take results and find ways to improve their student achievement by impacting school climate. School leaders should engage students, families, and educators to work together to develop, live, and contribute to a shared school vision following the definition of school climate. For the purpose of this study, the researcher used the National School Climate Council definition for school climate: School climate is based on patterns of students', parents' and school personnel's experience of school life and reflects norms, goals, values, interpersonal relationships, teaching and learning practices, and organizational structures (The National School Climate Council, 2007). If the relationship between school climate and student achievement exists, schools should make this a focus of their school

improvement initiatives.

The researcher provides sufficient information regarding the region so that a reader may transfer the findings to his or her setting. Once established, correlations can be used to make predictions. In the future leaders throughout the state of Georgia could use this research to investigate needs in their schools and apply findings to increase the achievement of students in their schools. This research can be done in the CSRA RESA district when looking at elementary and secondary settings, as well as in other RESA regions for all educational levels.

### **Definition of Key Terms**

Several items used in this study need further clarification because they are acronyms and terms used primarily in the education realm and not generally known. The meaning of the acronyms, CSRA, CCRPI, RESA must first be delineated. Also, the definition of the term school climate and school climate calculation, as used in this study, must be explained.

Central Savannah River Area (CSRA) - CSRA is division of RESA that serves the counties of Burke, Columbia, Emanuel, Glascock, Jefferson, Jenkins, Lincoln, McDuffie, Richmond, Taliaferro, Warren, and Wilkes by providing shared services to improve the effectiveness of educational programs and services for local school systems and to provide direct instructional programs to selected public school students (Georgia Department of Education, 2017b).

College and Career Readiness Performance Index (CCPRI) - This index is a comprehensive school improvement, accountability, and communication platform for all educational schools that will promote college and career readiness for all

Georgia public school students (Georgia Department of Education, 2017c).

Regional Educational Service Agency (RESA) - RESA is an agency established to provide shared services to improve the effectiveness of educational programs and services for local school systems and to provide direct instructional programs to selected public school students (Georgia Department of Education, 2017).

School Climate - School climate as the quality and character of school life. School climate is based on patterns of students', parents' and school personnel's experience of school life and reflects norms, goals, values, interpersonal relationships, teaching and learning practices, and organizational structures (The National School Climate Council, 2007).

School Climate Calculation - The school climate calculation is the average score generated from the survey score, the student discipline score, the safe and substance-free learning environment score, and the school-wide attendance score (Georgia Department of Education, 2017d).

### **Chapter Summary**

Overall, concerns facing public education and the task of schools to increase student achievement and graduate students by improving school climate is vital. This study provides data for determining if school climate has a relationship with student achievement. Schools would have a path to increasing student achievement by focusing on ways to improve the climate of their school. If a positive correlation is determined in this study, the information could assist schools in their school improvement efforts.

### **Organization of Study**

This dissertation is organized into five chapters including the introduction,

literature review, methodology, data analysis, and discussion and implications of the data analysis. Chapter 1 covers the introductory examination of challenges that schools are facing, focusing on school climate and student achievement as a catalyst for improvement. Chapter 2 provides a targeted literature review for establishing a more detailed background on issues impacting school climate and student achievement in middle schools. Chapter 3 describes the quantitative approach used in this study, as well as data collection, participants, research design and research analysis. Chapter 4 provides the analysis of the data used in this study including descriptive statistics and data tables and charts. Chapter 5 discusses the data while tying findings back to prior research; additionally, the implications of the findings, as well as recommendations for future research, are presented.



## **CHAPTER 2**

### **REVIEW OF LITERATURE**

#### **Introduction**

The review of literature cites key studies relevant to this examination of the relationship between school climate and student achievement. Through a comprehensive review of the literature, this chapter is intended to provide a background of the literature that will aid in understanding this study. In conducting this review of the literature, various definitions for school climate emerged, but the researcher identified one specific definition that best suited this project. Using that definition, the review of the literature addresses three main areas of school climate, including interpersonal skills, teaching and learning practices, and organizational structure. These areas address the major ways that school climate can be impacted by school leaders and staff. School climate was reviewed regarding student achievement from both a national and state perspective. To understand the correlation between school climate and student achievement, the overall review of current trends in student achievement is necessary. As this study specifically addresses middle schools, to complete the review of the literature, the researcher has highlighted the history of middle schools, as well as existing research on the relationship between middle schools and school climate. This information is crucial to understanding the dynamics of a middle school, as well as how school climate in middle schools has been reviewed in previous research.

The existence of a strong and positive school climate is essential for the successful function of a school (Hoy & Hannum, 1997) and failing to nurture positivity in a school is the best way to ensure lower student achievement (Moller, Mickelson,

Stearns, Bottia, Banerjee, & Society for Research on Educational Effectiveness, 2011). A positive school climate focused on student learning is correlated to student achievement (Hallinger, Bickman, & Davis, 1996). Successful schools have a school climate that is significantly more positive than their less successful counterparts (Lindahl, 2009). Since leaders play a pivotal role in fostering and sustaining school climate, it behooves them to concentrate effort in this area (Johnson & Uline, 2005). Cohen et al. pointed out, “There is a glaring gap between school climate research findings on the one hand and policy, school improvement practice, and teacher educator efforts on the other. This gap undermines K-12 students’ ability to learn and develop in healthy ways” (2009, p.181). Therefore, this study examined if a relationship does exist in the middle schools in the CRSA RESA district between school climate and student achievement.

### **School Climate**

School climate is a relatively enduring quality of the school environment that is experienced by teachers, student, and staff affects their behavior and is based on their collective perceptions of behavior in schools (Hoy & Miskel, 2005; Keefe, Kelley, & Miller 1985; Marks 1995; Tableman, 2004). School climate describes the atmosphere, working conditions, and job demands at a school. Climate is an individual phenomenon that lends itself to quantitative research (Dennison, 1996; Hellriegel & Slocum, 1974). However, Benson (2003), Morrison (2007), and Sims (2005), noted in their quantitative dissertation studies that widening the scope of their studies by using different methodological lenses (Sims, 2005) and permitting others with the ability to see the real world differences in school climate would deepen the understanding of the construct of school climate and its impact on student achievement. Also contributing to this construct

would be allowing teachers to express their opinions about the relationship between school climate and student achievement (Benson, 2003). Many researchers suggested that variables associated with school climate such as social support, caring classroom, teacher commitment, and student-teacher relations not be only desirable but prerequisites for positive behavioral change (Flay, 2000; Zullig, Huebner & Patton, 2010).

Increased policing of schools, the use of metal detectors, and punitive disciplinary practices are factors that have been found to diminish a school's climate. While these methods are aimed at making schools safer, the use of surveillance technologies and full-time law enforcement has not served as an effective deterrent for problematic behaviors (Devine, 1996; Kupchik, 2010; Schreck, Miller, & Gibson, 2003). Increased surveillance measures in schools are linked to decreased clarity and fairness of rules (Gottfredson, Gottfredson, Payne, & Gottfredson, 2005), decreased relational trust within the school community (Bryk, Sebring, Allensworth, Luppescu, & Easton, 2010) and decreased student perceptions of safety, respect, and socio-emotional learning (McCoy, Roy, & Sirkman, 2013). Additionally, Black students and those with particular educational disabilities, even in schools where delinquency and disorder were reported as low (Welch & Payne, 2010), were disproportionately likely to be removed from the classroom for disciplinary reasons (Fabelo, Thompson, Carmichael, Marchbanks, & Booth, 2011) or suspended (Hoffman, 2014). Similarly, punitive measures were found to push out students from the school community and lead to higher dropout rates (Gonzalez, 2012). An American Psychological Association Task Force (2008) concluded that these punitive measures contributed to reduced school climate ratings.

When school climate is defined narrowly, it can appear as a relatively

independent factor. However, when viewed contextually, it becomes clear that it is related to everything else. In a study of urban public schools, Jones, Shindler, Cadenas, & Taylor (2003) found that all of the various aspects of climate were correlated to one another at most schools. Where one variable was found to be either high or low, the others were as well. In other words, no cases were found in which one variable, such as the discipline culture was low and another, such as student interaction was high. While more direct methods of intervention with the goal of improving student achievement make sense, if the basic structure of a school is dysfunctional, its capacity to promote its desired goals is limited (Fullan, 2003).

As Anderson, (1982) and Brown & House, (1967) noted, by completing a review of the research on school climate, it was determined that school climate is a complex construct that is unique to individual organizations and understanding this construct will improve the understanding of how schools function and impact student learning. For this study, the researcher used the following definition developed by The National School Climate Council (2007):

School climate refers to the quality and character of school life. School climate is based on patterns of students', parents' and school personnel's experience of school life and reflects norms, goals, values, interpersonal relationships, teaching and learning practices, and organizational structures.

A sustainable, positive school climate fosters youth development and learning necessary for a productive, contributing and satisfying life in a democratic society. This climate includes norms, values, and expectations that support people feeling socially, emotionally and physically safe. People are

engaged and respected. Students, families, and educators work together to develop, live and contribute to a shared school vision. Educators model and nurture attitudes that emphasize the benefits and satisfaction gained from learning. Each person contributes to the operations of the school and the care of the physical environment. (p. 4)

The definition developed by the National School Climate Council focuses on three key areas: interpersonal relationships, teaching and learning practices, and organizational structures. In this section of the literature review, the researcher focused on these three areas and positive ways to improve school climate

### **Interpersonal Relationships**

The professional knowledge of effective teachers reaches beyond merely the knowledge of subject matter (content knowledge) and instructional strategies (pedagogical knowledge); indeed, professional knowledge also encompasses an understanding of students and environmental contexts (Cochran, DeRuiter, & King, 1993). An attribute of professionalism is a commitment to continuous improvement and perpetual learning. Interestingly, effective teachers monitor and strengthen the connection between their own development and students' development (Fullan, 1993). Research has also shown that teacher's work environment, peer relationships and feeling of inclusion and respect are important aspects too. In a study of 12 middle schools, Guo (2012) found that the teachers' work environment, which may be considered as an indicator of teachers' relationship with each other and school administrators, fully mediated the path from a whole school character intervention to school climate change. Albanese (2004) further noted that interpersonal skills define who we are and for

teachers, it distinguishes their ability to be average, good, or outstanding in their interactions with their students, and in their ability to teach the curriculum.

Teachers' interpersonal skills can also affect their ability to help students gain information from the curriculum that they are taught (Albanese, 2004; Cemalogu, 2007). Fan (2012) concluded that all teachers should bear in mind that a healthy interpersonal relationship is one indispensable instrument of high productivity and achievement in fields of human endeavor including the education industry. The relationship between teachers and students foster a bond, which in turn, teaches the students self-confidence and creates a positive working relationship between students and teachers (Baker, Rieg, & Clendaniel, 2006; Greenlee & Bruner, 2001). In middle school students, the quality of peer relationships accounts for 33 to 40% of the variance in the achievement of middle school students (Johnson, Johnson, & Roseth, 2010). Capitalizing on positive teacher-student relationships during adolescence can be a powerful way to increase youth development (Yu, Johnson, Deutsch, & Varga, 2016). If a school has an emphasis on learning, students will be more likely to embrace this process and rise to the high expectations that have been set for them (Goddard, Hoy, & Woolfolk, 2000; Muijs & Reynolds, 2002; & Roney, Coleman, & Schlichting, 2007). These relationships between students and their teachers solidify the teachers' beliefs that students will become successful learners, which can affect a students' academic performance (Hamre & Pianta, 2005; McGuigan & Hoy, 2006). In research by Mitchell, Bradshaw, & Leaf (2010) students viewed student-teacher relationships as one of the school level factors that influenced school climate.

### **Teaching and Learning Practices**

Curriculum alignment and planning is essential to create a positive climate in a school. In high-poverty schools with significant and sustained improvements in student performance, researchers found that some of these schools compiled and gave teachers three-ring binders full of well-designed lesson plans at the beginning of the year (Chenoweth, 2009). Teachers seemed to welcome the support because it allowed them to focus on delivering the lessons well and managing behavior. In the words of one teacher at Lockhart Junior High, "It was very overwhelming my first year. There was just a lot to keep up with and keep track of." Striking lesson planning from her list of first-year worries removed some creases from her brow and made her feel "like I had support" (p. 101). High-quality lesson plans can give new or struggling teachers, in particular, an important lifeline. This may be the best way to think of packaged or borrowed lesson plans—as a support for teachers, not a mandatory "teacher-proof" curriculum (Goodwin, 2016).

All teachers whether veteran or novice must generate curriculum plans for their students. To generate compelling curriculum, teachers have to embed the standards in learning contexts that enliven the curiosity and thinking of students and that represent with validity the nature and intent of the disciplines they teach (Tomlinson, 2010). Continual review of plans to ensure that lessons are aligned to standards is part of the curriculum planning process. Effective teachers alter, adjust, and change their instruction depending on who is in the classroom and the extent to which those students are achieving. Effective teachers are not so devoted to their practice that they ignore the students in front of them (Christenbury, 2010). The curriculum planning process is an essential element that is necessary to strengthen school climate.

Various research studies have found that effective teachers tend to demonstrate certain behaviors while making planning decisions (Haynie, 2006; Fuchs, Fuchs, & Phillips, 1994; McEwan, 2002). One such behavior is that effective teachers construct a blueprint of how to address the curriculum during the instructional time (McEwan, 2002). Teachers that are successful also collaborate with one or more teachers while planning, rather than plan lessons alone (Haynie, 2006). A third strong indicator of effectiveness is a teacher that facilitates planning units in advance to make intra- and interdisciplinary connections (McEwan, 2002). Another very important behavior demonstrated by good teachers is using student assessment data to plan what goals and objectives to address (Haynie, 2006) as well as taking into account the abilities of their students and the students' strengths and weaknesses as well as their interest level (Fuchs et al., 1994).

Research has also determined that effective teachers plan for the context of the lesson to help students relate, organize, and make knowledge become a part of students' long-term memory (Marzano, Pickering, & Pollock, 2001). Another indicator of success is to sequence material to promote student's cognitive and developmental growth (Panasuk, Stone, & Todd, 2002) while using their knowledge of available resources to determine what resources they need to acquire or develop (Buttram & Waters, 1997). Lastly, effective teachers plan instruction in a multi-sourced manner (Allington & Johnston, 2000).

Assessment is another key component of teaching and learning practices. Using assessment practices to monitor student progress, improve teacher practices, and adjust instruction based on results enhance the educational experience for students. Schools have used grades for a variety of purposes: communication, self-evaluation, sorting and



selecting, motivation, and program evaluation (Guskey, 1996) and therein lies the problem. Some teachers emphasize one purpose, and some emphasize another. Consequently, they use different criteria for determining grades, which can result in students who achieve at the same level receiving different grades (O'Connor & Wormeli, 2011). Grades are small symbols used as shorthand for much larger descriptors. Contrary to the emotional baggage so often applied to each one, they are not full descriptors themselves. Grades must be informative to support students' learning. We are mindful of each symbol's purpose in the learning process and, in particular, whether they refer to formative or summative assessments (O'Connor & Wormeli, 2011).

Instruction is the third component of teaching and learning practices that influence school climate. Effective teachers use criteria such as appropriateness for grade level, alignment to national, state, or local standards, the accuracy of information, the time allowed for the lesson or unit, and the learning benefits that come from using the resource (Buttram & Waters, 1997). Once the learning objectives are developed, evidence suggests that expert teachers are more competent in translating their instructional plans into actions than non-expert teachers (Borko & Livingston, 1989). Additionally, expert teachers anticipate the difficulties students might encounter while learning the content of the lesson. They consider students' thinking to assess the success of the lesson plan and then modify their instruction promptly (Leinhardt, 1993). With the onslaught of standardized testing, teachers feel less capable of being flexible with the curriculum. Teachers report a narrowing of the curriculum that focuses on tested items and breadth of content while sacrificing depth (Au, 2007). Pacing guides have become a prescribed solution to ensure time is spent on certain lessons and topics. The best pacing

guides emphasize curriculum guidance instead of prescriptive pacing. The guides focus on central ideas and provide links to exemplary curriculum material, lessons, and instructional strategies (David, 2008).

### **Organizational Structures**

Research indicates that instructional leaders do impact student achievement, though indirectly (Hallinger, 2005). Effective, forward-thinking leaders understand that creating a vision is at the heart of what they do. Creating a vision is a first step that becomes the impetus through which all future decisions, goals, and dreams are funneled (Kearney & Herrington, 2010). They also understand that if a vision is to reach fruition, it must be inspiring enough to be embraced by others within the organization; it must become a shared vision (Kouzes & Posner, 2002). Principals of high achieving schools are clear about the school's vision and goals (Leithwood & Riehl, 2003). From the vision, goals for learning are established. Buy-in to both the vision and the learning goals are important; the savvy leader understands this and seeks a commitment from the school community (Kearney & Harrington, 2010).

High-achieving schools have principals who communicate to all that the school's most important mission is learning (Cotton, 2003) believe that established school goals are attainable (Leithwood & Riehl, 2003), and expect that both teachers and students can meet established goals (Leithwood & Riehl, 2003). Research related to leaders' roles in monitoring curriculum and instruction indicates that both teachers and leaders believe it is important that someone is positioned to guide the curriculum and to make decisions about staff development needs (Portin, Schneider, DeArmond, & Gundlach, 2003). Also, effective leaders ensure continuity in the school instructional program (Leithwood &

Riehl, 2003) and must spend time in classrooms to monitor instructional programs, curriculum implementation, and the quality of instructional practices (Fink & Resnick, 2001). Hoy, Sabo, & Barnes, (1996) and Abu-Saad & Hendrix, (1995) affirmed that the principal is the single most important individual in the development of a school's climate. In schools, therefore, principals can become effective change agents who are responsible for creating a healthy school climate.

In a meta-analysis of 70 studies, Waters, Marzano, and McNulty found that effective leadership is comprised of 21 key areas of responsibility (Waters, Marzano, & McNulty, 2003). Each of these areas is positively correlated with higher levels of student achievement. Many of these 21 areas require planning for fruition. For instance, one of the key areas of responsibility is order. To help maintain order, effective leaders establish a set of standard operating procedures and routines. These procedures are the result of planning. The importance of planning for both daily operations and long-range goal attainment cannot be underestimated. Likewise, consider the key area of responsibility that is discipline. To maintain discipline, effective leaders establish procedures that “protects teachers from issues and influences that would detract from their teaching time or focus” (Waters et al., 2003, p. 4). Without planning, creating and implementing these procedures would be impossible. As evidenced, efficient and comprehensive planning is an essential skill of effective leaders.

Several quantitative studies (Hallinger & Heck, 1998; Hoy, Tarter, & Bliss, 1990; Kelley, Thornton, & Daughtery, 2005) have affirmed that school principals have the potential to impact student achievement and the climate within the school building. A smoothly functioning school requires a leader's focused time and effort on those factors

that keep it running so. More than anything else, the school must first be a safe and positive learning environment for all. School leaders are charged to ensure this (Cotton, 2003). Schools showing academic improvement are more likely to have strong organizational managers (Horng & Loeb, 2010). Thoughtful and careful consideration while scheduling can result in more time for instruction (Danielson, 2002).

It behooves all school leaders to involve parents in the school community. Principals who reach out to involve parents and community members are more successful than others (Stronge & Leeper, 2012). In a series of focus groups and a nationally representative survey of 1,006 parents of current and recent high school students from urban, suburban, and rural communities, Bridgeland et al. noted that among other findings, high-performing schools do a better job of communicating with parents, high-performing schools are more likely to be perceived as encouraging parental involvement, and parents of students in low-performing schools are much less likely than their peers to talk with their children's teachers. Also, high performing schools are more likely than low performing schools to notify and engage parents if their child is having performance issues at school (Bridgeland, Dilulio & Morison, 2008).

Effective leaders understand they do not act in a vacuum; they realize the importance of bringing stakeholders into the mix in a collaborative decision-making model. Moreover, they reach out to stakeholders on a continual basis (Cotton, 2003). School leaders serve as advocates for their schools. As such, it is their responsibility to "communicate a positive image of their school" (Stronge, Richard, & Catano, 2008, p. 159). In a study of partnering benefits, two Ontario secondary schools heavily involved in community partnerships served as the sample. Conclusions drawn about partnering

benefits include, educators met the needs of their students and programs that could not be addressed in the school; partnering provided material, financial, and social support; principals obtained district resources unavailable to other schools, and the schools' reputations within the communities were raised. Partnering with outside agencies can benefit students, teachers, programs, and participating agencies (Hands, 2010). In their review of the school climate research, Skiba et al. (2014) found a significant association between school-level climate variables, especially principals' perspectives on discipline and racial disparities in out-of-school suspension and expulsion; however, their study's focus was on infraction rates, so student academic performance was beyond their scope.

### **Student Achievement**

#### **National Trends**

When examining data from the National Assessment of Educational Progress (NAEP), the trends indicate a one % growth for 4<sup>th</sup> graders in reading, while 8<sup>th</sup> grade math scores declined. 8<sup>th</sup> grade reading and 4<sup>th</sup> grade math continue with a slight downward trend. For 8<sup>th</sup> grade students in mathematics, the average reading score in 2015 of 265 was lower than the 2013 score of 268. Among 8<sup>th</sup>-grade students in reading, the percentage performing at or above Basic in 2015, 76%, was lower than in 2013 when the percentage was 78. However, the percentage was higher in 2015 than in 1992 when only 69% scored at or above Basic. Similarly, in 2015, only 34% of 8<sup>th</sup> grade students performed at or above Proficient compared to the 2013 result of 36%. When comparing 4<sup>th</sup> and 8<sup>th</sup> grades students to their international peers, both grade levels scored higher than the international average score in math and science (National Center for Education Statistics, 2016).

According to the United States Department of Education's 2011 Condition of Education report, about 68% of 12<sup>th</sup>-graders in high-poverty schools graduated with a diploma in 2008, compared with 91% of 12<sup>th</sup>-graders in low-poverty schools (National Center of Education Statistics, 2011). While each major racial and ethnic group had more students graduate as of the class of 2011, massive gaps remained between different groups of students. While 87% of Asian students and 84% of White students in the class of 2011 graduated on time, only 71% of Hispanic, 67% of Black and 65% of American Indian students in the same class graduated on time. Similarly, 77% of male students graduated on time in 2011 compared with 84% of female students. The statistics show that male students, from minority backgrounds, graduate on time a rate of only about one half (Stetser & Stillwell, 2014).

### **Georgia Data**

When reviewing the most recent CCRPI reports for Georgia, the middle schools in the CSRA RESA district have an average achievement score of only 25.9 points. In comparison, the average achievement score for middle schools in Georgia was 30.2 points (Georgia Department of Education, 2017c). In the content mastery category, middle schools in the CSRA RESA earned an average of 19.29 points compared to all middle schools in Georgia earning an average of 24.97 points (Georgia Department of Education, 2017c).

Data from Georgia performance on the 2015 National Assessment of Educational Progress (NAEP) shows declines in the percentage of students performing at or above proficient level in 4th grade math and 8th grade math and reading. In 2015 only 35% of 4th graders achieved this level of proficiency, down from 39% in 2013 and lower than the

national percentage of 39%. 4th grade reading showed no growth with 34% of students at or above proficient in 2013 and 2015 and was not significantly different from the nation at 35%. 8th grade students in math declined from 29% proficient in 2013 to 28% in 2015. The 8th grade math percentage was smaller than national percentage at 32%. 8th grade reading dropped two percentage points from 32% in 2013 to 30% in 2015 and remained below national percentage of 33% (NAEP, 2015).

### **Middle School Implications**

#### **History of Middle School**

Middle Schools were designed to create a bridge for students, one that would focus on the specific needs and developmental stages of children between the ages of 11 and 13 (Cushman & Rogers, 2008). Educational reformers began pushing for the creation of junior high schools beginning in the 1940s. They argued that specialized schools for students in grades seven through nine would better prepare young adolescents for high school by exposing them to a high school like environment without the trauma of placing them in the same building as older teenagers. By the late 1960s, middle school supporters were similarly arguing that sixth grade students would benefit from being separated from elementary school children. They believed that the social, psychological, and academic needs of young adolescents are distinct from young children and older youth (National Middle School Association, 1995). Thus, placing young adolescents with high school students hinders social development while placing them with elementary school students slows academic progress. They, therefore, argued that middle school systems have lower dropout rates relative to junior high school systems (Clark and Clark, 1993; National Center for Education Statistics [NCES], 2002).

In 1993 to 1994, there were 80,740 public schools in the United States, about 15 % of them were middle schools. The number of middle schools increased from 9,086 to 11,712 between 1987-88 and 1993–94, while the number of elementary and secondary schools remained about the same. The growth occurred almost solely in schools with grades 6–8. Of some 41.6 million students in public schools in 1993–94, 6.8 million were enrolled in middle schools [NCES], 2011. A substantial change in the way middle grade students are educated has taken place over the last twenty years. An ever-increasing number of sixth grade students are being educated in middle schools. The motivation for this change was to better prepare students for high school by providing young adolescents with more specialized courses and a high school like environment without actually placing pre-teens in high schools (Bedard & Do, 2005).

Despite the positive rhetoric of middle school advocates, several researchers have raised concerns about the lack of personal attention and monitoring in middle schools. Although we know of no systematic evidence, before this study, to either validate or refute these concerns, some researchers have pointed to the decline in sixth grade math and science scores as evidence that middle schools are failing (Bedard & Do, 2005).

### **Middle Schools and School Climate**

Although middle schools are organized for the expressive development of students, academic achievement remains an important objective for all public schools including middle schools (Hoy & Hannum, 1997). Several researchers have focused their climate studies on the middle school level. Sumner (2006) conducted a quantitative study designed to extend previous research by determining the extent to which value-added gains made by middle schools in Tennessee could be attributed to changes in climate.



DeLisi (2008) studied the climate of middle schools in the era of accountability and attempted to determine how that accountability had impacted climate. Finally, Bergren (2014) analyzed the relationship between school climate and student achievement through the creation of an index of climate-factors for which publicly available data existed. Sumner (2006) investigated the relationship between school climate and student performance to confirm previous research by specifically examining value-added gains over time. Using the School Climate Inventory (SCI) and the 2005 State of Tennessee Report Card, Sumner used a correlation analysis to analyze 40 middle schools in the State of Tennessee. He found a significant correlation between climate and achievement in language arts ( $r = .44, p < .05$ ); he also found significance with regard to climate and social studies ( $r = .37, p < .05$ ) and science ( $r = .33, p < .05$ ) scores. In doing so, Sumner was able to confirm previous research that had identified a relationship between school climate and student achievement.

DeLisi (2008) found a connection between academics and the use of data-driven decision making and improved achievement. DeLisi was primarily concerned with how the accountability movement had impacted the behaviors of schools attempting to improve their accountability status. DeLisi compared two middle schools, one that had improved its accountability status and one that had not. Students ( $n = 156$ ) and teachers ( $n = 38$ ) at both schools were surveyed regarding their perceptions of climate, leadership, and educational practices. The results of the surveys from the two school were compared. DeLisi determined that the improving school had done so through focused decision making and implementation of best practices in the context of a culture of caring, whereas the non-improving school had compromised a culture of caring.

Bergren (2014) revealed a statistically significant relationship between the Climate Inventory and student achievement in middle schools. Similarly, the regression model built on the same climate factors as the Climate Inventory indicated a statistically significant relationship between school climate and student achievement in each content area. Middle schools ( $n = 335$ ) in the Commonwealth of Virginia were selected for this study. Each of the cited studies found a relationship between school climate and the achievement of students at the middle school level. For the purposes of this study, the research also focused on the middle level, examining middle schools in the CSRA RESA region of Georgia.

### **School Climate and CCRPI Score Calculations**

This section of the literature review reviews how the state of Georgia measures school climate by using the Georgia Student Health Survey II, Georgia Personnel Survey, and Georgia Parent Survey. All of these documents will be defined, and their part in the school climate calculation will be explained. This section also explains how Georgia measures student achievement. An explanation is offered of the calculations of the CCRPI score for student achievement and how it is determined.

### **School Climate**

The Georgia Department of Education (GaDOE) is one of the first states with a defined method in the collection and analysis of school climate data. Using the National School Climate Center definition for school climate as a guide, the Georgia Department of Education developed a school climate calculation (Georgia Department of Education, 2017d). The GaDOE determines a school climate calculation based in part on data collected from a statewide annual survey titled the Georgia Student Health Survey II

(GSHS II). The GSHS II is an anonymous, statewide survey instrument developed by the GaDOE in collaboration with the Georgia Department of Public Health and Georgia State University. The GSHS II identifies safety and health issues that can have a negative impact on student achievement and school climate (Georgia Department of Education, 2017d). The GaDOE identified four dimensions of school climate: safety, teaching and learning, interpersonal relationships, and institutional environment (Georgia Department of Education, 2017d). These dimensions are correlated to the GSHS II questions in Appendix A.

Georgia uses four components to calculate the school climate, a survey score, a student discipline score, a safe and substance-free learning environment score, and a school-wide attendance score (Georgia Department of Education, 2017d). The results of the GSHS II are averaged along with data from two other instruments, the Georgia Personnel Survey (GSPS) and the Georgia Parent Survey. The Georgia School Personnel Survey (GSPS) is modeled after the student survey and includes 31 questions. The GSPS is for all certified and classified staff members who work at least 50% of the day in the school. At least 75% of certified and classified staff members must participate in the survey to be eligible for the School Climate Star Rating. Survey responses are anonymous and are submitted directly to the Georgia Department of Education for analysis. All parents in Georgia are encouraged to participate annually online in the Georgia Parent Survey. As with the personnel survey, all responses are anonymous and are submitted to the Georgia Department of Education for analysis.

The safe and substance-free learning environment score is based upon data on student drug-related incidents, violent incidents, bullying and harassment incidents and

survey results on violent incidents and bullying and harassment incidents. The school-wide attendance score is averaged from data collected on student attendance, average daily personnel attendance, average daily administrator attendance, and average daily staff attendance. The final component is the student discipline score that is a weighted suspension rate. The weighted suspension rate is calculated based on discipline outcomes for students in the school. Each student receives one score from the following criteria based on the most severe discipline incident. Students receiving any In School Suspension (ISS) are assigned .50 point, one to two days Out of School Suspension (OSS) is assigned one point, three to four days of OSS is assigned three points, five to nine days of OSS is assigned five points, and students over ten days of OSS are assigned ten points. Students that have to attend an Alternative School for discipline reasons are assigned six points, and students that are expelled from school are assigned seven points. The sum of the student weighted suspension rate is then divided by the total number of students enrolled, subtracted from one and multiplied by 100. This calculation determines a school's weighted suspension rate. These four components, the survey score, the student discipline score, the safe and substance-free learning environment score, and the school-wide attendance score are averaged together for the final school climate calculation (Georgia Department of Education, 2017).

For reporting purposes, the GaDOE uses a star rating system of one to five stars, with five stars representing an excellent school climate, and one star representing a school climate most in need of improvement. In 2016, middle schools were awarded a one star rating for a calculation of 71.1 and below, a two-star rating for a calculation between 71.2 and 77.2, a three-star rating for a calculation between 77.3 and 83.3, a four-

star rating was awarded for a calculation between 83.4 and 89.4 and the five star award was given to schools with a climate calculation at 89.5 and above (Georgia Department of Education, 2017). Schools have access to comprehensive reports which allow them to identify areas in need of improvement and plan targeted student interventions to improve achievement for all students (Georgia Department of Education, 2017).

### **Student Achievement**

The most common way to measure student achievement in Georgia is to review scores based on the College and Career Ready Performance Index (CCRPI). The CCRPI is a comprehensive school improvement, accountability, and communication platform for all educational stakeholders designed to promote college and career readiness for all Georgia public school students (Georgia Department of Education, 2017c). This measure provides five areas in which schools can earn points toward their score and include achievement, progress, achievement gap, Economically Disadvantaged (ED)/English Learners (EL)/Students with Disabilities (SWD) performance, and exceeding the bar. Each of the five areas is broken down into specific data points for each level of K-12 education. For this research, the focus was on middle school components. Appendix B illustrates the breakdown of the achievement area for middle schools.

The achievement area accounts for 50% of the overall CCRPI score. The progress area is calculated based on the growth of student performance for each school and is 25% of the overall score. The achievement gap score is determined by reviewing the gaps in performance for each curriculum area: language arts/reading, math, social studies, and science. This calculation is 15% of the overall score. Schools can earn additional points when the performance of economically disadvantaged, English learners,

and students with disabilities meet state performance levels. Additional points are earned for state-approved school-level initiatives. The total points in these areas are calculated to determine an overall CCRPI score for each middle school in Georgia. In 2016, Georgia middle schools fell short of high marks by having an average CCRPI score of 71.5 out of 100 possible points. Middle schools in Georgia earned 30.2 points for achievement, 34.6 for progress, and 6.7 points in the achievement gap category (Georgia Department of Education, 2017c). In 2016 middle schools in the CSRA RESA area scored an average of 66.3 on CCRPI and only earned an average of 25.73 points for achievement (Georgia Department of Education, 2017c).

The CCRPI for Georgia is a complex system of calculations to determine different aspects of school effectiveness. This study is focusing on the school climate calculation and the student achievement score from the CCRPI report.

### **Chapter Summary**

To date, no study had been undertaken in the state of Georgia CSRA RESA region to investigate the correlation between school climate and student achievement. Absent from the literature was the formulation of a process for quantitatively determining the impact of school climate on student achievement using only publicly available data. This study commenced filling that gap by using archival data to determine if there is a correlation between the school climate score, as measured by the school climate calculation and student achievement, as measured by the CCRPI in middle schools in the CSRA RESA region.

Using the National School Climate Council definition, addressed were three main areas of school climate, including interpersonal skills, teaching and learning practices,

and organizational structure. Following the review of school climate, student achievement was reviewed from both a national and state perspective to understand the correlation between school climate and student achievement. In addition, the overall review of current trends in student achievement was reviewed. The final section highlighted the implications of middle schools by sharing the history of middle schools, as well as research on the relationship between middle school student achievement and school climate.

This review of the literature informs the methodology to examine the relationship between school climate, as measured by school climate calculation and student achievement, as measured by the College and Career Ready Performance Index (CCRPI) in middle schools in the Central Savannah River Area (CSRA) Regional Educational Service Agency (RESA) region in Georgia.

### CHAPTER 3

#### METHODOLOGY

This chapter will introduce the research methods used in this study. The chapter begins by restating the problem, as well as the purpose statement and research question. This chapter describes the quantitative approach used in this study, as well as research design, participants, data collection, and research analysis.

An alternative to measuring school climate through the use of surveys and other perception-based data was to develop a quantitative study to examine the relationship between school climate and student achievement using state-reported data that is publicly available as archival data on the Georgia Department of Education website. This approach provided a noninvasive method for the study of school climate and eliminated the need to control for variations in routine behaviors that might influence survey responses and skew results (Smith, 2005).

Georgia schools continue to struggle to ensure that student achievement has reached targeted levels and to close the gap in student achievement. In Georgia, assessments are used to determine student achievement and if schools are meeting standards identified. Schools are expected to use the data from assessments to remediate or enrich learning for students and strengthen areas that address school effectiveness. The CCPRI offers schools quantitative data on multiple dimensions of school effectiveness. School climate and student achievement are two important aspects of school effectiveness that are reported in the CCRPI. Research has been conducted to show a correlation between these components (Cohen et al., 2009; Guo & Higgins-D'Alessandro, 2011). However, at this point, it is unknown if this relationship exists in



middle schools in the CSRA RESA district. Therefore, this study examined if, in fact, a relationship does exist in the middle schools in the CRSA RESA district between school climate and student achievement.

### **Purpose Statement and Research Questions**

The purpose of this study was to determine if there is a correlation between the school climate score, as measured by the school climate calculation, and student achievement, as measured by the CCRPI in middle schools in the CSRA RESA region. Therefore, the following overarching question guided this study: What is the relationship between school climate, as measured by school climate calculation and student achievement, as measured by the College and Career Ready Performance Index (CCRPI) in middle schools in the Central Savannah River Area (CSRA) Regional Educational Service Agency (RESA) region in Georgia?

In order to fully answer this question, four sub-questions were developed:

1. What is the relationship between school climate, as measured by school climate calculation, and student achievement, as measured by the College and Career Ready Performance Index (CCRPI) in urban middle schools in the Central Savannah River Area (CSRA) Regional Educational Service Agency (RESA) region in Georgia?
2. What is the relationship between school climate, as measured by school climate calculation, and student achievement, as measured by the College and Career Ready Performance Index (CCRPI) in rural middle schools in the Central Savannah River Area (CSRA) Regional Educational Service Agency (RESA) region in Georgia?

3. What is the relationship between school climate, as measured by school climate calculation, and student achievement, as measured by the College and Career Ready Performance Index (CCRPI) in low poverty middle schools in the Central Savannah River Area (CSRA) Regional Educational Service Agency (RESA) region in Georgia?
4. What is the relationship between school climate, as measured by school climate calculation, and student achievement, as measured by the College and Career Ready Performance Index (CCRPI) in high poverty middle schools in the Central Savannah River Area (CSRA) Regional Educational Service Agency (RESA) region in Georgia?

### **Research Design**

The design is a quantitative, correlational study. Correlation is appropriate as it seeks to determine if there is a relationship between two variables. These variables can be measured so that numbered data can be analyzed using statistical procedures (Creswell, 2013). A correlational model was used because the direction from cause to effect cannot be established with certainty, and other variables can never be ruled out completely. Causal models can be extremely useful for generating hypotheses for future research and for predicting potential causal sequences in instances where experimentation is not feasible (Myers & Hansen, 2002). This study does not seek to determine causality; therefore, there was no independent or dependent variable.

### **Participants**

This is a study based on archival data; therefore, there were no participants per se. Instead, the researcher used de-identified data located on the Georgia Department of

Education website (<http://www.gadoe.org/CCRPI/Pages/default.aspx>). The datasets used for this study represented the School Climate Score and the Achievement Score from each school's 2016 CCRPI calculation. These data were obtained from the Georgia Department of Education by using the CCPRI website to identify data for each middle school in the CSRA RESA region. The school climate score is a calculation of the results of the Georgia Student Health Survey II (GSHS) that is administered annually to all Georgia public school students. The GSHS II for middle and high school students covers various topics, such as school climate and safety, graduation, school dropouts, alcohol and drug use, bullying and harassment, suicide, nutrition, and sedentary behaviors. The GSHS II for elementary students includes school safety and school climate questions only (Georgia Department of Education, 2017). The school climate score is a calculation of the results of the GSHS II. These scores are averaged along with data from two other instruments, the Georgia Personnel Survey (GSPS), which annually surveys all teachers, staff, and administrators in Georgia schools, and the Georgia Parent Survey, an annual survey that parents complete online.

The student achievement data is collected from the annual CCRPI report. This measure provides five areas in which schools can earn points toward their score and include achievement, progress, achievement gap, Economically Disadvantaged (ED)/English Learners (EL)/Students with Disabilities (SWD) performance, and exceeding the bar. Each of the five areas is broken down into specific data points for each level of K-12 education. All data used in this study are publicly available on the Georgia Department of Education website. The advantages of using archival data for this study include resource savings, relative ease of data transfer and storage, and the

organization may be more open to using existing data versus collecting new data (Hoffman, Reiter-Palman, Shultz, 2005).

### **Sample**

The population for this study was the data pulled from the 31 middle schools in the CSRA RESA region of Georgia. The region consists of the counties Burke, Columbia, Emanuel, Glascock, Jefferson, Jenkins, Lincoln, McDuffie, Richmond, Taliaferro, Warren, and Wilkes. Many of the counties are in rural areas of the state and have one middle school. Richmond and Columbia counties are urban including the areas around Augusta, Georgia. Richmond County has 12 middle schools, and Columbia County has seven middle schools. Economic diversity is apparent in the 12 counties in the CSRA RESA region. The percent of children living in poverty in these 12 counties ranges from 11.3% in Columbia County to 54.4% in Taliaferro County (Georgia Family Connection Partnership [GFCP], 2017). See Appendix C for a Poverty Table for all CSRA RESA counties.

### **Data Collection**

A list of all schools by county and their grade configurations are available on the Georgia Department of Education website. The researcher used this list to identify every school with a sixth through eighth-grade configuration in each of the 12 counties in the CSRA RESA region. This list of 31 middle schools established the sample group used in this study. School climate calculation and student achievement, as measured by the CCRPI, have been gathered and calculated by the Georgia Department of Education and made public on the state website. The researcher retrieved the scores for all 31 schools in the CSRA RESA region by accessing the CCRPI reports for each county, as well as the

report for each middle school within the county. As these data are a matter of public record, no permission is needed to obtain these records.

Because all data were drawn from the Georgia Department of Education (GDOE), reliability is strong. The GDOE uses a consistent collection process that draws data from all school in Georgia and reports it publicly in a consistent format. Intrinsicly, the procedures used in this study can easily be repeated from year-to-year as new data sets become available. While this study focuses on middle schools in the CRSA RESA region, other studies could apply these procedures to different grade configurations or various areas of the state for future research.

### **Data Analysis**

Data analysis is a Pearson's correlational analysis using IBM SPSS software. The findings helped to determine if there is a direct relationship, an inverse relationship, or no relationship between school climate as measured by school climate calculation and student achievement as measured by the CCRPI. This Pearson's correlation is a measure of the strength and direction that exists between two groups (Laerd Statistics, 2017), allowing the researcher to compare school climate score and student achievement score to determine if there is a relationship. Tables and graphs are presented for climate calculations, student achievement, and analysis of data. The narrative reports sample size (N), mean (M) and standard deviation (SD) for both samples, t value, degrees of freedom (df), significance (p), and confidence interval (CI .95). All data collected is currently available on the Georgia Department of Education website. For example, data collected includes the final score calculated for school climate on each school in the study. This data is located on the CCRPI website by choosing the system and school being studied.

Once the school is selected the School Climate tab on the school's CCRPI report is where the data is located.

### **Limitations, Delimitations, and Assumptions**

This study was limited due to the relatively small sample size for correlational statistics. Due to the small sample size, the data from this study may only apply to schools in this RESA and may not be transferable to other schools in Georgia or other populations. Certain components of the school climate calculation may cause limitations such as the parent survey. Parent surveys are done on a voluntary basis, and the number of participants can vary from school-to-school. The researcher assumed that a large enough population of parents responded to the surveys for the 31 middle schools involved in this study. Delimitations of this study are as follows: 1) Schools in the CSRA RESA region of Georgia; and 2) Middle schools in the CSRA RESA region of Georgia meaning only the schools in the following school districts: Burke, Columbia, Emanuel, Glascock, Jefferson, Jenkins, Lincoln, McDuffie, Richmond, Taliaferro, Warren, and Wilkes. This region and the schools within the region may have characteristics that would limit transferability to other areas of the state of Georgia or other areas of the United States. These characteristics include but are not limited to geographic, socio-economic, and demographic data.

### **Chapter Summary**

This was a quantitative correlational study seeking to determine if there is a relationship between school climate, as measured by school climate calculation, and student achievement, as measured by the CCRPI in 31 middle schools in the CSRA RESA region in Georgia. All data is available on Georgia Department of Education

website. There were no humans subjects involved. Data analyses determined if there is a correlation between the school climate calculation and student achievement in the 31 middle schools included in the study. Furthermore, data were analyzed to determine if there are any differences in the results of urban schools versus rural schools and schools with a poverty rate of less than 50% to schools with a poverty rate of greater than 50%.

## CHAPTER 4

### REPORT OF DATA AND DATA ANALYSIS

The purpose of this study was to examine the relationship that exists between the school climate calculation and student achievement, as measured by CCPRI, in middle schools in the CSRA RESA region of Georgia. The researcher used a quantitative, correlational design to complete the research and analysis of archival data publicly available at <http://ccrpi.gadoe.org/2016/> on the Georgia Department of Education website. The research was guided by the following research question: What is the relationship between school climate, as measured by school climate calculation, and student achievement, as measured by the College and Career Ready Performance Index (CCRPI) in middle schools in the Central Savannah River Area (CSRA) Regional Educational Service Agency (RESA) region in Georgia?

In order to fully answer this question, four sub-questions were developed:

1. What is the relationship between school climate, as measured by school climate calculation, and student achievement, as measured by the College and Career Ready Performance Index (CCRPI) in urban middle schools in the Central Savannah River Area (CSRA) Regional Educational Service Agency (RESA) region in Georgia?
2. What is the relationship between school climate, as measured by school climate calculation, and student achievement, as measured by the College and Career Ready Performance Index (CCRPI) in rural middle schools in the Central Savannah River Area (CSRA) Regional Educational Service Agency (RESA) region in Georgia?



3. What is the relationship between school climate, as measured by school climate calculation, and student achievement, as measured by the College and Career Ready Performance Index (CCRPI) in low poverty middle schools in the Central Savannah River Area (CSRA) Regional Educational Service Agency (RESA) region in Georgia?
4. What is the relationship between school climate, as measured by school climate calculation, and student achievement, as measured by the College and Career Ready Performance Index (CCRPI) in high poverty middle schools in the Central Savannah River Area (CSRA) Regional Educational Service Agency (RESA) region in Georgia?

This was a study based on archival data, and therefore, there were no participants, per se. Instead, the researcher used publicly available aggregated data located on the Georgia Department of Education website. The Pearson's correlation analysis was performed for each middle school in the CSRA RESA district. Correlational analysis was used to determine whether the school climate calculation shows a relationship with student achievement for the 31 middle school included in the study. The school climate calculation and the student achievement score from the 2016 CCRPI reports were collected for each of the 31 middle schools in the CSRA Region (Table 6). Schools were assigned a number label for identification purposes and to protect their identity.

IBM SPSS software was used to perform a bivariate test to analyze the correlation between the two variables; school climate score and student achievement. This chapter presents an overview of collected data and descriptive findings associated with the research question.

### **Research Findings**

The school climate calculation and the student achievement score data were retrieved from the Georgia Department of Education website for 31 middle schools in the CRSA RESA region. School 20 was eliminated from the study by the researcher because the climate score for that school was an outlying data point. This school data unnecessarily skews the normality of the data used in the study. The scores for participating schools are presented in Table 1.

Table 1

*Achievement, School Climate, Rural/Urban, Poverty Rate for participating schools*

School	Achievement	Climate	Rural/Urban	Poverty Rate
School 1	80.60	87.40	Rural	High
School 2	80.20	88.20	Urban	Low
School 3	69.80	83.60	Urban	Low
School 4	66.20	85.80	Urban	Low
School 5	61.00	89.60	Urban	Low
School 6	58.40	88.60	Urban	Low
School 7	63.40	83.30	Urban	Low
School 8	52.60	78.00	Urban	Low
School 9	58.60	78.90	Rural	High
School 10	53.20	82.00	Rural	High
School 11	44.20	77.80	Rural	High
School 12	49.00	80.40	Rural	High
School 13	58.20	85.30	Rural	High
School 14	50.00	78.60	Rural	High
School 15	49.20	91.30	Urban	High
School 16	48.00	89.50	Urban	High
School 17	45.40	84.70	Urban	High
School 18	43.20	77.50	Urban	High
School 19	35.60	79.50	Rural	High
School 21	32.80	79.80	Urban	High
School 22	46.80	85.80	Rural	High
School 23	49.20	77.60	Urban	High
School 24	90.00	90.70	Rural	High
School 25	24.60	68.40	Urban	High
School 26	75.20	84.30	Rural	High
School 27	44.00	73.40	Urban	High
School 28	29.20	58.10	Urban	High
School 29	31.40	71.10	Rural	High
School 30	39.20	74.40	Rural	High
School 31	32.60	70.00	Rural	High

The mean for achievement scores is 52.07, and the mean score for climate is 80.79. The achievement scores range from 31.30 to 90.00, and the scores for climate range from 58.10 to 91.30. The histograms represented by Figure 2 and Figure 3 illustrate the frequency distribution of the continuous variables in the study, which are

achievement and climate. As indicated, they have a linear relationship and outliers have been removed so not to skew the results. Figure 4 illustrates the positive correlation that exists between the two variables being used in this study. The Shapiro-Wilk test for normality of the variable was performed. Table 2 shows that with a p-value of .487 for achievement and .076 for climate, no significant departure from normality was found. It is appropriate to perform correlational analysis of the data using the Pearson’s correlation having shown these four assumptions true.

Figure 2  
*Histogram illustrating frequency distribution of the variable climate*

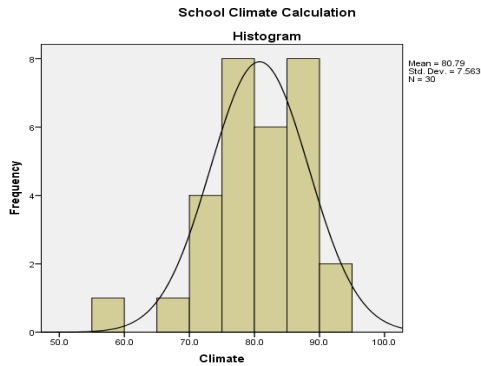


Figure 3  
*Histogram illustrating the frequency distribution of the variable achievement*

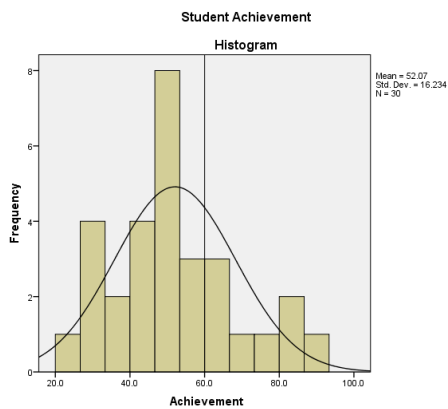
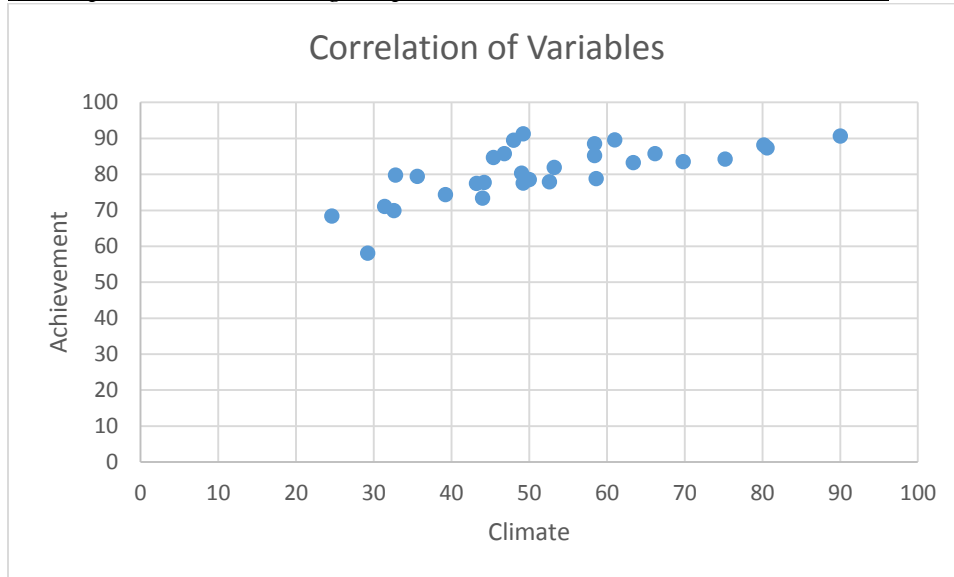


Table 2  
*Shapiro-Wilk test for normality*

	Statistic	Shapiro-Wilk df	Sig.
Achievement	.968	30	.487
Climate	.937	30	.076

Figure 4  
*Scatterplot to demonstrating the positive correlation between the variables*



The research question stated, “What is the relationship between school climate, as measured by school climate calculation, and student achievement, as measured by the College and Career Ready Performance Index (CCRPI) in middle schools in the Central Savannah River Area (CSRA) Regional Educational Service Agency (RESA) region in Georgia?” Using the Pearson’s correlation, the school climate calculation and the student achievement score for the 30 middle schools in the CSRA RESA region involved in this study calculated an r-value of .716 with a significance level set at  $p < 0.01$ . The null hypothesis was that the school climate calculation and the student achievement score are not related. The null hypothesis can be ruled out indicating a statistically significant correlation as illustrated in Table 3.

Table 3

*Correlational and descriptive statistics for school climate calculation and student achievement*

<i>VAR</i>	<i>N</i>	<i>Mean</i>	<i>Standard Deviation</i>
<b>Achievement</b>	30	52.076	16.234
<b>Climate</b>	30	80.787	7.5625
<b>CORRELATION</b>			
		<b>Achievement</b>	<b>Climate</b>
<i>Achievement</i>	Pearson Correlation	1	.716
	Sig. (2+ tailed)		.000
	N	30	30
<i>Climate</i>	Pearson Correlation	.716	1
	Sig. (2+ tailed)	.000	
	N	30	30

To review the correlation of school climate calculation and student achievement in these 30 middle schools, the researcher created specific parameters to correlate the data. The first parameter was geographic setting. The researcher used the website [http://proximityone.com/zip\\_urban\\_rural.htm](http://proximityone.com/zip_urban_rural.htm) to classify the city where each of the 30 middle schools in the CSRA RESA region involved in the study is located to determine the categories of rural and urban. As illustrated in Table 1, the breakdown shows 17 urban schools and 14 rural schools.

Both of the variables, school climate calculation and student achievement for urban middle schools in the CSRA RESA region, were compared to determine significance at a level of  $p < 0.01$  again using the Pearson's correlation analysis. The  $r$ -value for the urban schools was calculated at .884 with a significance level of  $p < 0.01$ . This statistic shows that the null hypothesis - school climate calculation and student achievement in urban middle schools in the CSRA RESA region - are not related can be rejected. The relationship between student achievement and school climate in urban

schools shows a strong, positive correlation, which is statistically significant. Table 4 indicates the statistical significance of this correlation.

Table 4  
*Correlational and descriptive statistics for school climate calculation and student achievement of urban schools*

<i>VAR</i>	<i>N</i>	<i>Mean</i>	<i>Standard Deviation</i>
<b>Achievement</b>	17	56.329	19.987
<b>Climate</b>	17	79.871	9.192
<b>CORRELATION</b>			
		<b>Achievement</b>	<b>Climate</b>
<i>Achievement</i>	Pearson Correlation	1	.884
	Sig. (2+tailed)		.000
	N	17	17
<i>Climate</i>	Pearson Correlation	.884	1
	Sig. (2+tailed)	.000	
	N	17	17

When analyzing the data for the 13 rural schools, the researcher used the Pearson's correlation analysis to determine if there was a relationship between the school climate calculation and the student achievement score. The r-value for the rural schools is .270 and a significance level of  $p < .373$ . The null hypothesis that school climate and student achievement in rural schools are not correlated can be retained. There is no correlation in the two variables for rural schools. Table 5 illustrates the descriptive statistics for the analysis.

Table 5  
*Correlational and descriptive statistics for school climate calculation and student achievement of rural schools*

VAR	N	Mean	Standard Deviation
<b>Achievement</b>	13	46.492	6.697
<b>Climate</b>	13	81.985	4.777
<b>CORRELATION</b>			
		Achievement	Climate
<i>Achievement</i>	Pearson Correlation	1	.270
	Sig. (2+tailed)		.373
	N	13	13
<i>Climate</i>	Pearson Correlation	.270	1
	Sig. (2+tailed)	.373	
	N	13	23

The researcher also analyzed the data of the 30 middle schools in the CSRA RESA that had a high poverty rate of greater than 50% and schools with a poverty rate of less than 50%. The poverty rates for each of the middle schools included in the study were obtained from the Georgia Department of Education website: [https://oraapp.doe.k12.ga.us/ows-bin/owa/fte\\_pack\\_frl001\\_public.entry\\_form](https://oraapp.doe.k12.ga.us/ows-bin/owa/fte_pack_frl001_public.entry_form). Of the 30 middle schools included in the study, 7 have a low poverty. Schools with a high poverty rate numbered 23. Table 1 illustrates the schools and the poverty rates associated with them.

Both variables, school climate calculation, and student achievement were examined using the Pearson’s correlation analysis. The r-value for the schools with a low poverty rate was calculated at 0.004 below the significance level of  $p=0.994$ . This statistic shows that the null hypothesis can be retained. The school climate calculation and student achievement in middle schools in the CSRA RESA region with a low poverty are not related. Table 6 indicates there is no statistical significance of this correlation.



Table 6

*Correlational and descriptive statistics for school climate calculation and student achievement of schools with low poverty*

VAR	N	Mean	Standard Deviation
<b>Achievement</b>	7	68.514	8.890
<b>Climate</b>	7	86.643	2.4738
<b>CORRELATION</b>			
		<b>Achievement</b>	<b>Climate</b>
<i>Achievement</i>	Pearson Correlation	1	.004
	Sig. (2+tailed)	.994	.000
	N	7	7
<i>Climate</i>	Pearson Correlation	.004	1
	Sig. (2+tailed)	.994	
	N	7	7

The r-value of school climate calculation and student achievement of middle schools in the CSRA RESA region with a high poverty was calculated at  $r=.673$  with a significance level of  $p<0.01$ . The null hypothesis was that the school climate calculation and student achievement in middle schools with a high poverty rate are not related. This r-value of  $.673$  is greater than the significance level of  $p<0.01$ , so the null hypothesis can be ruled out showing a positive relationship between the two variables in schools with high poverty rate. Schools with a high poverty rate show a significant relationship between school climate and student achievement. Table 7 indicates the statistical significance of this correlation.

Table 7  
*Correlational and descriptive statistics for school climate calculation and student achievement of schools with high poverty rate*

<i>VAR</i>	<i>N</i>	<i>Mean</i>	<i>Standard Deviation</i>
<b>Achievement</b>	23	47.061	14.613
<b>Climate</b>	23	79.004	7.7128
<b>CORRELATION</b>			
		<b>Achievement</b>	<b>Climate</b>
<i>Achievement</i>	Pearson Correlation	1	.673
	Sig. (2+tailed)		.000
	N	23	23
<i>Climate</i>	Pearson Correlation	.673	1
	Sig. (2+tailed)	.000	
	N	23	23

**Chapter Summary**

This study was designed to investigate the relationship between school climate, as measured by school climate calculation, and student achievement, as measured by the College and Career Ready Performance Index (CCRPI) in middle schools in the Central Savannah River Area (CSRA) Regional Educational Service Agency (RESA) region in Georgia. To this end, the researcher collected and analyzed archival data publicly available on the Georgia Department of Education website for the 30 middle schools included in the study.

In examining the research question in the study, the researcher found statistically significant evidence that indicated a relationship existed between the school climate calculation and student achievement. In reviewing the data for specific subgroups, the researcher found a statistically significant evidence that indicated a relationship did exist between the school climate calculation and student achievement in urban schools and schools with a high poverty rate. Further discussion regarding the findings, conclusions,

and recommendations are discussed in Chapter 5.

## **CHAPTER 5**

### **DISCUSSION AND RECOMMENDATIONS**

The purpose of this study was to examine if a relationship exists between school climate, as measured by the school climate calculation, and student achievement, as measured by CCPRI, in the Georgia middle schools located in the CRSA RESA district. This chapter will provide an overview of the study including the problem statement, research questions, and the research methodology used. A summary of the results from Chapter 4 will be presented to discuss the research question in more depth. This will be followed by implications for practices and recommendations for future research. Finally, the chapter will summarize the study in conclusion.

#### **Introduction**

Schools across the U. S. struggle with the means by which student achievement can be raised. One possible meaning would be a strong and positive school climate. Research revealed that school climate had been shown to have a positive effect on student achievement and student retention (Cohen et al., 2009; Guo & Higgins-D'Alessandro, 2011). The National School Climate Council (2007) has defined school climate in the following way:

School climate refers to the quality and character of school life. School climate is based on patterns of students', parents' and school personnel's experiences of school life and reflects norms, goals, values, interpersonal relationships, teaching and learning practices, and organizational structures.

A sustainable, positive school climate fosters youth development and learning necessary for a productive, contributing and satisfying life in a

democratic society. This climate includes norms, values, and expectations that support people feeling socially, emotionally and physically safe. People are engaged and respected. Students, families, and educators work together to develop, live and contribute to a shared school vision. Educators model and nurture attitudes that emphasize the benefits and satisfaction gained from learning. Each person contributes to the operations of the school and the care of the physical environment (p. 4).

Similarly, Balfanz (2009) found that reform efforts at the middle grades level that combine curricula and instructional practices linked to college and career readiness and enhanced teacher quality can improve student success, thus, magnifying the impact of the middle grades on student success and retention at the secondary level. Therefore, schools working to implement school improvement and reform successfully would be wise to acknowledge the impact that middle schools have to ensure that students are successful in school and in turn graduate from high school.

### **Problem Statement**

The state of Georgia currently offers The College and Career Ready Performance Index (CCRPI) to schools to illustrate performance in a variety of areas, including school climate and student achievement. The CCRPI is a comprehensive school improvement, accountability, and communication platform for all educational stakeholders designed to promote college and career readiness for all Georgia public school students (Georgia Department of Education, 2017c). A myriad of research has indicated that there is a direct and symbiotic relationship between school climate and student achievement (Cohen et al., 2009; Guo & Higgins-D'Alessandro, 2011). However, up until this point, it

has been unknown if this relationship exists in Georgia middle schools in the CSRA RESA district. The CSRA RESA district has 31 middle schools of varying socio-economic rates located in both rural and urban locations. Therefore, the purpose of this study was to examine if a relationship does exist between school climate, as measured by the school climate calculation, and student achievement, as measured by CCPRI, in the Georgia middle schools located in the CRSA RESA district.

### **Research Questions**

This study sought to determine if a relationship exists in middle schools in the CSRA RESA region, the following overarching question guided this study: What is the relationship between school climate, as measured by school climate calculation, and student achievement, as measured by the College and Career Ready Performance Index (CCRPI) in middle schools in the Central Savannah River Area (CSRA) Regional Educational Service Agency (RESA) region in Georgia?

In order to fully answer this question, four sub-questions were developed:

1. What is the relationship between school climate, as measured by school climate calculation, and student achievement, as measured by the College and Career Ready Performance Index (CCRPI) in urban middle schools in the Central Savannah River Area (CSRA) Regional Educational Service Agency (RESA) region in Georgia?
2. What is the relationship between school climate, as measured by school climate calculation, and student achievement, as measured by the College and Career Ready Performance Index (CCRPI) in rural middle schools in the Central Savannah River Area (CSRA) Regional Educational Service

Agency (RESA) region in Georgia?

3. What is the relationship between school climate, as measured by school climate calculation, and student achievement, as measured by the College and Career Ready Performance Index (CCRPI) in low poverty middle schools in the Central Savannah River Area (CSRA) Regional Educational Service Agency (RESA) region in Georgia?
4. What is the relationship between school climate, as measured by school climate calculation, and student achievement, as measured by the College and Career Ready Performance Index (CCRPI) in high poverty middle schools in the Central Savannah River Area (CSRA) Regional Educational Service Agency (RESA) region in Georgia?

### **Analysis and Discussion of Findings**

The researcher used a quantitative, correlational design to implement the research and analysis of archival data publicly available at <http://ccrpi.gadoe.org/2016/> on the Georgia Department of Education website. The data collected included the student achievement score on the CCRPI for the 31 middle schools in the CSRA RESA region. The school climate calculation was also obtained for these schools. During the analysis phase, one school, designated as School 20, had to be eliminated from the study because data from this school produced outliers that unnecessarily skewed the normality of the data. The final sample of 30 schools was used to determine the relationship between the school climate calculation and student achievement. Additionally, the study addressed if the school climate calculation and student achievement showed correlation when comparing middle schools in the region that were urban compared to rural as well as

schools with high poverty to schools with low poverty. For purposes of this study, schools with poverty greater than 50% were considered high poverty, and schools with a poverty rate of less than 50% were considered low poverty. Results were analyzed comparing the school climate calculation and the student achievement for low poverty schools and for high poverty schools. Likewise, the two variables of school climate and student achievement were analyzed for urban schools versus rural schools.

Research has indicated that there is a strong and direct relationship between school climate and student achievement (Cohen et al., 2009; Guo & Higgins-D'Alessandro, 2011). The results of this study using the Pearson's correlational analysis supported the research above. A significant relationship was found between school climate and student achievement in the 30 middle schools in the CSRA RESA region ( $r=.716$ ,  $N=30$ ,  $p<.01$ ). These findings suggest, as discussed in Chapter 2 that positive school climate focused on student learning is correlated to student achievement (Hallinger, Bickman, & Davis, 1996). Successful schools have a school climate that is significantly more positive than their less successful counterparts (Lindahl, 2009).

In further analysis of the variables school climate and student achievement, the researcher grouped the schools into four like groups: urban, rural, low poverty, and high poverty. The researcher used the Pearson's correlational analysis to determine a relationship between school climate and student achievement in the schools that were in each of the four classifications.

Urban schools showed a strong correlation between school climate and student achievement ( $r=.884$ ,  $N=17$ ,  $p<.01$ ) indicating that one variable does have a positive effect on the other. Rural schools did not show a significant relationship between school



climate and student achievement ( $r=.270$ ,  $N=13$ ,  $p=.373$ ). The null hypothesis for low poverty schools was also retained ( $r=.004$ ,  $N=7$ ,  $p=.01$ ). This analysis had the limitation of the small sample size of 7 that may have affected the results. A confounding factor for this analysis included that all low poverty schools were in an urban setting. The last classification, high poverty schools, was analyzed to show a strong correlation between school climate and student achievement ( $r=.673$ ,  $N=23$ ,  $p=.01$ ).

### **Implications for Practice**

When considering the impact of this study on educational leaders, there are implications at the state, district, and school levels. State leaders should consider the results of this study and determine if this applies to other school levels or in other regions of Georgia. District leaders in urban settings or areas with high poverty should pay close attention to the results of this study. A strong positive relationship was found in urban schools ( $r=.884$ ,  $N=17$ ,  $p<.01$ ) between school climate and student achievement and in schools with high poverty ( $r=.673$ ,  $N=23$ ,  $p=.01$ ). If schools in their district fall into at least one of these categories, district leaders would be wise to implement changes to the practices in their schools. Specific changes based on the data will be offered later in this section. The results of this study provide several practical implications for middle school leaders in the CSRA RESA region. The existence of a strong and positive school climate is essential for the successful function of a school (Hoy & Hannum, 1997) and failing to nurture positivity in a school is the best way to ensure lower student achievement (Moller, Mickelson, Stearns, Bottia, Banerjee, & Society for Research on Educational Effectiveness, 2011). The results of this study echo this sentiment and imply that changes in middle school climate could impact changes in student achievement. As such, middle

school leaders within this region should be purposeful and look at improving dimensions of school climate to ensure student achievement growth. In reviewing the data from this study, practical implications emerge for the district and school leaders.

### **Implications for State Leaders**

The results of this study show a strong correlation between school climate and student achievement ( $r=.716$ ,  $N=30$ ,  $p<.01$ ). State leaders should explore further to determine if the results of this study of middle schools in the CSRA RESA region can be replicated and applied to elementary and high schools in all regions of Georgia. Also the results this study centered upon the relationship between school climate and student achievement showed a positive relationship in urban ( $r=.884$ ,  $N=17$ ,  $p<.01$ ) and high poverty ( $r=.673$ ,  $N=23$ ,  $p=.01$ ) schools. This information could be impactful to the schools in Georgia that have historically struggled the most with improving student achievement. Additional implications based on the data from this study are discussed in the next section. Those concerning discipline, attendance, and interpersonal relationships could lead state leaders to consider implementing changes in all Georgia schools to improve school climate.

### **Implications for District and School Leaders**

Previous research indicates that a positive school climate that is focused on student learning is correlated to student achievement (Hallinger, Bickman, & Davis, 1996). The results of this study reinforce that research and show that in middle schools in the CSRA RESA region that school climate does have a significant positive relationship to student achievement ( $r=.716$ ,  $N=30$ ,  $p<.01$ ). Addressing areas that impact the calculation of school climate score can help middles schools improve climate and in

turn student achievement. As stated earlier in this paper, the school climate calculation is determined using four components; student discipline score, school attendance score, safe and substance-free learning environment score, and the score generated from the GSHS II survey, parent survey, and school personnel survey. Each of these dimensions provides areas that schools can focus to have a positive impact on student achievement by improving the school climate.

**Improving School Discipline.** One approach district and school leaders can do to improve their school climate is to focus their resources on improving student discipline. The student discipline score is a weighted suspension rate. The weighted suspension rate is calculated based on discipline outcomes for students in the school. Each student receives one score from the following criteria based on the most severe discipline incident. Students receiving any In School Suspension (ISS) are assigned .50 point, one to two days Out of School Suspension (OSS) is assigned one point, three to four days of OSS is assigned three points, five to nine days of OSS is assigned five points, and students over ten days of OSS are assigned ten points. Students that have to attend an Alternative School for discipline reasons are assigned six points, and students that are expelled from school are assigned seven points. The sum of the student weighted suspension rate is then divided by the total number of students enrolled, subtracted from one and multiplied by 100. This calculation determines a school's weighted suspension rate. Schools must focus on alternatives to suspension to impact this score. One such strategy is Positive Behavior Interventions and Supports (PBIS). PBIS is a proven data-driven framework that can reduce disciplinary incidents. "The premise of PBIS is that continual teaching, combined with acknowledgment or feedback of positive student

behavior will reduce unnecessary discipline and promote a climate of greater productivity, safety, and learning” (Georgia Department of Education, 2017e). When PBIS is implemented with fidelity, it provides a multi-tiered approach to prevention. PBIS uses disciplinary data and principles of behavior analysis to develop school-wide, targeted, and individualized interventions and supports to improve school climate for all students (Georgia Department of Education, 2017e). Successful implementation can reduce the number of suspensions a school has, and this impacts the student discipline score. A school can improve their school climate calculation by implementing a strategy such as PBIS to reduce suspensions and improve the climate. Improving overall school discipline will also impact the Safe and Substance Free Environment score. By implementing PBIS and cutting down the number of suspensions, serious discipline violations should also be reduced which is how the Safe and Substance Free Environment score is calculated.

**Improving School Attendance.** School attendance is a second area that schools can focus attention to improve their school climate calculation. The school-wide attendance score is one-fourth of the school climate calculation. The school-wide attendance score is averaged from data collected on student attendance, average daily personnel attendance, average daily administrator attendance, and average daily staff attendance. Improving this data for a school would have a direct impact on improving the school climate calculation. This study shows that by increasing the school climate score, student achievement will be positively impacted ( $r=.716$ ,  $N=30$ ,  $p<.01$ ).

Monthly reviews of student and staff attendance data will create an atmosphere within the schools of the importance of regular attendance. Educating parents in the

importance of regular attendance including signing out of school early or being tardy will assist a school as they change the culture to emphasize student attendance. Georgia Department of Education reported that 9.7% of students in Georgia schools in 2010 missed 15 days or more (Georgia Department of Education, 2017f). When comparing absences to graduation rate, Georgia showed that students, who miss zero days of school in 8<sup>th</sup> grade, have a graduation rate within four years of 81.89%. The percentage of students that miss over 15 days in 8<sup>th</sup> grade that graduate in four years is only 38.09%. “To prevent and correct serious attendance problems, schools need to change the way they are structured, improve the quality of courses, and intensify interpersonal relationships between students and teachers” (Epstein & Sheldon, 2002, p.309).

While many schools consider student attendance when they are looking for ways to improve, much of the time staff attendance is overlooked. Schools should implement strategies that reward teachers that do not miss days of school. Incentive programs can offer teachers a plethora of rewards for having perfect attendance for a grading period or per month. If a student is absent ten days a semester and the teacher is absent for four, that is approximately 98 hours of instruction lost in a self-contained elementary classroom. Teacher attendance has a major impact on student achievement and should be considered when implementing practices to impact attendance.

**Improving Interpersonal Relationships.** Improving interpersonal relationships is the third area for the district and school leaders to focus when working to improve school climate. As discussed in Chapter 2, research has also shown that teacher's work environment, peer relationships, and feeling of inclusion and respect are important aspects too. Guo (2012) found that the teachers' work environment, which may be

considered as an indicator of teachers' relationship with each other and school administrators, fully mediated the path from a whole school character intervention to school climate change. This also extends to relationships between teachers and parents and administration and parents. Communication with all stakeholders is essential. All stakeholders must contribute to a shared school vision. Both parents and teachers must feel that they are an essential part of the process to improve student performance and ultimately school performance. The parent survey and the personnel survey conducted in Georgia impact the school climate calculation. Implementing intentional efforts to make students, parents, and teachers work as a cohesive unit, feel engaged and respected would impact the results of these surveys which would improve the school climate calculation and have a positive impact on student achievement.

The analysis of the data concerning school climate and student achievement shows a Pearson's correlation of .716, demonstrating that there is a strong relationship between these two variables. School leaders should engage students, families, and educators to work together to develop, live, and contribute to a shared school vision. Creating an atmosphere where all students, parents, and educators feel welcome and included in the school is the first step. Communicating constantly to make sure all parties are informed of events, learning, and procedures of the school will offer the inclusive atmosphere that will impact both the schools personnel's and parent's attitudes when they are completing surveys tied to the school climate calculation.

### **Recommendations for Future Research**

Findings from this study reveal a need to expand the research to include a larger, more diverse sample to improve the generalizability of the results. Future research could

focus on all middle, elementary, or high schools in Georgia to increase the sample size. To fully examine the relationship between school climate and student achievement, another recommendation for future research would be to use trend data over multiple years to determine if a relationship between school climate and student achievement exist. Utilizing a larger data set should be part of a continuous improvement model for schools in Georgia.

Another area of future research utilizing the parent survey result's dataset. The parent survey is one of the surveys used to calculate school climate score. Further study into this set of data to analyze demographic characteristics could be meaningful. Focusing on ethnicity, race, or student gender would offer schools data on ways to improve schools for specific subgroups. A final recommendation for future research concerns the reporting of the data for poverty rate. During the analysis, the researcher found that systems in the CSRA RESA region reported poverty differently. All the systems but one reported a percentage determined by each school in the system. However, one system reported a system average for each school which may have impacted results. In this study, all schools in the district in question were classified as low poverty. If in fact, some schools in the district have an individual poverty rate higher than 50%, they would have fallen into a different category when analyzing the data. This would have changed the population size for low and high poverty and may have made the results for high poverty schools more reliable since there were only seven schools in this category for this research. Future studies should consider using a more consistent means of reporting poverty percentages for schools included in research to get more accurate representation of the data across districts.

### **Impact Statement**

State, district, and school leaders are consistently trying to find ways to increase student achievement and improve school climate. This study shows that school climate and student achievement have a positive correlation in middle schools in the CSRA RESA region. Additional findings show that this positive correlation is also found in urban schools and schools with high poverty. Based on these findings, I would recommend middle school leaders should focus efforts on creating and maintaining a positive school climate, with emphasis placed upon improving discipline, attendance, and interpersonal relationships. This work can benefit all middle school stakeholders since based upon the findings of this study, when the school climate is improved student achievement should also increase.

### **Conclusion**

As stated in Chapter 1, over the last 30 years a growing body of empirical research has shown that a positive and sustained school climate is associated with and may be predictive of positive youth development, effective risk prevention and health promotion efforts, student learning and academic achievement, increased student graduation rates, and teacher retention (Cohen & Geier, 2010). It is during the middle grades, particularly in lower-performing schools that serve high-poverty populations that achievement gaps often become so large that they cannot be overcome by students as they move forward into high school (Balfanz, 2009).

One method by which student achievement could be improved would be through attention to school climate. By understanding the relationship between school climate and student achievement, middle schools can implement strategies to improve school



climate and, ultimately, have a positive effect on improving student achievement.

Furthermore, more research can be and should be completed to determine if this same correlation can be found in elementary and high schools in various regions of Georgia.

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## Appendix A

<b>Dimensions</b>	<b>GSHS II Questions</b>
<b>SAFETY</b>	
1 Rules and Norms	<i>School Climate #4: “My School Sets Clear Rules or Behavior”</i>
2 Sense of Physical Security	<i>School Climate #5: “I know what to do if there is an emergency at my school”</i>
3 Sense of Social-Emotional Security	<i>School Climate #11: “School is a place at which I feel safe”</i>
<b>TEACHING AND LEARNING</b>	
4 Support for Learning	<i>School Climate #3: “I feel my school has high standards for achievement”</i>
5 Social and Civic Learning	<i>School Climate #8: “Students are frequently recognized for their good behavior”</i>
<b>INTERPERSONAL RELATIONSHIPS</b>	
6 Respect for Diversity	N/A
7 Social Support-Adults	<i>School Climate #6: “Teachers treat me with respect”</i>
8 Social Support- Students	<i>School Climate #7: “The behaviors in the classroom allow the teacher to teach so I can learn”</i> <i>School Climate #10: “I get along with other students and adults”</i>
<b>INSTITUTIONAL ENVIRONMENT</b>	
9 School Connectedness/Engagement	<i>School Climate #1: “ I Like School”;</i> <i>School Climate #2: “I Feel Successful at School”</i>
10 Physical Surroundings	<i>School Climate #9: “I feel my school counselor would be helpful if I needed assistance”</i>



**Appendix B**

*College and Career Ready Performance Indicator*

<b>Achievement</b>	
<p><b>CONTENT MASTERY</b> 40%</p>	<p>Percent of students scoring at Meets or Exceeds in ELA (required participation rate &gt;= 95%)</p> <p>Percent of students scoring at Meets or Exceeds in reading (required participation rate &gt;= 95%)</p> <p>Percent of students scoring at Meets or Exceeds in mathematics (required participation rate &gt;= 95%)</p> <p>Percent of students scoring at Meets or Exceeds in science (required participation rate &gt;= 95%)</p> <p>Percent of students scoring at Meets or Exceeds in social studies (required participation rate &gt;= 95%)</p>
<p><b>POST MIDDLE SCHOOL READINESS</b> 30%</p>	<p>Percent of English Learners with positive movement from one Performance Band to a higher Performance Band as measured by the ACCESS for ELLs</p> <p>Percent of Students With Disabilities served in general education environments greater than 80% of the school day</p> <p>Percent of students in grade 8 achieving a Lexile measure equal to or greater than 1050 on the Georgia Milestones ELA EOG</p> <p>Percent of students completing 2 or more state defined career related assessments/inventories and a state defined Individual Graduation Plan by the end of grade 8</p> <p>Percent of students missing fewer than 6 days of school</p>
<p><b>PREDICTOR FOR HIGH SCHOOL GRADUATION</b> 30%</p>	<p>Percent of students in grade 8 passing at least four courses in core content areas (ELA, mathematics, science, social studies) and scoring at Meets or Exceeds on all CRCT and required EOCT</p> <p>Percent of CRCT assessments scoring at Proficient or Distinguished Learner on Georgia Milestones EOGs or EOCs</p>

## Appendix C

<b>County</b>	<b>% of Children Living in Poverty</b>
<b>Burke</b>	37.9%
<b>Columbia</b>	11.3%
<b>Emanuel</b>	40.2%
<b>GlascocK</b>	24.4%
<b>Jefferson</b>	39.7%
<b>Jenkins</b>	47.3%
<b>Lincoln</b>	31.9%
<b>McDuffie</b>	40.5%
<b>Richmond</b>	37.7%
<b>Taliaferro</b>	54.4%
<b>Warren</b>	43.9%
<b>Wilkes</b>	34.7%

(gafcp.org, 2017)

## Appendix D

### IRB Approval

Georgia Southern University Office of Research Services & Sponsored Programs		
<b>Institutional Review Board (IRB)</b>		
Phone: 912-478-5465		Veazey Hall 3000
		PO Box 8005
Fax: 912-478-0719	IRB@GeorgiaSouthern.edu	Statesboro, GA 30460

**To:** Greenway, Gail; Calhoun, Dan

**From:** Office of Research Services and Sponsored Programs  
Administrative Support Office for Research Oversight Committees  
(IACUC/IBC/IRB)

**Approval Date:** 9/27/2017

**Subject:** Status of Application for Approval to Utilize Human Subjects in Research

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After a review of your proposed research project numbered **H18075** and titled "**Exploring the Connection Between School Climate and Student Achievement in Middle Schools**" it appears that your research involves activities that do not require full approval by the Institutional Review Board (IRB) according to federal guidelines. In this research project research data will be collected anonymously.

According to the Code of Federal Regulations Title 45 Part 46, your research protocol is determined to be exempt from full review under the following exemption category(s):

- B4 Research involving the collection or study of existing data, documents, records, pathological specimens, or diagnostic specimens, if these sources are publicly available or if the information is recorded by the investigator in such a manner that subjects cannot be identified, directly or through identifiers linked to the subjects.

Any alteration in the terms or conditions of your involvement may alter this approval. *Therefore, as authorized in the Federal Policy for the Protection of Human Subjects, I am pleased to notify you that your research, as submitted, is exempt from IRB approval. No further action or IRB oversight is required, as long as the project remains the same. If you alter the project, it is your responsibility to notify the IRB and acquire a new determination of exemption. Because this project was determined to be exempt from further IRB oversight, this project does not require an expiration date.*

Sincerely,



Eleanor Haynes  
Compliance Officer