Summer 2023

Relationship Between School Climate and Student Achievement in Middle Schools

Brad Boykin

RELATIONSHIP BETWEEN SCHOOL CLIMATE AND STUDENT ACHIEVEMENT IN

MIDDLE SCHOOLS

by

BRAD BOYKIN

(Under the Direction of Juliann Sergi McBrayer)

ABSTRACT

Administrators are charged with making decisions and implementing strategies to improve a

school's climate and student achievement. Because school climate and student achievement are

interrelated, it would benefit administrators to understand which areas of school climate have the

greatest impact on student achievement. The State of Georgia measures school climate and

achievement with its school accountability measure, College and Career Ready Performance

Index (CCRPI). This study employed a quantitative research design using archival data from

CCRPI over two years to examine the relationship between school climate and student

achievement. The researcher used Pearson's r correlation and multiple regression analysis to

examine the relationship between the two components and the predictive effect of each school

climate domain on student achievement for traditionally structured middle schools in the State of

Georgia. Findings revealed that all four components of school climate, Survey Score, Discipline

Score, Safe and Substance-Free Learning Environment Score, and Attendance Score were all

related to student achievement. In addition, the Survey Score and Discipline score had the

strongest relationship and was the most significant predictor of student achievement. Findings

align with those identified in the literature and provide administrators with essential information

to strategically make decisions involving processes and procedures that impact these areas. Future research is needed to determine whether the relationship between school climate and student achievement is similar for elementary, middle, or high schools. In addition, separating the data into rural, suburban, and urban schools and running similar tests may also help administrators specifically in those areas.

INDEX WORDS: Student achievement, school climate, attendance, discipline, perception data, middle schools, College and Career Ready Performance Index (CCRPI).

RELATIONSHIP BETWEEN SCHOOL CLIMATE AND STUDENT ACHIEVEMENT IN

MIDDLE SCHOOLS

by

BRAD V. BOYKIN

B.S. Georgia Southern University, 2008

M.Ed. Georgia Southern University, 2016

Ed.S. Georgia Southern University, 2018

A Dissertation Submitted to the Graduate Faculty of Georgia Southern University in Partial

Fulfillment of the Requirements for the Degree

DOCTOR OF EDUCATION

COLLEGE OF EDUCATION

RELATIONSHIP BETWEEN SCHOOL CLIMATE AND STUDENT ACHIEVEMENT IN

MIDDLE SCHOOLS

by

BRAD BOYKIN

Major Professor:	Juliann Sergi McBrayer
Committee:	Richard Cleveland
	Suzanne Miller
	Summer Pannell

Electronic Version Approved:

July 2023

DEDICATION

For my wife, Millie: my greatest supporter.

For my son Banks: my greatest inspiration.

ACKNOWLEDGEMENTS

I feel so lucky to have the best committee! Thank you to Dr. Juliann Sergi McBrayer for putting up with my procrastination and always being flexible with my last minute submissions. I appreciate you taking the chance on me and serving as my chair. To Dr. Richard Cleveland, thank you for helping me through this process. I am tremendously grateful for your commitment to helping me through statistics that I did not understand, and your ability to put things into simpler, easier to understand, terminology. To Dr. Suzanne Miller, thank you for your timely feedback. I could always count on you for a quick turn-around. To Dr. Summer Pannell, thank you for taking my simple study to the next level so that it would make a greater impact on our profession.

To Will, this program has brought us together and gifted me with your friendship! Those long weekends spent writing in either of our offices and those text messages pushing and encouraging me to finish helped to motivate me and get me to the finish line. I look forward to many more years of collaboration with you.

To my family, thank you for your patience. Through new career opportunities, graduate school, and dissertation work, I have not been as present as I would like. Your continued support and encouragement has helped me to achieve this accomplishment. To Millie, I truly am a better person because I have you in my life. Together I know we can take on the world. To Banks, you are my joy and I cannot imagine my life without you. You bring a smile to my face, even in the hardest times. I hope I can continue to be the role model that you need.

TABLE OF CONTENTS

LIST OF TABLES

CHAPTER ONE

RELATIONSHIP BETWEEN SCHOOL CLIMATE AND STUDENT ACHIEVEMENT IN

MIDDLE SCHOOLS

Introduction

The goal of education is for all students to learn, grow, and be prepared for their future in the workforce or in their postsecondary journey. The United States Department of Education (USDOE; n.d.) attempts to articulate this goal in their mission statement, which states that education should, "promote student achievement and preparation for global competitiveness by fostering educational excellence and ensuring equal access" (para. 1). To promote student achievement, schools must use a variety of measures to make data-informed decisions to drive instruction and school processes (Murray, 2014). Public schools are finding that there are many factors such as morale, climate, and attendance that impact student achievement (Greenway, 2017).

Specifically, school climate is one important measure that supports student achievement and growth, and it has been linked to a variety of positive student outcomes such as developing a sense of belonging, increasing student achievement and engagement, and attaining more desirable psychological and behavioral outcomes (Shukla et al., 2016). However, defining school climate can be complicated because researchers use a wide range of definitions and models that are often more implicit than explicit (Chirkina & Khavenson, 2018; Thapa et al., 2013). Additionally, school climate is inclusive, therefore, each domain that affects school climate combines many constructs usually studied separately (Wang & Degol, 2016). After a thorough review of school climate literature, Thapa et al. (2013) determined school climate can be

measured using school discipline data, attendance data, and perception data from surveys of students and other stakeholders, and this is the definition for the purpose of this study.

As accountability increases, administration is faced with the challenge of navigating many different areas of possible change to determine priorities (Louis et al., 2005). School administrators are encouraged to explore strategies that promote a positive school climate given its positive association to student achievement (Huang et al., 2017). While planning for school improvement, administrators should select approaches that are compatible with that school's climate and culture (Lindahl, 2011) and increasing teacher professionalism could have the greatest impact (Geleta, 2017).

The prioritization of decisions is important for administrators, because making too many changes at one time can overload teachers and staff. However, it is difficult for administrators to determine what changes are more important and which will make more of a positive impact on their students' achievement. Therefore, it would be helpful for administrators to know which areas of school climate have a more direct link to student achievement. There is a gap in the literature in this area for administrators in the state of Georgia, due to the lack of research as to the specific components of school climate, measured in Georgia's College and Career Ready Performance Index (CCRPI) state accountability system, and their relationship to student achievement. Further research would aid administrators in making and prioritizing decisions that impact school climate and student achievement.

Background

The following sections include a review of the literature related to school climate and student achievement in K-12 schools. The theoretical framework, balanced leadership, that this research is aligned to, along with the perception of school climate and student achievement,

factors related to school climate and student achievement, relationship between school climate and student achievement, utilization of school climate to lead change, and the school accountability measure in Georgia are examined in this review of the literature.

Theoretical Framework

McREL is a nonprofit, nonpartisan education research, development, and service organization that helps schools, districts, and education agencies improve outcomes for all students. McREL's balanced leadership framework was developed from three key bodies of knowledge: a quantitative analysis of 30 years of research, a review of theoretical literature on leadership, and more than 100 years of combined professional wisdom. In the development of the framework, Waters et al. (2003) analyzed over 5,000 studies conducted over a thirty-year period, and identified 70 that met the following criteria: quantitative student achievement data, achievement measured on standardized, norm-referenced tests, student achievement as the dependent variable, and teacher perceptions of leadership as the independent variable. Through this research, they found that there is a substantial relationship between leadership and student achievement. In addition, they identified twenty-one leadership responsibilities that were determined to be significantly associated with student achievement. These responsibilities were translated into the balanced leadership framework, which describes the knowledge, skills, strategies, and tools that leaders need to make a positive impact on student achievement. Eighteen of these twenty-one responsibilities directly relate to the climate domains in this research study. The balanced leadership framework relates to this research, because this study seeks to identify areas of school climate that administrators should prioritize when developing initiatives to improve student achievement. This study also is looking at quantitative data from

standardized tests where student achievement is the dependent variable and perception data is one of the independent variables.

Relationship Between Climate and Achievement

There is a significant positive relationship between school climate and student achievement (Geleta, 2017). School climate is a leading factor in explaining student learning and achievement (Cohen et al., 2009; Greenway, 2017; Maxwell et al., 2017). Several researchers (Thapa et al., 2013) noted that student support is a major contributing factor to school climate and academic achievement. Positive experiences affect happiness and happiness affects future positive experiences over time. Thus, positive school experiences and happiness are reciprocally connected and create an upward spiral (Stiglbauer et al., 2013). A positive school climate is important for academic success (Cohen et al., 2009; Greenway, 2017;Wang et al., 2014), and interventions targeting school climate may hold promise for promoting students' perceptions or attitudes about their future (Johnson et al., 2016). Furthermore, a sustained positive school climate is associated with positive child and youth development, effective risk prevention, health promotion efforts, enriched student learning, academic achievement, increased student graduation rates, and teacher retention (Thapa et al., 2013).

Perception of School Climate and Achievement

School climate surveys help to engage others as well as establish baseline and outcome measures of a school's strengths and areas of growth (Cohen, 2012). Measures that evaluate students, parents, and school personnel can provide useful information about school life (Cohen et al., 2009). However, student experiences of school climate are not identical and are not adequately characterized by the overall school mean of the collective data representing these experiences (Shukla et al., 2016). Therefore, other findings suggest that strategies seeking to

promote students' achievement relying solely on perceived school climate without considering students' motivational beliefs and interest are incomplete (Fan & Williams, 2018). Lower socioeconomic status is associated with lower academic achievement. However, positive climate perceptions also reduce the negative impact that low socioeconomic status has on academic achievement (Berkowitz et al., 2017).

Student perception data are also important because often administrators and teachers perceive a more positive social context than their students within their schools, such as when students perceived that their schools maintained orderly and safe environments, they achieved at higher levels (Fan & Williams, 2018). Furthermore, parents' opinions also differ from teachers' and administrators' opinions and in a study conducted by McCoach et al. (2010), the researchers found parental involvement and perceptions are key variables that help explain why schools are achieving at different levels.

Factors Related to School Climate and Student Achievement

Many factors affect school climate and student achievement. Jones and Schindler (2016) concluded achievement is correlated to classroom discipline practices, and further research by Sulak (2016) found classroom disorder may impact academic achievement. Disciplinary climate is positively related to student achievement (Dicke et al., 2019), and Gage et al. (2016) determined discipline was a contributing factor to achievement, finding that students with high numbers of office discipline referrals performed between basic and proficient academic levels on state assessments. Therefore, differentiated interventions may be needed to replace standardized approaches to school discipline and student support (Shukla et al., 2016).

School climate and safety are interrelated, such that student perceptions of school safety positively relate to student grades (Cohen et al., 2009; Hopson et al., 2014). Findings show a

consistent negative relationship between feeling unsafe in the classroom and test scores, and students who feel the safest perform better on standardized mathematic exams and reported never staying home because they felt unsafe at school (Lacoe, 2016).

Students suffer academically from having chronically absent classmates and chronic absenteeism has damaging effects on the individuals missing excessive school days and can potentially reduce the outcomes for other students in the same educational setting (Gottfried, 2019). Further research on student attendance, conducted by Van Eck et al. (2017) found students who reported moderate and negative school climates were more likely to attend schools with higher chronic attendance problems, thus schools with challenging climates tend to have a higher absence rate.

Students' perceptions of victimization also predicted an individual's lower reading and mathematics achievement (Ripski & Gregory, 2009), and high-chronic victimization (bullying) consistently was related to lower disparities in school engagement, academic self-perceptions, and academic achievement (Ladd et al., 2017). Malone et al. (2017) added to the research on bullying impacting climate by concluding larger schools have a higher frequency of teasing and bullying in seventh and eighth grades. Furthermore, peer victimization is also linked to lower academic performance and poor perception of school climate (Wang et al., 2014) and students victimized by bullying scored at least 0.22 standard deviations lower than their peers in a standardized mathematic exam (Kibriya et al., 2017). Gruber and Fineran (2016) found that sexual harassment erodes school engagement, alienates students from teachers, and adversely affects academic achievement to a greater degree than even bullying does. Additionally, in a study conducted in suburban schools, Sulak (2016) found behavior and racial and/or ethnic composition may impact achievement levels.

Grade-level configuration can also impact school climate. Jones and Shindler (2016) found the quality of school climate decreased as students moved from elementary levels into secondary levels. Further research found that students attending traditional middle schools have more negative perceptions of school climate than students in schools with other grade-level configurations, noting that seventh grade students reported more favorable conditions in configurations that place them with elementary-aged students, and eighth grade students favored placement with older students (Malone et al., 2017). In addition, a study conducted by Kim et al. (2014) determined K-8 schools have a more positive social context compared to traditional middle and junior high school grade-level configurations.

Using School Climate to Lead Change

School climate and student achievement are highly related, and school climate is predictive of student academic achievement, behavioral, and psychological outcomes (Cohen et al., 2009; Shindler et al., 2016;). Furthermore, as school climate is multidimensional, it could be a potentially promising target for intervention leading to change that might impact student achievement. Results of a study conducted by Geleta (2017) suggested that an emphasis on school climate and related variables may be a good place for schools to start when trying to improve students' academic achievement. Additionally, Price (2016) found that combining both testing-based assessment data and internal stakeholders' assessments from Milwaukee's School Climate Report Cards formed a broader assessment, reduced biases, and widened the evaluation of school quality. Furthermore, understanding and using evaluation findings from school climate data to set in motion evidence-based change is very important.

Administrators should select professional development programs that emphasize the value of classroom management and academic rigor, without negating the importance of creating

a caring environment to maximize the potential for better climate and higher student achievement (Sandilos et al., 2017). The actions of the principal are an important part of the mix of activities that, comprehensively, have a powerful causal effect on student achievement (Marzano et al., 2005). This also applies to district leaders, as according to Marzano and Waters (2009), when district leaders are carrying out their leadership responsibilities effectively, student achievement across the district is positively impacted. In Georgia, superintendents reported goal alignment to Georgia's College and Career Ready Performance Index (CCRPI), and perceived alignment to the achievement subcategory was reported at a greater level than post high school readiness, progress, and achievement gap (Robinson, 2015).

School Accountability Measures in Georgia

States and school districts have become interested in using school climate data to evaluate schools because accountability measures required under No Child Left Behind may be too narrowly focused (Cohen et al., 2009). The State of Georgia's Department of Education (GaDOE) is the first state to include school climate as an early indicator in its academic accountability system (GaDOE, n.d.-a). Georgia's School Climate Rating shows how well a school is promoting an atmosphere where students feel welcomed, safe, and respected (GaDOE, n.d.-b).

Reports of the School Climate Rating are compiled and included in Georgia's CCRPI report, which is a rating of the school's performance. Within this CCRPI data, there are also scores relating to student achievement, student growth, and student subgroup performance (GaDOE, 2019). CCRPI attempts to measure the academic success and culture of Georgia's schools, districts, and the state itself to determine if students are adequately prepared for the next

educational level or career path. Georgia's overall CCRPI score for each school is a compilation of data from achievement, progress, achievement gap, and challenge points (GaDOE, n.d.-c).

Georgia's CCRPI was first introduced in 2012 as a substitute to No Child Left Behind's Adequate Yearly Progress performance measure (GaDOE, 2018-a). The GADOE school accountability measure gives schools a CCRPI score for achievement based on several indicators within four components for elementary and middle schools and five components for high schools. Georgia's overall CCRPI score for each school is a compilation of data from content mastery, progress, closing gaps, readiness, and graduation rate (high schools only for the latter; GaDOE, 2018-a). The Closing Gaps Score utilizes a structure in which improvement or maintenance of high achievement levels is expected of all schools and all subgroups to incentivize continuous and sustainable improvement (GaDOE, 2018-c). In addition to CCRPI scores related to achievement, Georgia also gives each school a separate School Climate Rating, which compiles data related to discipline, attendance, and surveys distributed to parents, students, and faculty. All these data are combined to give the school an overall numerical score as well as a School Climate Star Rating that ranges from one to five stars. Different cut scores are decided upon by GaDOE based on their relationship to the state average for each grade band to determine how many School Climate Stars each school receives (GaDOE, n.d.-b). Standard deviation is used when determining the cut scores and related stars, such that five stars are awarded to a school if their score is greater than one standard deviation above the state average, four stars if the score is greater than the state average but less than one standard deviation, three stars if the score is between the state average and one standard deviation below, two stars if the score is between one and two standard deviations below the state average, and one star if the score is less than two standard deviations below the state average (GaDOE, 2018-b).

The numerical Final Score on Georgia's CCRPI School Climate Rating is on a scale of zero to 100 and is a compilation of data from 14 key components, each of which is also rated on a scale of one to 100. The components are divided into four key categories to include: the Survey Score, the Student Discipline Score, the Safe and Substance-Free Learning Environment Score, and the School Wide Attendance Score. Components within the Survey Score includes: Student Response on the Georgia Student Health Survey 2.0; Teacher/Staff/Administrator response on the Georgia School Personnel Survey; and Parent Response on the Georgia Parent Survey. The Student Discipline Score is derived from the school's Weighted Suspension Rate. This is based on the number of students' In School Suspensions and Out of School Suspensions, along with the number of expulsions and alternative school placements for any students who should be attending the school during that school year. The Safe and Substance-Free Learning Environment Score includes data from the following categories: Student Drug Related Incidents, Violent Incidents, Bullying and Harassment Incidents, as well as surveys related to Student Drug Related Incidents, Violent Incidents, and Bullying and Harassment Incidents. This is a compilation of data collected on student drug related incidents, violent incidents, and bullying and harassment incidents pulled from the school's Student Information System (SIS), along with survey data coming from the above-mentioned Georgia Student Health Survey 2.0. The School Wide Attendance Score includes: Student Attendance, Average Daily Personnel Attendance, Average Daily Administrator Attendance, and Average Daily Staff Attendance. Since the four domain categories are an average of the components within the category, each of them is also on a scale of one to 100. There are also two components, Personalized Climate and Unsafe School Choice Option, which provide additional considerations and may make possible, adjustments to a school's overall climate score (GaDOE, 2019).

The CCRPI Content Mastery component score is on a scale of one to 100 and makes up 30% of a school's overall CCRPI score. The Content Mastery Score attempts to address the question: Are students achieving at the level necessary to be prepared for the next grade, college, or career? The component includes achievement scores from the four core subject areas: English Language Arts (ELA), mathematics, science, and social studies. These scores are based on student performance on the Georgia Milestones Assessment System (GMAS) and the Georgia Alternate Assessment (GAA). The score for each core subject area utilizes weights based on the achievement level for each student. Beginning Learners earn zero points, Developing Learners earn 0.5 points, Proficient Learners earn 1.0 point, and Distinguished Learners earn 1.5 points. Content areas for elementary, middle, and high schools are weighted based on the number of state tests administered within each grade band. For elementary and middle schools, this means that ELA and mathematics are weighted more than science and social studies because only fifth grade and eighth grade take the science and social studies tests. Therefore, ELA and mathematics each account for 37.5% of the school's total Content Mastery score, while science and social studies each account for 12.5%. Full Academic Year (FAY) is utilized to determine if a student's score is included in a school's calculation. FAY students are those that were enrolled at least 65% of the number of days from that school's start date to the close of the state testing window (GaDOE, 2018-a).

CCRPI Improvement Targets are set for each school and defined as 3% of the gap between a baseline of the year before and 100%. Each year, schools are expected to meet or exceed the improvement target based on the prior year's performance. This target is an expected gain and gives schools a fresh start from year to year to focus on continuous improvement. Only academic achievement targets are utilized for points in the Closing Gaps component of CCRPI.

Once a school attains a performance rate of 90%, the target will be to remain at or above that level of performance. These targets are reset every five years, and the next reset will utilize the 2022 data as the baseline data. Points are awarded to each school for the Closing Gaps score as follows: 0 points when no improvement is made, 0.5 points when improvement is made but the target is not met, and 1 point is awarded when the target is met. Six percent targets are additionally set for achievement rates for Economically Disadvantaged, English Learner, and Students with Disabilities subgroups, and when these targets are met, 1.5 points are awarded (GaDOE, 2018-c).

In summary, research studies have shown that there is a correlation between school climate and student achievement. There are many areas that help define and measure both school climate and student achievement, and administrators and district leaders are tasked with improving both school climate and student achievement. In the State of Georgia, the CCRPI accountability measures help administrators examine which areas of climate need improvement and provides the leaders an idea of how students are performing. Through these CCRPI measures, administrators can set goals to make gains in these areas using Waters et al. (2003) balanced leadership framework's identified skills and areas of focus. Keeping in mind the specific eighteen responsibilities that coincide with the climate domains in this research outlined in the framework, administrators should be able to make positive gains in both school climate and student achievement and prioritize tasks intended to improve these initiatives.

<center>Statement of the Problem</center>

School level administrators make choices every day that could impact the school climate and student achievement. Administrators must prioritize their decisions based on the desired impact needed to create the most positive change in both school climate and student

achievement. Additionally, newly hired administrators, going into an unfamiliar environment are challenged with deciding what, if any, changes are needed and what areas to prioritize to impact change to improve student achievement. The College and Career Ready Performance Index (CCRPI) reports are one of the archival data sets that newly hired administrators have access to when making a transition to a new school and a thorough examination of these reports is needed. These reports could also help administrators identify any potential areas in need of improvement to attain higher student achievement. Therefore, knowing the relationship between each of the four domain components within the school's School Climate Rating and the data for student achievement could allow administrators to identify and prioritize changes that influence in the following areas: stakeholder perceptions impacting the Survey Score, school discipline practices related to the Student Discipline Score, areas impacting the Safe and Substance-Free Environment Score, and policies affecting the School Wide Attendance Score.

Purpose Statement

The purpose of this quantitative study was to examine the correlation between the archival data for the four domain components that drive Georgia's School Climate Rating for all traditional middle schools in the State of Georgia and the achievement data from the archival student achievement data portions of Georgia's College and Career Ready Performance Index in order to assist newly hired and current administrators in making informed decisions that impact school climate and student achievement.

Research Questions

Using archival data obtained from the College and Career Ready Performance Index reporting from the Georgia Department of Education, this study sought to address the following equally weighted research questions: 1. What is the relationship between the Survey Data

component, Discipline Data component, Safe and Substance-Free Learning Environment component, and the Attendance component of the School Climate Domain from Georgia's School Climate Rating and the Content Mastery Score within the College and Career Ready Performance Index student achievement data for middle schools in the State of Georgia?; 2. What is the relationship between the Survey Data component, Discipline Data component, Safe and Substance-Free Learning Environment component, and the Attendance component of the School Climate Domain from Georgia's School Climate Rating and the Closing Gaps Score within College and Career Ready Performance Index student achievement data for middle schools in the State of Georgia?; In addition, archival data was utilized to answer the following research questions: 3. To what degree do relationships exists between the Content Mastery Score within the College and Career Ready Performance Index for middle schools in the State of Georgia and the Survey Data component, Discipline Data component, Safe and Substance-Free Learning Environment component, and the Attendance component of the School Climate Domain from Georgia's School Climate Rating?; 4. To what degree do relationships exist between the Closing Gaps Score within College and Career Ready Performance Index for middle schools in the State of Georgia and the Survey Data component, Discipline Data component, Safe and Substance-Free Learning Environment component, and the Attendance component of the School Climate Domain from Georgia's School Climate Rating?

<div align="center">Significance of the Study</div>

The results of this study may be beneficial to new and current school and district level administrators as they make decisions and implement changes affecting school processes and procedures that impact school climate and student achievement. The research summarized above has shown a positive relationship between school climate and student academic achievement for

elementary, middle, and high schools. There is a need to identify and include a wide range of factors, such as classroom and school processes and multiple school climate indicators when examining student outcomes. Therefore, knowing the relationship between the four components of school climate from Georgia's CCRPI School Climate Rating and the data related to the school's student achievement could allow administrators to prioritize their decisions affecting school climate based on their possible impacts on student achievement. In addition, administrators could determine which areas need professional development that could improve one or more areas of school climate, which could, in turn, improve student achievement. It will also be helpful for administrators to know which areas of school climate positively and negatively correlate with student achievement or may have significantly strong or weak correlations, because administrators may want to reduce the amount of focus and/or resources they have dedicated to eliciting change in that area. This study was intended to better understand if one or more of the school climate domains are correlated to the student achievement data based on the state's CCRPI accountability system and which may not denote correlation. In addition, this study was intended to examine the correlation between school climate and student academic achievement and may speak to the validity of the current accountability system.

<div align="center">Procedures</div>

Research Design

The researcher began by obtaining approval from the Georgia Southern University Institutional Review Board (IRB) for this quantitative research study. According to Creswell (2018), a quantitative study is appropriate given that the research questions seek to examine the correlation between numerical data from the four components of school climate and the numerical data for student achievement. While research over the last 20 years related to school

climate and student achievement has been extensive, limited research has been completed on Georgia's school accountability measures. School administrators and district leaders are charged with making data-driven decisions each year, and further research into the relationship of school climate to student achievement utilizing CCRPI data can assist leaders in making informed decisions that will positively impact their students' achievement. As such, this study intended to quantitatively analyze student achievement and the corresponding school climate ratings for traditional middle schools in the state of Georgia.

Population

The sample considered all 432 middle schools with the traditional grade level configuration, serving sixth, seventh, and eight grade in the state of Georgia. Eight middle schools were eliminated from the data set because they were missing data from one of the collected school years. Another middle school was eliminated because it was not a traditionally configured middle school in 2018. Nine additional middle schools were eliminated from the data set because the 2018 Survey Score contained outliers due to no participation, limited participation, or insufficient participation for the survey component. Lastly, four more schools were eliminated because the 2019 Survey Score contained the same outliers for participation for the survey component. The 414 schools remaining in the set were included in the study.

Data Collection

Following approval, the researcher obtained the historical archival data from the most recent data set available associated with the Content Mastery and Closing Gaps data related to student achievement and the School Climate Rating from Georgia's CCRPI public data release (GADOE, n.d.-d). The researcher recorded the archival data within the achievement data information and archival data for the scores in each of the four domain categories (Survey Score,

Student Discipline Score, Safe and Substance-Free Learning Environment Score, and School Wide Attendance Score) within the overall School Climate Rating for each middle school. Climate Star Ratings was not taken into consideration because the stars can be skewed based on school's bonus points earned through the implementation of certain programs.

Data Analysis

The data collected was entered as five separate variables within the International Business Machines (IBM®) Statistical Package for the Social Sciences (SPSS®) Software. Descriptive statistics were calculated for the numerical scores for each of the four domain components of school climate as well as the numeric Content Mastery Score (i.e., mean, median, mode, minimum, maximum, standard deviation, skewness, and kurtosis). Pearson's *r* correlation was used to determine the magnitude and direction of association between the four components of school climate and the Content Mastery Score (Creswell, 2018). Quantitative data analysis was conducted for the Pearson's *r* correlation test using four correlation coefficients and a two-tailed test of significance with an alpha level set at .01 to answer the research questions: 1. What is the relationship between the Survey Data component, Discipline Data component, Safe and Substance-Free Learning Environment component, and the Attendance component of the School Climate Domain from Georgia's School Climate Rating and the Content Mastery Score within the CCRPI student achievement data for middle schools in the State of Georgia?; and 2. What is the relationship between the Survey Data component, Discipline Data component, Safe and Substance-Free Learning Environment component, and the Attendance component of the School Climate Domain from Georgia's School Climate Rating and the Closing Gaps Score within CCRPI student achievement data for middle schools in the State of Georgia?

Subsequently, multiple regression analyses were conducted on the four school climate variables exploring their relationship and influence with the student achievement data for the following research questions: 3. To what degree do relationships exists between the Content Mastery Score within the CCRPI for middle schools in the State of Georgia and the Survey Data component, Discipline Data component, Safe and Substance-Free Learning Environment component, and the Attendance component of the School Climate Domain from Georgia's School Climate Rating?; and 4. To what degree do relationships exist between the Closing Gaps Score within CCRPI for middle schools in the State of Georgia and the Survey Data component, Discipline Data component, Safe and Substance-Free Learning Environment component, and the Attendance component of the School Climate Domain from Georgia's School Climate Rating? The data was disseminated in tables and figures as appropriate.

<div align="center">Definition of Key Terms</div>

For the purpose of this study, the following key terms were defined:

College and Career Ready Performance Index (CCRPI) – The CCRPI is a comprehensive school improvement, accountability, and communication platform for all educational stakeholders that will promote college and career readiness for all Georgia public school students (Georgia Department of Education, n.d.-d).

Safe and Substance-Free Learning Environment Score – The Safe and Substance-Free Learning Environment Score is calculated from data collected through Student Record on all reported incidents, including bullying and harassment incidents, student drug use, and violent incidents. Middle and high schools also include survey data from the Georgia Student Health Survey 2.0 in this score (GaDOE, 2018-b).

School Climate – School Climate refers to the quality and character of school life. It is based on

patterns of students', parents', and school personnel's experience of school life, and it

reflects norms, goals, values, interpersonal relationships, teaching and learning practices,

and organizational structures (National School Climate Council, 2007).

School Wide Attendance Score – School Wide Attendance Score is calculated from student

attendance data from the Student Record attendance, along with staff, teacher, and

administrator attendance data from the Certified/Classified Personal Information data

(GaDOE, 2018-b).

Socioeconomic Status – Socioeconomic status refers to the social standing or class of an

individual or group, which is often measured as a combination of education, income, and

occupation (American Psychological Association, 2018).

Student Discipline Score – The Student Discipline Score is derived from the reported Student

Record Discipline Data, which is submitted to the state as student discipline rate from

weighted suspension data (GaDOE, 2018-b).

Student Information System (SIS) – The SIS is a management information system for educational

establishments to manage student data and information.

Survey Score – The Survey Score is calculated from data gathered from the Georgia Student

Health Survey 2.0, Georgia School Personnel Survey, and the Georgia Parent Survey

(GaDOE, 2018-b).

Weighted Suspension – Weighted Suspension refers to the maximum point value from student

discipline data assigned for disciplinary actions. No action receives 0 points, any number

of days of In School Suspension receives 0.5 points, 1-2 days of Out of School

Suspension (OSS) receives 1 point, 3-4 days of OSS receives 3 points, 5-9 days of OSS

receives 5 points, 10 or more days of OSS receives 7 points, Alternative School

Assignment receives 6 points, and expulsion receives 7 points. Points are determined

based on the maximum value corresponding for each student (GaDOE, 2018-b).

Chapter Summary

According to a review of current research, it is evident that varied studies noted that there

is a positive correlation between school climate and student academic achievement. Georgia

attempts to measure both school climate and student achievement using their school

accountability measure, CCRPI. School and district leaders are tasked with leading their schools

toward higher student achievement and improved school climate. Thus, they are responsible for

the difficult decision to identify where change is needed and prioritize these changes to promote

both achievement and climate.

The purpose of this quantitative study was to examine the correlation between the

archival data for the four domain components that drive Georgia's School Climate Rating for all

traditional middle schools in the State of Georgia and student achievement from the archival

achievement data as a part of Georgia's CCRPI for these same schools to assist newly hired and

current administrators in making informed decisions that impact school climate and student

achievement. According to the research, administrators who keep Waters' et al. (2003) work

around balanced leadership framework in mind when making these decisions are more likely to

efficiently improve climate and student achievement. The study used an archival public data set

and the sample consisted of 414 of the 432 traditionally configured middle schools in the state of

Georgia. The results of this study may provide valuable insight for administrators involved in

making informed decisions that will lead to school improvement.

CHAPTER TWO

REVIEW OF THE LITERATURE

This literature review further examines the topics discussed in the background section of Chapter One. Waters et al. (2003) is expanded upon to discuss the different leadership responsibilities utilized in this study. Then, literature is examined to further expand upon the topics of the relationship between school climate and student achievement, the perception of school climate and student achievement, the factor related to school climate and student achievement, and using school climate to lead change.

Theoretical Framework

Waters et al. (2003) balanced leadership framework examines the responsibilities of leaders. This balanced leadership framework was utilized as the theoretical framework for this study. Of the twenty-one identified responsibilities, there are eighteen that are significant to this research: 1. Culture – fosters shared beliefs and a sense of community and cooperation; 2. Order – establishes a set of standard operating procedures and routines; 3. Discipline – protects teachers from issues and influences that detract time and focus from teaching; 4. Resources – provide teachers with materials and professional development necessary to be successful; 5. Focus – establishes clear goals and keeps those goals in the forefront of the school's attention; 6. Knowledge of Curriculum, Instruction, and Assessment – fosters shared beliefs and a sense of community and cooperation; 7. Visibility – has quality contact and interactions with teachers and students; 8. Contingent Rewards – recognizes and rewards individual accomplishments; 9. Communication – establishes strong lines of communication with teachers and among students; 10. Input – involves teachers in the design and implementation of important decisions and policies; 11. Affirmation – recognizes and celebrates school accomplishments and acknowledges

failures; 12. Relationship – demonstrates an awareness of the personal aspects of teachers and staff; 13. Change Agent – is willing to and actively challenges the status quo; 14. Optimizer – inspires and leads new and challenging innovations; 15. Ideals and Beliefs – communicates and operates from strong ideals and beliefs about schooling; 16. Monitors and Evaluates – monitors the effectiveness of school practices and their impact on student learning; 17. Flexibility – adapts leadership behavior to the needs of the current situation and is comfortable with dissent; and 18. Situational Awareness – is aware of the details and undercurrents in the running of the school and uses this information to address current and potential problems.

Waters et al. (2003) expanded on the balanced leadership framework by including a list of the school and classroom practices associated with student achievement. This list includes: 1. Guaranteed and viable curriculum; 2. Challenging goals and effective feedback; 3. Parent and community involvement; 4. Safe and orderly environment; 5. Collegiality and professionalism; 6. Instructional strategies; 7. Classroom management; 8. Classroom curriculum design; 9 Home environment; 10. Learned intelligence/background knowledge; and 11. Motivation. Waters et al, (2003) suggested that school leaders and leadership teams determining where to focus their leadership efforts should consider these factors as a place to start. These practices, combined with the knowledge, skills, strategies, and tools that leaders need to make a positive impact on student achievement, should help administrators make positive changes to both school climate and student achievement.

Relationship Between School Climate and Student Achievement

In a study to determine the associations between ten school climate domains and academic achievement among middle and high school students, researchers surveyed 2,405 students, grade 6 – 12 in a mid-Atlantic states in the United States using an ANOVA to analyze

survey data. Their findings suggested that school climate is associated with academic achievement for both middle and high school students (Daily et al., 2019). Davis & Warner (2018) researched to determine if parent, teacher, and/or student school climate variables explain more variance in student academic progress than student background variables. In addition, the researchers also attempted to answer if the overall school climate of a school significantly predicts student academic progress and do parent, teacher, and student perceptions about a given school's climate predict student academic progress. By using ordinary least squares regressions for a data set compiled from 2010-2011 New York City Department of Education high schools' school-level aggregated demographic, survey, and progress report achievement data, the researchers concluded that that a school's climate significantly correlated with student academic progress, and under some conditions, the climate effects outweighed the effects of student background factors.

Ruiz et al. (2018) assessed the role of community violence in explaining the relation between socioeconomic status and academic outcomes and the potential of positive school climate to promote academic achievement. The researchers examined data obtained from 297 Chicago public elementary schools using meditational model and mapping techniques to visualize patterns of school rankings against a backdrop of neighborhood socioeconomic status and violent crime. The researchers found that school climate was positively associated with academic achievement, and student safety significantly moderated the relation between socioeconomic status and academic achievement (Ruiz et al., 2018). Additionally, Xuan et el. (2019) examined the links between school socioeconomic status and students' mathematic and Chinese achievements, including teacher-student relationships as mediating factors using a national sample of 10,784 grade 7th through 9th students in China. Using multilevel mediation

analyses, the researchers found that school socioeconomic status was positively related to students' mathematic achievements, and the link between school socioeconomic status and the students' achievement was partially mediated by students' perceptions of the teacher-student relationship.

Hopson et al. (2014) conducted a study with 13,068 predominately low-income middle school students of color in 43 school sites to examine the effects of school climate, students' perceptions on supports, and behavioral norms in homes, schools, and neighborhoods on student behavior and grades. According to their research, using secondary analysis of public use data, reducing risk factors and enhancing protective factors could improve academics. Additional research, conducted by Jones & Shindler (2016), noted that improvement in academics could result in an improvement to the school climate because there is a strong relationship between the quality of school climate and academic achievement levels. Their study attempted to explore the relationship between student academic achievement and various elements within the school culture domain among 30 urban public schools, and after administering a survey and collecting the data, and the researchers also determined that the quality of school climate decreased as students moved from elementary to secondary levels (Jones & Shindler, 2016).

McCoach et al. (2010) completed research using school demographic and background information to predict achievement levels based on two variables and then attempted to identify school that have achievement profiles that exceed or fall short of their expected achievement. The researchers used Fall 2004 results from the Connecticut Mastery Test in 4th – 8th grade and the results of the Connecticut Academic Performance Test in 10th grade, along with demographic and background information in a regression model to identify outliers that would be identified as over- or under- achieving based on the outliers being either negative or positive. Then, the

researchers distributed surveys to parents, teachers, and administrators in both sets of schools and used this data to analyze the differences between the over- and under- performing schools. Their results suggested an association between school climate, culture, and student achievement (McCoach et al., 2010).

Leaders should also shape their environments to value both students and staff and make them feel appreciated and respected (Johnson & Uline, 2005). Further research by Reynolds et al. (2017) investigated school climate and social identification as distinct predictors of academic achievement as well as social identification as a mediator of the school climate and achievement relationship. The researchers determined that three variables, parental education, socio-economic status, and school identification (connectedness, belonging, and relatedness) are significantly associated with achievement.

School Climate and Student Achievement: Survey Data Relationship to Achievement

Engaging all members of the community creates an essential foundation for successful school improvement efforts (Fullan et al., 2014). Konold & Cornell (2015) found that the use of survey scales to analyze student perceptions of school climate within schools and to compare schools using aggregated data was supported. In addition, Cohen et al., (2009) attempted to examine the relationship between school climate related research findings and educational policy, school improvement practice, and teacher education. Using historical analysis, a review of the literature, a national State Department of Education policy scan, and a national survey of building, district, and state educational leaders about school climate measurement and improvement practices, the researchers concluded that all members of a school community must work together and be transparent with their opinions of what is working and what needs to be done in the school in order to improve the school's climate (Cohen et al., 2009).

Anderson (2019) conducted a study to determine if a leader's emotional intelligence behaviors correlate with the teacher's perceptions of school climate using 200 teachers in over 4 dozen urban and suburban schools in the New York metropolitan area. Using a correlational design study, the researcher found that perceptions of a place contribute to a school's success or failure (Anderson, 2019). In addition, Reynolds et al. (2017) investigated school climate and social identification as distinct predictors of academic achievement as well as investigated social identification as a mediator of the school climate and achievement relationship. In their study of 340 Australian students in 7th through 9th grade, the researchers concluded that survey data can provide insight as to the students' feelings of connectedness to the school, which is important for students' academic success (Reynolds et al., 2017).

Maxwell et al. (2017) completed further research, guided by the "social identity approach," to investigate school identification as a possible psychological mechanism to explain the relationship between school climate and student achievement. In their study, achievement was assessed using a national literacy and numeracy tests encompassing 760 staff and 2,257 students from 17 secondary schools. The researchers found that students' perceptions of school climate significantly explain writing and numeracy achievement and this effect is mediated by students' psychological identification with the school (Maxwell et al., 2017).

In a study conducted by Kim et al. (2014), researchers used a cross-sectional data set to examine the middle school social context from the perspectives of administrators and teachers in public schools and how it relates to students' perceptions of school climate. This use of perception data found that school-level disorder and stress, along with student experiences, perceptions, and teacher training contribute to the social context in middle schools (Kim et al., 2014). O'Malley et al. (2015) added to this research while studying 902 California public high

schools, including responses from 490,000 students. Their study examined the hypothesis that school climate counteracts youth's home-school risk by examining the moderating effects of students' school climate perceptions on the relationship between family structure and academic performance. Using regression models, the researchers concluded that it is important to obtain perception data, because a focus on assessing and improving students' school climate perceptions may support academic achievement. Their research highlighted that it is especially important for at-risk youth, and students with family-level disadvantages are likely to receive less benefit from positive school climate and need more intensive social-emotional support (O'Malley et al., 2015).

Students with parents who did not complete high school and students living in poverty tend to score lower in reading and mathematics (National Center for Education Statistics, 2017). In a study conducted by Sulak in 2016, the researcher examined the predictive value of suburban school climate on academic achievement in a nationally representative sample consisting of 2,560 schools. Through multiple regression considering school size, racial composition of student body, frequency of disciplinary behaviors, and crime level where the student lives, the researcher concluded that the neighborhoods surrounding the school may also affect student achievement and school climate (Sulak, 2016). In addition, Hopson et al. (2014) conducted multilevel analysis of secondary data collected from 13,068 predominantly low-income middle school students across 43 school sites. This research found student perceptions of support within their neighborhoods contribute to academic success. These researchers also found that students get better grades and behave better when surrounded by more supportive relationships and norms that promote safe, prosocial behavior. Therefore, having surveys that include questions resulting in insights of home life and support would be beneficial.

In a study aiming to examine the association between school climate and adolescents' report of future orientation, Johnson et al. (2016) used data from 27,698 students across 58 high schools. Three-level hierarchical linear models indicated that surveys that provide insight into the lives of students outside of school are useful in documenting the students' perceptions of the availability of these emotional supports, along with rules, consequences, and parent engagement that are positively related to students' perceptions about their future (Johnson et al., 2016).

Community members are interested in supporting improvement efforts in schools. Therefore, efforts for school improvement need to engage the school community as well as the students, parents, and staff (Bryk et al., 2015). Gross et al. (2015) conducted focus groups with community partners of five schools to better understand strong community partnerships and what fosters their development. The researchers determined that partnerships are mutually beneficial and developing school-community partnerships have particularly beneficial implications for students with disabilities (Gross et al., 2015). Further research conducted on this topic using Epstein's theory and framework and drawing from 132 interviews with parents, school personnel, and community stakeholders in an urban district suggest that community partnerships also benefit students who are homeless (Pavlakis, 2015). Therefore, including survey data from members of the school community can provide an essential foundation to successful school improvement efforts and student achievement (Ice et al., 2015).

Student Survey Data

Using a diverse sample of third and fourth grade students and teachers in a large, urban district researchers investigated whether stable student and teacher characteristics and observed quality of classroom interactions influenced change in students' perceptions of interactions with the teacher. In this study, the researchers determined that student perceptions of interactions with

their teacher affect future interactions and influence students' success in school (Corbin et al., 2020). Additionally, in a multilevel study, examining the relationship between school climate and academic achievement, Kwong & Davis (2015) used a hierarchical liner model with data from 16,258 students and 1,954 schools, nationwide to complete a multilevel analysis of school climate and student outcomes. The researchers found that student-level perception of school climate – especially the student learning environment – was highly predictive of academic success in mathematics and reading standardized test scores (Kwong & Davis, 2015).

Huang et al. (2017) investigated the hypothesis that a demanding and supportive school climate, based on authoritative school climate theory, would serve as a protective factor for students living with one or no parents at home. The study utilized a statewide sample of 60,695 middle school students from 415 public schools and fixed effect regression models to conclude that student perceptions of disciplinary structure, academic demandingness, and student support all had positive associations with the student self-reported GPA (Huang et al., 2017). In addition, Hoffman et al. (2017) collected data from 3,296 middle school students to examine their school experiences so that school wide interventions could be put in place. The researchers used logistic regression analyses and found the perception data revealed academic motivation, peer relationships, and social skills were positively and significantly related to academic achievement (Hoffman et al., 2017).

Safety and respect, communication, engagement, and academic expectations all proved to be important factors that were associated with student achievement (Davis & Warner, 2018). Lee and Stankov (2018) added to the research by documenting and integrating empirical evidence of predictive validity of students' non-cognitive attribute in relation to their academic achievement. The researchers used five cycles of Student Background Questionnaire data from five cycles of

databases drawn from the Trends in International Mathematics and Science Study (TIMSS), which is administered by the International Association for the Evaluation of Educational Achievement (IEA), and the Programme for International Student Assessment (PISA), administered by the Organization for Economic Co-operation and Development. Through selection of non-cognitive variables, calculation of bivariate correlations between students' variables and achievement, and two-level Hierarchical linear modelling, the researchers found that a group of self-beliefs constructs, (particularly self-efficacy, confidence, and educational aspirations) were the best predictors of individual-level student achievement in mathematics. In addition, students' projective judgements about their own ability and future selves are important to their academic achievement (Lee and Stankov, 2018).

Maxwell (2016) examined the relation between the physical environment and academic achievement using the social climate and student attendance as mediators within 236 New York City Middle Schools. Using secondary data analyzed with structural equation modeling, he found that student perceptions of a positive school climate can foster an atmosphere of mutual respect and willingness to engage with others in meaningful activities that result in student acquisition of knowledge (Maxwell, 2016). Other research conducted by Girard & Lemoyne (2018) based on the achievement goal theory aimed to verify if the relationship between student-perceived motivational climate and student achievement goals differ by teacher-induced climate in physical education. Using multigroup invariance analysis with 651 French Canadian students and 23 PE teachers (in three clusters) the researchers found that despite disparities between students' and teachers' perceptions, the teacher-induced climate seems to play a role in students' goal adoption (Girard & Lemoyne, 2018).

In addition, Sandilos et al. (2017) examined the relation between students' perceptions of warm demander characteristics and achievement growth in fourth and fifth grades. Using regression models with all data aggregated to the classroom level for students of 634 teachers, the researchers concluded that students' perceptions of teachers' demand (challenge and control) is related to student achievement growth, and there is a stronger relation between challenge and academic growth in classrooms with more African American students (Sandilos et al., 2017).

Administrator/Teacher/Staff Survey Data

Allen et al., (2015) conducted a study to examine the relationship between transformational leadership, school climate, and student mathematics and reading achievement. Their study used hierarchical linear modeling and one-way ANOVA with random effects models, along with Pearson's product moment correlations and simple linear regression to analyze data from elementary principals from six campuses and 55 total teachers working within those six schools. The researchers found that there is a positive relationship between transformational leadership and school climate. However, a relationship was not found to exist between transformational leadership and student achievement nor between school climate and student achievement, suggesting that teacher's perceptions of overall climate of the campus does not influence student achievement (Allen et. al, 2015). In contrast, in a study performed by Arens & Morin (2016) to examine the relations between 380 teachers' emotional exhaustion and educational outcomes among their 7,899 4th grade students, the researchers found there is a direct negative relationship between teachers' emotional exhaustion and the class average of students' grades, standardized achievement test scores, school satisfaction, and perceptions of teacher support.

To identify the correlation between students' perception of their school climate, their teachers' academic optimism, and how these two factors affect overall academic engagement among students, Bakhshaee & Hejazi (2017) used two-level hierarchal linear modeling with data collected from 1,200 female students and 48 teachers. The researchers found that perceptions of teachers' support and perception of student's autonomy have significant impact on the students' academic engagement (Bakhshaee & Hejazi, 2017). In addition, academic support demonstrated the strongest effect size among both middle and high school students (Daily et al., 2019). Further research conducted by Lindahl used a quantitative design using data from the Alabama Department of Education to explore the extent to which school climate, school safety, and student socio-economic variable helped to predict student performance on standardized examinations in Alabama's public schools serving eighth grade students. Using data from teachers and students in 357 Alabama public schools for the 2010 – 2011 school year, he found that teachers' perceptions of their school's climate and culture was the second strongest predictor of standardized test scores in reading and mathematics (Lindahl, 2014).

Blank & Shavit (2016) conducted a study to determine the association between student reports of classmates' disruptive behavior and student achievement. Random intercept models in which the effects of all variables were fixed with restricted maximum likelihood estimation along with mixed model analysis for 2,422 students in 181 classrooms at 61 nonreligious Jewish schools in Israel. The researchers found that, in contrast to administrator attitudes in the above study, teachers' attitudes and school disciplinary policy were insignificant on student test scores (Blank & Shavit, 2016).

Darmody & Smyth (2016) conducted a study of primary school principals in 898 schools in Ireland to explore the factors associated with occupational stress and job satisfaction. The

researchers found through regression analysis that job satisfaction and occupational stress are related to a complex set of personal characteristics, working conditions, school context, and teacher climate. In addition, in a study conducted by Aldridge & Fraser (2016), the researchers assessed six school climate factors that could be considered important for improving schools in 781 Western Australian high-school teachers in 29 schools and found that teacher self-efficacy and job satisfaction were both related to school climate dimensions and there was a relationship between the two.

Dicke et. al, (2018) conducted a study to evaluate a widely used self-report measure covering multiple psychosocial factors identified by leading occupational stress theories. The researchers evaluated the instrument regarding factor structure and longitudinal, discriminant, and convergent validity using latent structural equation modeling in a sample of 2,049 Australian school principals. As a result of the study, the researchers believe it is crucial to identify psychosocial risk factors that reflect principals' occupational wellbeing and found that stressors and depression were related to demands and ill-being, while confidence and autonomy were related to wellbeing. In addition, it is important to identify factors contributing to a principal's wellbeing because they also effect teacher's and student's wellbeing and achievement (Dicke et. al, 2018).

In a study to examine the structure and relationship of teachers' job satisfaction and principals' job satisfactions as they relate to disciplinary climate and student achievement, Dicke et al. (2019) used structural equation modeling using multilevel bifactor models for data from 142,280 teachers and 8,869 principals. The researchers determined that working environment job satisfaction was positively related to student achievement for both teachers and principals. Other research by Moore Jr. et al. (2016) used one-way analysis of variance (ANOVA) for survey data

from 93 teachers in a rural district in Georgia to determine whether a difference exists between teachers' perception of principals as instructional leasers and student academic achievement in elementary schools. The researcher found that principals at higher achieving schools are perceived to be more consistent and stronger instructional leaders by their staff than those at schools with lower achievement; specifically, the perception that principals manage the instructional program and develop the school learning climate more effectively is higher in better performing schools (Moore Jr. et al., 2016).

Parent Survey Data

Parent and teacher perceptions of school climate were significant; however, student perceptions of school climate were not (Davis & Warner, 2018). Choe (2020) set out to study inconsistencies in parents' and adolescents' reports of parental support, and how each report influences on academic achievement and self-regulated learning. In this study, the researcher used a t-test and ANOVA with data from 6.30 adolescents in 7th grade and their parents and found that adolescents' report of parental support is more associated with higher adolescent academic performance and outcomes as compared to parents' report of support (Choe, 2020).

Additionally, Gage et al. (2016) attempted to identify classes of students based on risk status for school-based behavioral difficulties and specific facets of school climate that are predictive of decreased risk. The researchers explored academic, social, and behavioral profiles and demographic profiles to discuss implications for practice and research and completed a school survey with 3,797 students from 8 elementary schools, 2 middle schools, and 2 high schools. Through latent class regression modeling conducted at the item level, the researchers concluded that schools should connect with parents so that parents can provide additional support. More communication and collaboration among parents, teachers, and staff appears to be

a critical factor that may predict success, especially in lower socioeconomic schools (McCoach et al., 2010).

Factors Related to School Climate and Student Achievement: Discipline Data Relationship to Achievement

In a study to estimate the contribution of classroom and school disciplinary infractions on eighth grade student test scores, reports of disruptive behavior correlated negatively with test scores, and a disruptive classroom climate can hinder the learning process and lower the achievement of the entire class (Blank & Shavit, 2016). In addition, Evensen (2019), using a population-based Norwegian health survey, matched with administrative data set out to examine the relationship between mental health problems and grade achievement. Around 8,200 adolescents aged 12 – 19 years completed a questionnaire with a 78% response rate, and students' GPA achievement data was collected. The researcher used a baseline linear school fixed-effects model to show a major negative influence of attention problems and conduct problems on average grade achievement (Evensen, 2019).

Ripski & Gregory (2009) used a national data set, Education Longitudinal Study of 2002, to examine three dimensions of 10th grade school climate (unfairness, hostility, and victimization) as predictors of teacher-perceived student engagement and achievement in reading and mathematics. The researchers concluded that, at the school level, perceptions of school wide hostility predicted lower engagement and reading achievement (Ripski & Gregory, 2009). Lee and Stankov (2018) found that, next to students' self-beliefs constructs, school climate (feeling of school safety and disciplinary culture) was the second highest predictor of student achievement in mathematics.

Two key dimensions of school climate are structure and support (Konold & Cornell, 2015). Gage et al. (2016) reinforced the notion that students need positive support by finding that teachers who provide consistent and regular positive reinforcement to their students are more likely to decrease office discipline referrals and increase school climate. Other research by Konold & Cornell (2015) investigates the authoritative school climate model as a framework for measuring and testing relations among key elements of school climate at the high school level. The researchers used multilevel, multivariate structural modeling for data from 48,027 students in 323 public high schools in Virginia that completed an Authoritative School Climate Survey. The researchers concluded that disciplinary structure and academic expectations, combined with respect for students and willingness to seek help, were positively associated with higher student engagement and lower peer aggression at the individual and school levels (Konold & Cornell, 2015).

Safe and Substance-Free Learning Environment Data Relationship to Achievement

To examine whether specific types of peer victimization were associated with a range of educational outcomes for students with Autism Spectrum Disorder, Adams et al, (2016) conducted multiple regressions and logistic regressions from 1,221 adolescents from the Interactive Autism Network and 54 adolescent males recruited from a clinic registry. The researchers found that in addition to improving overall well-being of students with Autism Spectrum Disorder, reducing peer victimization could have positive effects on educational performance of these students. Peer victimizations was associated with educational outcomes, such as enjoying school, fearing school/feeling safe at school, and some measures of academic achievement (Adams et al., 2016). Research conducted by Gardella et al. (2016), in an attempt to explore the potential mechanisms underlying the relationship between multiple victimizations

and adolescents' academic performance, discovered that adolescents who experienced multiple victimization reported significantly lower academic performance and this relationship was partially mediated by absenteeism. Their research, which utilized linear models and path analysis models with data from 5,930 12 – 18 year olds from a national sample collected through the School Crime Supplement to the National Crime Victimization Survey, also found that multiple victimization was harmful for adolescents' academic success when they avoided or skipped school (Gardella et al., 2016).

Konishi et al. (2017) examined the relationship between student reports of bullying and difference dimensions of school climate. Participants were surveyed and contextual effects models in a multilevel modeling framework was used for data from 48,874 students from 76 secondary school in Western Canada. The researcher found significant associations for student perceptions of all school climate dimensions (safety, support, responsiveness, diversity acceptance, autonomy, discipline, and opportunities) in relation to bullying; however, the level of peer support, discipline practices, and school safety were the most significant predictor of bullying (Konishi et al., 2017). Further research by Mundy et al. (2017) attempted to quantify the cross-sectional associations between peer victimization and academic performance. Using chi-square tests and multilevel mixed effects linear regression models for data from 1,239 3rd grade students in metropolitan Melbourne, Australia, the researchers found that there are growing reasons for education systems to invest in prevention of bullying and promotion of peer relationships. Physically victimized students were 6 to 9 months behind their non-victimized peers in regards to their academic performance, and girls who experienced verbal victimization scored poorer than their non-victimized peers in all academic domains, excluding numeracy (Mundy et al., 2017).

Lacey et al. (2017) examined the relations between the school wide prevalence of teasing and bullying and school wide academic performance, along with the mediating effects of student engagement using a three-step sequence of path models for 271 Virginia middle schools. The researchers found that higher levels of both teacher and student perceptions of school wide teasing and bullying were significantly associated with lower achievement pass rates and student engagement, and findings bring new support for the need for school wide interventions to reduce teasing and bullying among middle school students in order to increase test scores (Lacey et al., 2017).

Kraft et al. (2016) studied the relationship between school organizational contexts, teacher turnover, and student achievement using factor analysis to construct four distinct dimensions of school climate and data from New York City Middle School captured by the annual NYC School Survey. The researchers found that increases in school safety and academic expectations can also correspond with student achievement gains in all areas. In addition to safety within the building, Maxwell (2016) found a link between the physical condition of the building and the social environment within it, and concluded they both play a role in encouraging student attendance, learning, and achievement. Further research conducted by Dutta and Sahney (2016) examined the role of teacher job satisfaction and school climate in mediating the relative effects of principals' instructional and transformational leadership practices on student outcomes. The researchers used path modeling to validate a mediated-effects model using cross-sectional survey data from 306 secondary school in two Indian metropolitan cities of New Delhi and Kolkata to conclude that physical climate also appeared to play a strong role in mediating the instructional leadership effects on teacher job satisfaction (Dutta & Sahney, 2016).

Gardella et al. (2016) found that both metal detectors and security guards moderated the relationship between multiple victimization and absenteeism, and Kwong & Davis (2015) found that reducing high levels of institutional surveillance mitigates socioeconomic inequalities. Institutional facilities have a negative impact on student achievement and higher levels of institutional surveillance negatively affect the positive effects that student perceptions of safety and their learning environments had on student success (Kwong & Davis, 2015).

In addition, Tanner-Smith & Fisher's (2016) research sought to address identified gaps in the literature by examining whether and how schools' utilization patterns of security personnel, cameras, and metal detectors are associated with adolescents' academic outcomes. Using ordinary least squares and logistic and negative binomial regression models to predict the continuous, binary, and non-negative outcomes with data from 38,707 students in 10,340 schools completing the School Crime Supplement to the National Crime Victimization Survey, the researchers found that the results provided no evidence that visible security measures had consistent beneficial effects on adolescents' academic outcomes.

Attendance Data Relationship to Achievement

Lacoe & Steinberg (2018) conducted a study using a difference-in-differences approach following a Philadelphia reform of its discipline policies to limit suspensions for nonviolent student misconduct and granted principals greater discretion in responding to serious offenses in misconduct. The researchers found that truancy rates increased and district mathematics and English language arts achievement declined following the policy reform, and suggested that policymakers and practitioners utilize their findings to consider the implications of district-level reforms for suspension usage and the potential consequences on student outcomes (Lacoe & Steinberg, 2018).

Demir and Akman Karabeyoglu (2016) set out to investigate the effect of individual, family, and school variables on absenteeism among high school students. In a study utilizing hierarchical structural equation modeling with survey data from 581 students in grades $9^{th} - 11^{th}$ from secondary schools in Burdur, the researchers collected information grouped into five sections: personal information, causes of absenteeism, school commitment, quality of school environment, and parental control. Their research findings suggested that improved attendance is a direct indicator, rather than determinant of students' academic achievement.

Hancock et al. (2017) utilized multivariate multi-level modeling methods to estimate numeracy, writing, and reading outcomes based on school absence, and interactions between levels of absence and school socioeconomic index, prior achievement, gender, ethnicity, language background, parent education and occupation status for 89,365 Year 5, 7, and 9 students attending schools in Western Australia. The researchers concluded that the effects of absence on achievement was greater for previously high-achieving students. However, school attendance should be a priority for all schools, and not just those with high rates of absence or low average achievement (Hancock et al., 2017). In a follow up study, specifically focusing on Year 9 students, the researchers examined the different reasons contributing to school absence, how common the reasons are, and the extent to which different types of absences are differentially associated with achievement. The researchers found that only some reasons for absences (ex. family caring responsibilities, illness, stress, anxiety, or depression) were problematic for achievement outcomes, and schools should approach absences in two ways: 1) prevent avoidable absences; and 2) use mitigation strategies when avoidable and unavoidable absences occur (Hancock et al., 2018).

Using School Climate to Lead Change

In a review of 69 studies, Marzano et al. (2005) found that principal leadership has a correlation of .25 with average student achievement in a school, therefore, the actions of the principal in a school have a moderate but significant relationship with average student achievement (Marzano et al., 2005). Kraft et al. (2016) studied the relationship between school organizational contexts, teacher turnover, and student achievement for New York City Middle Schools using the data captured by the annual New York City School Survey. Using factor analysis to construct four distinct dimensions of school climate, the researchers determined that improvements in school leadership along with academic expectations, teacher relationships, and school safety are all independently associated with reductions in teacher turnover (Kraft et al., 2016).

In addition, Shindler et al. (2016) examined the relationship between the school climate and student achievement rating in urban districts in five states. The researchers administered the Alliance for the Study of School Climate (ASSC) School Climate Assessment Instrument (SCAI) and correlated using Pearson's r to the Academic Performance Index (API) and Similar School Ratings (SIM) scores provided by each state for 230 schools, and concluded that the use of practices that promote a psychology of success lead to greater achievement and higher quality climate, as opposed to a psychology of failure, which leads to underperformance (Shindler et al., 2016).

Cohen et al. (2009) suggested that all stakeholders must have the following skills and dispositions to participate in a democracy type school environment that may elicit positive change to include: ability to listen to themselves and others, to be critical and reflective, to be flexible problem solvers and decision makers, to be communicative and to be collaborative.

Therefore, according to Ice et al. (2015) in their research study to better understand community members' perceptions of school climate and their level of interest in working with schools to improve it, schools and community members should also collaborate to determine ways for them to work together to support school improvement efforts (Ice et al., 2015).

Chapter Summary

This chapter provided an overview of the research regarding the relationship between school climate and student achievement. This chapter began by discussing Waters et al. (2003) balanced leadership framework and the different leadership responsibilities utilized in this study. The literature examined and expanded upon the topics of the relationship between school climate and student achievement, the perception of school climate and student achievement, the factor related to school climate and student achievement, and the promotion of a positive school climate to lead change.

CHAPTER THREE

METHODOLOGY

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

Research Design

While research over the last 20 years related to school climate and student achievement has been extensive, limited research has been completed on Georgia's school accountability measures. School administrators and district leaders are charged with making data-driven decisions each year, and further research into the relationship of school climate to student achievement utilizing CCRPI data can assist leaders in making informed decisions that will positively impact their students' achievement. As such, this study intended to quantitatively analyze student achievement and the corresponding school climate ratings for middle schools in the state of Georgia. Using archival data obtained from the CCRPI reporting from the Georgia Department of Education, this study sought to address the following equally weighted research questions: 1. What is the relationship between the Survey Data component, Discipline Data component, Safe and Substance-Free Learning Environment component, and the Attendance component of the School Climate Domain from Georgia's School Climate Rating and the Content Mastery Score within the CCRPI student achievement data for middle schools in the State of Georgia?; 2. What is the relationship between the Survey Data component, Discipline Data component, Safe and Substance-Free Learning Environment component, and the Attendance component of the School Climate Domain from Georgia's School Climate Rating

and the Closing Gaps Score within CCRPI student achievement data for middle schools in the

State of Georgia?; 3. To what degree do relationships exists between the Content Mastery Score

within the CCRPI for middle schools in the State of Georgia and the Survey Data component,

Discipline Data component, Safe and Substance-Free Learning Environment component, and the

Attendance component of the School Climate Domain from Georgia's School Climate Rating?;

and 4. To what degree do relationships exists between the Closing Gaps Score within CCRPI for

middle schools in the State of Georgia and the Survey Data component, Discipline Data

component, Safe and Substance-Free Learning Environment component, and the Attendance

component of the School Climate Domain from Georgia's School Climate Rating?

In reviewing the research, studies have been conducted using both qualitative and

quantitative research design to study school climate as related to student achievement. These

research studies do show a correlation between school climate and student achievement.

However, at this point, limited research is available that examines the specific areas of school

climate based on Georgia's CCRPI School Climate Rating and how data correlate to student

achievement. Therefore, this study examined the relationships of each of these areas of student

achievement for traditional middle schools in Georgia. As this study used archival data from

Georgia's CCRPI database, the research design is a quantitative approach.

Population

This is a study based on archival data, and therefore, there are no participants per se. The

research setting for this study is middle schools with the traditional structure (Grades 6 – 8) in

the State of Georgia. Georgia's School Accountability Measure (CCRPI) is available as a public

data set. This measure has both achievement data and school climate data, representing each

public school in the state. The data were available to this researcher for use in the study on the

public Georgia Department of Education website. The sample consisted of approximately 415,000 students in 414 middle schools with the traditional grade level configuration, serving sixth, seventh, and eighth grade in the State of Georgia during the 2018 - 2019 school year. Of the total population, there are approximately 145,000 White, 138,000 Black, 65,000 Hispanic, 14,000 Asian, and 10,000 Multiracial students. American Indian and Pacific Islander students were not reported in the state demographic data, as there were less than 15 students at each middle school.

The National Center for Education Statistics classifies all territory in the United States into four types: Rural, Town, Suburban, and City. Using these classifications, 17 Georgia school districts were classified as city schools, 120 were classified as rural schools, 18 were classified as Suburban, and 38 were classified as Towns. Each of these districts had middle schools in this sample.

Instrument

The researcher recorded archival data from the Content Mastery Score and the Closing Gaps Score within the achievement data information as the dependent variable and archival data for the scores in each of the four domain categories (Survey Score, Student Discipline Score, Safe and Substance-Free Learning Environment Score, and School Wide Attendance Score) within the overall School Climate Rating as the independent variables for each middle school using the 2019 Georgia CCRPI public use data set. Climate Star Ratings were not taken into consideration because the stars can be skewed based on the school's bonus points earned through the implementation of certain programs.

The numerical Final Score on Georgia's CCRPI School Climate Rating is on a scale of zero to 100 and is a compilation of data from 14 key components, each of which is also rated on

a scale of one to 100. The components are divided into four key categories to include: the Survey Score, the Student Discipline Score, the Safe and Substance-Free Learning Environment Score, and the School Wide Attendance Score. Components within the Survey Score include: Student Response on the Georgia Student Health Survey 2.0; Teacher/Staff/Administrator response on the Georgia School Personnel Survey; and Parent Response on the Georgia Parent Survey. The Student Discipline Score is derived from the school's Weighted Suspension Rate. This is based on the number of students In School Suspensions and Out of School Suspensions, along with the number of expulsions and alternative school placements for any students who should be attending the school during that school year. The Safe and Substance-Free Learning Environment Score includes data from the following categories: Student Drug Related Incidents, Violent Incidents Bullying and Harassment Incidents as well as surveys related to Student Drug Related Incidents, Violent Incidents, and Bullying and Harassment Incidents. This is a compilation of data collected on student drug related incidents, violent incidents, and bullying and harassment incidents pulled from the school's Student Information System (SIS), along with survey data coming from the above-mentioned Georgia Student Health Survey 2.0. The School Wide Attendance Score to include: Student Attendance, Average Daily Personnel Attendance, Average Daily Administrator Attendance, and Average Daily Staff Attendance. Since the four domain categories are an average of the components within the category, each of them are also on a scale of one to 100. There are also two components, Personalized Climate and Unsafe School Choice Option, which provide additional considerations and may make possible adjustments to a school's overall climate score (GaDOE, 2019).

The CCRPI Content Mastery component score is on a scale of one to 100 and makes up 30% of a school's overall CCRPI score. The Content Mastery Score attempts to measure if

students are achieving at the level necessary to be prepared for the next grade, college, or career. The component includes achievement scores from the four core subject areas: English Language Arts (ELA), mathematics, science, and social studies. These scores are based on student performance on the Georgia Milestones Assessment System (GMAS) and the Georgia Alternate Assessment (GAA). The score for each core subject area utilizes weights based on the achievement level for each student. Beginning Learners earn zero points, Developing Learners earn 0.5 points, Proficient Learners earn 1.0 point, and Distinguished Learners earn 1.5 points. Content areas for elementary, middle, and high schools are weighted based on the number of state tests administered within each grade band. For elementary and middle schools, this means that ELA and mathematics are weighted more than science and social studies because only fifth grade and eight grade take the science and social studies tests. Therefore, ELA and mathematics each account for 37.5% of the school's total Content Mastery score, while science and social studies each account for 12.5%. Full Academic Year (FAY) is utilized to determine if a student's score is included in a school's calculation. FAY students are those that were enrolled at least 65% of the number of days from that school's start date to the close of the state testing window (GaDOE, 2018-a).

CCRPI Improvement Targets are set for each school and defined as 3% of the gap between a baseline and 100%. Each year, schools are expected to meet or exceed the improvement target based on the prior year's performance. This target is an expected gain and gives schools a fresh start from year to year to focus on continuous improvement. Only academic achievement targets are utilized for points in the Closing Gaps component of CCRPI. Once a school attains a performance rate of 90%, the target will be to remain at or above that level of performance. These targets are reset every five years, and the next reset will utilize the 2022 data

as the baseline data. Points are awarded to each school for the Closing Gaps score as follows: 0

points when no improvement is made, 0.5 points when improvement is made but the target is not

met, and 1 point is awarded when the target is met. Six percent targets are additionally set for

achievement rates for Economically Disadvantaged, English Learners, and Students with

Disabilities subgroups, and when these targets are met, 1.5 points are awarded (GaDOE, 2018-c).

Data Collection

As mentioned previously, the data analyzed were archival data from the 2018 and 2019

Georgia CCRPI public data set. All aspects of the data collection are managed by the state

Department of Education and local educational agencies. The researcher used the list obtained

from the public use data to identify every school with a sixth through eighth-grade traditional

configuration in Georgia. This list of 432 middle schools established the sample group used in

this study. Of these 18 schools were eliminated from the sample group for various reasons,

leaving 414 schools in the data set. School Climate Scores were obtained from the public use

data set for each of the remaining 414 schools with a traditional configuration. The researcher

retrieved the scores by accessing the CCRPI reports for each middle school and recorded the

score in a spreadsheet. As these data are a part of the public record, no permission was needed to

obtain these records.

Because all data were recorded from the Georgia Department of Education (GaDOE),

reliability is strong. The GaDOE uses a consistent collection process from schools in Georgia

through the school's assessment department, as a result of state testing and survey distribution.

Intrinsically, the procedures in this study can be repeated from year-to-year or for other grade

bands. Due to COVID, new data has not been released since 2019, so the archival data from the

two most recent data sets were used. In addition, due to frequent changes in the states

accountability system, longitudinal data would be difficult to compare because it may not

represent the same measure. Therefore, only two years of data were utilized for this study.

Data Analysis

The data collected were entered as five separate variables within the International

Business Machines (IBM®) Statistical Package for the Social Sciences (SPSS®) Software.

Descriptive statistics were calculated for the numerical scores for each of the four domain

components of school climate as well as the numeric Content Mastery Score (i.e., mean, median,

mode, minimum, maximum, standard deviation, skewness, and kurtosis). The mean is the total of

the score divided by the number of scores. This shows the average for each component within

the data set. The median divides the scores, rank-ordered from top to bottom, in half. Fifty

percent of the scores lie above the median and 50% lie below. The mode is the score in the data

set that appear most frequently. This displays the most common score for each variable in the

data set. The range is the difference between the highest and the lowest scores within each

component in the data set. The variance indicates the dispersion of scores around the mean and

the standard deviation is the square root of the variance. This is useful information, as it indicates

the dispersion of the scores for each component. Skewness and kurtosis also were ran, and can be

used to compare the data set to a normal distribution. Skewness for a normal distribution would

be zero, so negative values for skewness indicate that the data is skewed to the left and positive

values of skewness indicate that data is skewed to the right. Kurtosis is a measure of whether the

data are heavy-tailed or light-tailed relative to a normal distribution. Higher kurtosis represents

data sets that have heavy tails, while low kurtosis tend to have light tails or lack of outliers

(Creswell, 2018). Pearson's *r* correlation was used to determine the magnitude and direction of

either a positive or negative association between the four components of the 2018 and 2019

school climate rating and the 2018 and 2019 Content Mastery Score (Creswell, 2018). Then, the

same was done for the 2018 and 2019 Closing Gaps Score and each of the four domain

components of the 2018 and 2019 school climate ratings. Correlation analysis is a statistical

method used to measure the strength and direction of the linear relationship between two

variables. Correlation coefficients closer to -1.00 or 1.00 indicate a linear association between

the two variables. Negative coefficients represent a negative linear relationship (where low

scores on one variable indicated high scores on the other) and positive coefficients represent a

positive linear relationship (where high scores on one variable indicated high scores on the

other). Coefficients closer to zero indicate no linear association (Creswell, 2018). Pearson's r

correlation was used to determine the magnitude and direction of either positive or negative

associations between the four components of school climate and the Closing Gaps Score.

According to Creswell (2018), Pearson's r correlation is appropriate because it seeks to

determine if there is a relationship between two variables and the data functions/presents as

interval data even though some data points are coming from "surveys". Quantitative data

analysis was conducted for the Pearson's r correlation test using four correlation coefficients and

a two-tailed test of significance with an alpha level set at .01 to answer the research questions: 1.

What is the relationship between the Survey Data component, Discipline Data component, Safe

and Substance-Free Learning Environment component, and the Attendance component of the

School Climate Domain from Georgia's School Climate Rating and the Content Mastery Score

within the CCRPI student achievement data for middle schools in the State of Georgia?; 2. What

is the relationship between the Survey Data component, Discipline Data component, Safe and

Substance-Free Learning Environment component, and the Attendance component of the School

Climate Domain from Georgia's School Climate Rating and the Closing Gaps Score within

CCRPI student achievement data for middle schools in the State of Georgia?

Subsequently, multiple regression analysis was conducted on the four school climate

variables exploring their relationship and influence with student achievement to answer the

following research questions: 3. To what degree do relationships exist between the Content

Mastery Score within the CCRPI for middle schools in the State of Georgia and the Survey Data

component, Discipline Data component, Safe and Substance-Free Learning Environment

component, and the Attendance component of the School Climate Domain from Georgia's

School Climate Rating?; and 4. To what degree do relationships exist between the Closing Gaps

Score within CCRPI for middle schools in the State of Georgia and the Survey Data component,

Discipline Data component, Safe and Substance-Free Learning Environment component, and the

Attendance component of the School Climate Domain from Georgia's School Climate Rating?

Multiple regression is a statistical procedure for examining the combined relationship of multiple

independent variables with a single dependent variable (Creswell, 2018). The variation in the

dependent variable is explained by the variance of each independent variable, as well as the

combined effect of all independent variables, designated by R^2 (Creswell, 2018). In this research,

multiple regression helps to determine a mathematical relationship among the different variables

of the school climate component and the dependent variable, Content Mastery. Regression tables

below show the overall amount of variance explained (R^2) and the regression weight (the amount

of contribution of each variable controlling for the variance of all other variables, beta, for each

variable). The beta coefficient indicates the magnitude of prediction and identifies the strength of

the relationship of a predictor variable of the outcomes (Creswell, 2018). Unstandardized Beta

Coefficients were used in this study, due to the scale of each variable being the same (0-100).

Beta Coefficients that are positive represent positive relationships between the dependent and independent variables, such that an increase of 1.0 in the independent variable represents an increase of the dependent variable. To note, the t scores are also shown, which is the beta coefficient divided by the standard error, to show if there is a statistically significant relationship between the independent and dependent variable. In addition, the significance level of the overall F of the model shows if the model allows prediction of the dependent variable using independent variables (Creswell, 2018). Multiple regression analysis allowed for the researcher to analyze the relative influences of these independent variables on the dependent variable (Creswell, 2018). The data were disseminated in tables.

Chapter Summary

This study was a quantitative research design intended to analyze the relationship between school climate and student achievement using archival data from Georgia's state accountability measure CCRPI. CCRPI measures many areas of student achievement along with four areas of school climate. Data were obtained through a public use data set from the 2018 and 2019 Georgia CCRPI reports. The chapter began by restating the problem, as well as the purpose statement and research questions. This chapter also described the quantitative approach used in this study, as well as research design, participants, data collection, and research analysis. This research is intended to add to the existing research on the correlation between school climate and student achievement.

CHAPTER FOUR

RESULTS

This chapter includes an overview of the purpose of the study, a reiteration of the research questions, and an overview of the research methodology applied by the researcher. Each of the four equally weighted research questions are addressed through data tables and narrative discussion of the findings. The chapter concludes with a summary of results and findings, providing the basis for further discussion and implications for future research.

The State of Georgia's College and Career Ready Performance Index (CCRPI) contains many different data points that relate to a school's academic achievement and school climate. The Content Mastery score for middle schools is a combination of a school's English Language Arts and Mathematics achievement data for 6th, 7th, and 8th grade students, along with the Science and Social Studies data for 8th grade. The overall school climate score is a combination of the survey, discipline, safe and substance-free learning environment, and attendance components. While these data sets are often studied independently, very little research has been conducted to determine the correlation between the climate scores and achievement scores for middle schools across Georgia.

This study sought to better understand the relationship between the different components of school climate and the student achievement for middle schools across Georgia. This quantitative study based on a two sets of archival data from the 2018 and 2019 CCRPI, sought to examine the magnitude and direction of either positive or negative association between the four components of school climate and the Content Mastery Score (Creswell, 2018). Then, the same was done for the Closing Gaps Score and each of the four domain components of school climate. Pearson's r correlation was used to determine the magnitude and direction of either positive or

negative association between the four components of school climate and the Closing Gaps Score (Creswell, 2018). According to Creswell (2018), correlation is appropriate, because it seeks to determine if there is a relationship between two variables.

Quantitative data analysis was conducted for the Pearson's *r* correlation test using four correlation coefficients and a two-tailed test of significance with an alpha level set at .01 to answer the research questions: 1. What is the relationship between the Survey Data component, Discipline Data component, Safe and Substance-Free Learning Environment component, and the Attendance component of the School Climate Domain from Georgia's School Climate Rating and the Content Mastery Score within the CCRPI student achievement data for middle schools in the State of Georgia?; and 2. What is the relationship between the Survey Data component, Discipline Data component, Safe and Substance-Free Learning Environment component, and the Attendance component of the School Climate Domain from Georgia's School Climate Rating and the Closing Gaps Score within CCRPI student achievement data for middle schools in the State of Georgia?;

Subsequently, multiple regression analysis was conducted on the four school climate variables exploring their relationship and influence with student achievement to answer the following research questions: 3. To what degree do relationships exists between the Content Mastery Score within the CCRPI for middle schools in the State of Georgia and the Survey Data component, Discipline Data component, Safe and Substance-Free Learning Environment component, and the Attendance component of the School Climate Domain from Georgia's School Climate Rating?; and 4. To what degree do relationships exists between the Closing Gaps Score within CCRPI for middle schools in the State of Georgia and the Survey Data component, Discipline Data component, Safe and Substance-Free Learning Environment component, and the

Attendance component of the School Climate Domain from Georgia's School Climate Rating?

Multiple regression analysis allowed the researcher to analyze the relative influences of these

independent variables on the dependent variable (Creswell, 2018).

Research Findings

The four school climate components, the Content Mastery Score and the Closing the

Gaps scores from 2018 and 2019 were retrieved from the Georgia Department of Education

website for all the traditionally configured middle schools in the State of Georgia. There were

414 schools included in the study.

Descriptive Statistics

The following descriptive statistics were used for this study: Mean, Median, Mode,

Range, Standard Deviation, Variance, Skewness, and Kurtosis. The mean is the total of the score

divided by the number of scores. This will show the average for each component within the data

set. The median divides the scores, rank-ordered from top to bottom, in half. Fifty percent of the

scores lie above the median and 50% lie below. The mode is the score in the data set that appear

most frequently. This will display the most common score for each variable in the data set. The

range is the difference between the highest and the lowest scores within each component in the

data set. The variance indicates the dispersion of scores around the mean and the standard

deviation is the square root of the variance. This is useful information, as it indicates the

dispersion of the scores for each component. Skewness and kurtosis also are shown and can be

used to compare the data set to a normal distribution. Skewness for a normal distribution would

be zero, so negative values for skewness indicate that the data is skewed to the left and positive

values of skewness indicate that data is skewed to the right. Kurtosis is a measure of whether the

data are heavy-tailed or light-tailed relative to a normal distribution. Higher kurtosis represents

data sets that have heavy tails, while low kurtosis tend to have light tails or lack of outliers (Creswell, 2018).

The skewness and kurtosis in this data set for the 2018 and 2019 Discipline and Attendance Scores were outside of the typical limits of absolute value of + or − 1. Since it occurred in both year's data sets for the same components, this may show something about how the data is collected and recorded. Because the skewness and kurtosis were within tolerable limits for each of these measures and reviewing measures of central tendency, the researcher was confident to proceed forward with the analysis.

2018 Descriptive Statistics

The scale for all data points collected from the 2018 data set was 0 – 100. The mean for 2018 Content Mastery was 61.83, the median was 60.55, the mode was 69.50, and the range was 78.80. The mean for the 2018 Closing the Gaps score was 61.76, the median was 63.50, the mode was 100.00, and the range was 100.00. The 2018 school climate component is broken down into four parts. The mean for the Survey Score was 75.26, the median was 75.68, the mode was 67.98, and the range was 33.75. The mean for the Discipline Score was 77.38, the median was 80.46, the mode was 80.44, and the range was 98.60. The mean for the Safe and Substance-Free Environment Score was 88.50, the median was 88.73, the mode was 87.18, and the range was 18.51. The mean for the Attendance Score was 94.46, the median was 94.55, the mode was 95.03, and the range was 17.03. These descriptive statistics are displayed in Table 1 below. The sample size for the data set was 414.

Table 1

Descriptive Statistics for 2018 CCRPI Data Set

	Content Mastery	Closing Gaps	Survey Score	Discipline Score	S & S-F Score	Attendance Score
Mean	61.83	61.76	75.26	77.38	88.50	94.46
Median	60.55	63.50	75.68	80.46	88.73	94.55
Mode	69.50	100.00	67.98[a]	80.44[a]	87.18	95.03
Std. Deviation	18.31	24.25	5.06	15.15	2.93	1.86
Variance	335.54	587.83	25.65	229.61	8.59	3.45
Skewness	.13	-.27	-.41	-1.75	-.51	-1.30
Kurtosis	-.56	-.72	.44	4.72	.363	4.89
Range	78.80	100.00	33.75	98.60	18.51	17.03

Note. n=414; a. Multiple modes exist. The smallest value is shown

2019 Descriptive Statistics

The scale for all data points collected from the 2019 data set was 0 – 100. The mean for

the 2019 Content Mastery Score was 64.39, the median was 63.65, the mode was 100, and the

range was 81. The mean for the 2019 Closing the Gaps score was 69.18, the median was 71.20,

the mode was 100, and the range was 100. The 2019 school climate component is broken down

into four parts. The mean for the Survey Score was 75.46, the median was 75.53, the mode was

72.76, and the range was 31.49. The mean for the Discipline Score was 76.70, the median was

79.16, the mode was 76.37, and the range was 98.43. The mean for the Safe and Substance-Free

Learning Environment Score was 88.10, the median was 88.52, the mode was 88.33, and the

range was 20.06. The mean for the Attendance Score was 94.50, the median was 94.61, the mode

was 94.37, and the range was 15.13. These descriptive statistics are displayed in Table 2 below.

The sample size for the data set is was 414, due to the schools presenting as outliers being

removed.

Table 2

Descriptive Statistics for 2019 CCRPI Data Set

	Content Mastery	Closing Gaps	Survey Score	Discipline Score	S & S-F Score	Attendance Score
Mean	64.39	69.18	75.46	76.70	88.10	94.50
Median	63.65	71.20	75.53	79.16	88.52	94.61
Mode	100.00	100.00	72.76	76.37[a]	88.33	94.37[a]
Std. Deviation	18.50	23.51	5.20	14.69	2.90	1.83
Variance	342.13	552.49	27.08	215.90	8.43	3.35
Skewness	.05	-.51	-.11	-1.68	-.55	-1.07
Kurtosis	-.64	-.52	.13	4.69	.68	3.38
Range	81.00	100.00	31.49	98.43	20.06	15.13

Note. n=414; a. Multiple modes exist. The smallest value is shown

Following the descriptive statistics, the researcher ran correlation tests in SPSS® and

began correlational analysis.

Correlation Analysis

Correlation analysis is a statistical method used to measure the strength and direction of

the linear relationship between two variables. Correlation coefficients closer to -1.00 or 1.00

indicate a linear association between the two variables. Negative coefficients represent a

negative linear relationship (where low scores on one variable indicate high scores on the other)

and positive coefficients represent a positive linear relationship (where high scores on one

variable indicate high scores on the other). Coefficients closer to zero indicate no linear

association (Creswell, 2018). Pearson's *r* Correlation was used to answer the first research

question: 1. What is the relationship between the Survey Data component, Discipline Data

component, Safe and Substance-Free Learning Environment component, and the Attendance

component of the School Climate Domain from Georgia's School Climate Rating and the

Content Mastery Score within the CCRPI student achievement data for middle schools in the

State of Georgia? In addition, the researcher also used correlation analysis to answer the second

research question: 2. What is the relationship between the Survey Data component, Discipline

Data component, Safe and Substance-Free Learning Environment component, and the

Attendance component of the School Climate Domain from Georgia's School Climate Rating

and the Closing Gaps Score within CCRPI student achievement data for middle schools in the

State of Georgia? Data sets from the 2018 and 2019 CCRPI public data set was both used

separately to run tests and analyze the findings. For statistical significance, p values were set at

the 0.01 level. p values are the probability (p) that a result could have been produced by chance if

the null hypothesis were true. Setting the p value at 0.01 means that results are highly statistically

significant (Creswell, 2018).

Pearson's r Correlation Results

As shown in Table 3 below, all four components of the 2018 school climate data were all

shown to have statistically significant relationships with the 2018 Content Mastery Score at the p

< 0.01 level. The Discipline Score had the strongest, positively correlated relationship to Content

Mastery at $r = .706$ and the Attendance score had the smallest, positively correlated relationship

to Content Mastery at $r = .501$.

Table 3

Descriptive Statistics and Correlations for Content Mastery and Climate Components from 2018
Data Set

Variable	n	M	SD	1	2	3	4	5
1. Content Mastery	414	61.83	18.32	--				
2. Survey Score	414	75.26	5.06	.606*	--			
3. Discipline Score	414	77.38	15.15	.706*	.507*	--		
4. S & S-F Environ Score	414	88.50	2.93	.571*	.474*	.283*	--	
5. Attendance Score	414	94.46	1.86	.501*	.407*	.524*	.248*	--

Note. *Correlation is significant at the 0.01 level (2-tailed)

As shown in Table 4 below, all four components of the 2019 school climate data were all

shown to have statistically significant relationships with the 2019 Content Mastery Score at the p

< 0.01 level. The Discipline Score had the strongest, positively correlated relationship to Content

Mastery at $r = .683$ and the Safe and Substance-Free Learning Environment score had the

smallest, positively correlated relationship to Content Mastery at $r = .481$.

Table 4

*Descriptive Statistics and Correlations for Content Mastery and Climate Components from 2019
Data Set*

Variable	n	M	SD	1	2	3	4	5
1. Content Mastery	414	64.39	18.50	--				
2. Survey Score	414	75.46	5.20	.574*	--			
3. Discipline Score	414	76.70	14.69	.683*	.429*	--		
4. S & S-F Environ Score	414	88.10	2.90	.481*	.472*	.204*	--	
5. Attendance Score	414	94.50	1.83	.482*	.398*	.539*	.278*	--

Note. *Correlation is significant at the 0.01 level (2-tailed)

All of the 2018 school climate components demonstrated relationships with the 2018

Closing the Gaps Score. However, as shown in Table 5 below, the two components (Survey

Score and Discipline Score) of the 2018 school climate data were shown to have statistically

significant relationships with the 2018 Closing the Gaps Score at the $p < 0.01$ level. The two

other components (Safe & Substance-Free Environment Score and Attendance Score) from the

2018 school climate data were not shown to have a statistically significant relationship with the

2018 Closing the Gaps Score at the $p < 0.01$ level. The Survey Score had the strongest, positively

correlated relationship to the Closing the Gaps Score at $r = .203$ while Attendance score

demonstrated the smallest, positively correlated relationship to the Closing the Gaps Score at $r =$

.106.

Table 5

Descriptive Statistics and Correlations for Closing the Gaps Score and Climate Components from 2018 Data Set

Variable	n	M	SD	1	2	3	4	5
1. Closing the Gaps	414	61.76	24.25	--				
2. Survey Score	414	75.26	5.06	.203*	--			
3. Discipline Score	414	77.38	15.15	.132*	.507*	--		
4. S & S-F Environ Score	414	88.50	2.93	.121	.474*	.283*	--	
5. Attendance Score	414	94.46	1.86	.106	.407*	.524*	.248*	--

Note. *Correlation is significant at the 0.01 level (2-tailed)

As shown in Table 6 below, the four components of the 2019 school climate data were all shown to have statistically significant relationships with the 2019 Closing the Gaps Score at the $p < 0.01$ level. The Survey Score had the strongest, positively correlated relationship to the Closing the Gaps Score at $r = .246$ and the Attendance score had the smallest, positively correlated relationship to the Closing the Gaps Score at $r = .164$.

Table 6

Descriptive Statistics and Correlations for Closing the Gaps Score and Climate Components from 2019 Data Set

Variable	n	M	SD	1	2	3	4	5
1. Closing the Gaps	414	69.18	23.51	--				
2. Survey Score	414	75.46	5.20	.246*	--			
3. Discipline Score	414	76.70	14.69	.227*	.429*	--		
4. S & S-F Environ Score	414	88.10	2.90	.212*	.472*	.204*	--	
5. Attendance Score	414	94.50	1.83	.164*	.398*	.539*	.278*	--

Note. *Correlation is significant at the 0.01 level (2-tailed)

Multiple Regression

Multiple regression is a statistical procedure for examining the combined relationship of multiple independent variables with a single dependent variable and the variation in the dependent variable is explained by the variance of each independent variable, as well as the combined effect of all independent variables, designated by R^2 (Creswell, 2018). In this research,

multiple regression helps to determine a mathematical relationship among the different variables of the school climate component and the dependent variable, Content Mastery. Regression tables below show the overall amount of variance explained (R^2) and the regression weight (the amount of contribution of each variable controlling for the variance of all other variables, beta, for each variable). The beta coefficient indicates the magnitude of prediction and identifies the strength of the relationship of a predictor variable of the outcomes (Creswell, 2018). Unstandardized Beta Coefficients were used in this study, due to the scale of each variable being the same (0-100). Beta Coefficients that are positive represent positive relationships between the dependent and independent variables, such that an increase of 1.0 in the independent variable represents the amount of the beta coefficient increase of the dependent variable. The t scores are also shown, which is the beta coefficient divided by the standard error, to show if there is a statistically significant relationship between the independent and dependent variable. In addition, the significance level of the overall F of the model shows if the model allows prediction of the dependent variable using independent variables (Creswell, 2018). Lastly, confidence intervals are shown to display what beta is likely to fall between (Field, 2013). Hierarchal regression was chosen and data was entered in SPSS® regression tests to both remain consistent and true to the instrument where data were retrieved and considering the correlational results. Independent variables were entered in SPSS® regression tests in this order: Survey Score, Discipline Score, Safe and Substance-Free Score, and Attendance Score. Multiple Regression Analysis was utilized to answer the third and fourth research questions: 3. To what degree do relationships exists between the Content Mastery Score within the CCRPI for middle schools in the State of Georgia and the Survey Data component, Discipline Data component, Safe and Substance-Free Learning Environment component, and the Attendance component of the School Climate

Domain from Georgia's School Climate Rating? and, 4. To what degree do relationships exists between the Closing Gaps Score within CCRPI for middle schools in the State of Georgia and the Survey Data component, Discipline Data component, Safe and Substance-Free Learning Environment component, and the Attendance component of the School Climate Domain from Georgia's School Climate Rating? Multiple regression was also applied to determine the mathematical relationship among the same independent variables and the dependent variable Closing the Gaps. Data sets from the 2018 and 2019 CCRPI public data set were both used separately to run analyses and review the findings. For statistical significance, p values were set at the $p < 0.01$ level.

Multiple Regression Results

The multiple regression model for the 2018 Content Mastery Score with all four of the 2018 predictors produced R^2 of .676, an adjusted R^2 of .673, and an F of 213.74. F is significant at the $p < 0.01$ level. therefore the model overall predicts the 2018 Content Mastery Score significantly (Field, 2013). Each of the four components of the school climate rating had significant positive regression weights at the $p < 0.01$ level. The regression beta coefficients are as follows: Survey Score .604, Discipline Score .573, Safe & Substance-Free Score 2.074, and Attendance Score 1.009. The data is presented in Table 7 below.

Table 7

Regression of 2018 Content Mastery Score on 2018 Survey, Discipline, Safe & Substance-Free, and Attendance Score

Variable	b	se	95% CI	t
Survey Score	.604	.130	.348, .860	4.63*
Discipline Score	.573	.043	.488, .658	13.28*
S & S-F Score	2.074	.200	1.681, 2.468	10.36*
Attendance Score	1.009	.333	.355, 1.663	3.03*

Note. $R^2 = .676$, adj. $R^2 = .673$, F = 213.74* , $n = 414$
*$p<0.01$

The multiple regression model for the 2019 Content Mastery Score with all four of the 2019 predictors produced R^2 of .621, an adjusted R^2 of .618, and an F of 167.810. F is significant at the $p < 0.01$ level, therefore the model overall predicts the 2019 Content Mastery Score significantly (Field, 2013). Three of the four components of the school climate rating had significant positive regression beta coefficients at the $p < 0.01$ level. Attendance had a positive regression beta coefficient: however it was not considered statistically significant. The regression beta coefficients are as follows: Survey Score .748, Discipline Score .646, Safe & Substance-Free Score 1.681, and Attendance Score .488. The data are represented in Table 8 below.

Table 8

Regression of 2019 Content Mastery Score on 2019 Survey, Discipline, Safe & Substance-Free, and Attendance Score

Variable	b	se	95% CI	t
Survey Score	.748	.134	.484, 1.013	5.57*
Discipline Score	.646	.047	.552, .739	13.62*
S & S-F Score	1.681	.222	1.245, 2.116	7.58*
Attendance Score	.488	.377	-.254, 1.229	1.30

Note. $R^2 = .621$, adj. $R^2 = .618$, F = 167.810*, $n = 414$
*$p<0.01$

The multiple regression model for the 2018 Closing the Gaps Score with all four of the 2018 predictors produced R^2 of .043, an adjusted R^2 of .034, and an F of 4.601. F is significant at the $p < 0.01$ level; therefore the model overall predicts the 2018 Closing the Gaps Score significantly (Field, 2013). All four components of the school climate rating had positive regression beta coefficients. Only the Survey Score beta coefficient was considered to be significant at the $p < 0.01$ level. The regression beta coefficients are as follows: Survey Score .800, Discipline Score .051, Safe & Substance-Free Score .240, and Attendance Score .188. The data is represented in Table 9 below.

Table 9

Regression of 2018 Closing the Gaps Score on 2018 Survey, Discipline, Safe & Substance-Free, and Attendance Score

Variable	b	se	95% CI	t
Survey Score	.800	.297	.216, 1.383	2.69*
Discipline Score	.051	.098	-.142, .243	.52
S & S-F Score	.240	.456	-.656, 1.136	.53
Attendance Score	.188	.757	-1.300, 1.676	.25

Note. $R^2 = .043$, adj. $R^2 = .034$, F = 4.601* , $n = 414$
*$p<0.01$

The multiple regression model for the 2019 Closing the Gaps Score with all four of the 2019 predictors produced R^2 of 0.09, an adjusted R^2 of .081, and an F of 10.159. F is significant at the $p < 0.01$ level; therefore the model overall predicts the 2019 Closing the Gaps Score significantly (Field, 2013). Three of the four components of the school climate rating had positive regression beta coefficients. The Survey Score, Discipline Score, and Safe and Substance-Free Score beta coefficients were positive but not considered to be significant at the $p < 0.01$ level. The Attendance Score beta coefficient was negative. The regression beta coefficients are as follows: Survey Score .557, Discipline Score .238, Safe & Substance-Free Score 1.002, and Attendance Score -.001. The data are represented in Table 10 below.

Table 10

Regression of 2019 Closing the Gaps Score on 2019 Survey, Discipline, Safe & Substance-Free, and Attendance Score

Variable	b	se	95% CI	t
Survey Score	.557	.265	.036, 1.077	2.103
Discipline Score	.238	.093	.055, .422	2.551
S & S-F Score	1.002	.437	.144, 1.861	2.296
Attendance Score	-.001	.743	-1.461, 1.460	-.001

Note. $R^2 = 0.09$, adj. $R^2 = .081$, F = 10.159*, $n = 414$
*$p<0.01$

Chapter Summary

Georgia's College and Career Ready Performance Index (CCRPI) contains many different data points within the accountability measure. The researcher utilized the Content Mastery Score and the Closing the Gaps Score in the achievement section and the Survey Score, Discipline Score, Safe & Substance-Free Environment Score, and the Attendance Score in the school climate section from both the 2018 and 2019 CCRPI public data sets to answer the research questions in this study. When considering the 414 traditionally configured middle schools in the data set, correlational and multiple regression analysis in SPSS® determined that statistically significant relationships between the school climate components and the Content Mastery component existed for both the 2018 and 2019 data sets. In addition, correlational and multiple regression analysis in SPSS® determined that statistically significant relationships between some of the school climate components and the 2018 Closing the Gaps scores existed. Multiple regression analysis determined that although the model fit showed that the model allows prediction of the dependent variable using independent variables for the 2019 Closing the Gaps score, the relationship between the independent and dependent variables were not statistically significant at the chosen $p<0.01$ level. The following chapter will provide a more detailed interpretation of these findings as they relate to existing literature and the implications for future practice and research.

CHAPTER FIVE

Introduction

This chapter begins with an overview of the study, including the problem, purpose

statement, research questions, and research methodology that guided the study. A summary of

the results from Chapter Four will serve as the basis for more in-depth discussion of each

research question, followed by implications for practice and recommendations for future

research. This chapter ends with a conclusion summary of the study and a final Impact

Statement.

There are many factors such as morale, climate, and attendance that impact student

achievement (Greenway, 2017). However, defining school climate can be complicated because

researchers use a wide range of definitions and models (Chirkina & Khavenson, 2018; Thapa et

al., 2013). Additionally, each domain that affects school climate combines many constructs

usually studied separately (Wang & Degol, 2016). After a thorough review of school climate

literature, Thapa et al. (2013) determined school climate can be measured using school discipline

data, attendance data, and perception data from surveys of students and other stakeholders. This

was the foundational work for the purpose of this study.

School climate and student achievement are highly related, and school climate predicts

student academic achievement, behavioral, and psychological outcomes (Cohen et al., 2009;

Shindler et al., 2016). Furthermore, school climate can be a potentially promising target for

intervention leading to change that might impact student achievement. The State of Georgia's

Department of Education (GaDOE) is the first state to include school climate as an early

indicator in its academic accountability system (GaDOE, n.d.-a). Georgia's School Climate

Rating shows how well a school is promoting an atmosphere where students feel welcomed, safe, and respected (GaDOE, n.d.-b).

Georgia's CCRPI Accountability Measure also includes a Content Mastery Score, which attempts to address the question: Are students achieving at the level necessary to be prepared for the next grade, college, or career? In addition, CCRPI Improvement Targets are set for each school and defined as 3% of the gap between a baseline and 100%. Each year, schools are expected to meet or exceed the improvement target based on the prior year's performance. This target is an expected gain and gives schools a fresh start from year to year to focus on continuous improvement. Only academic achievement targets are utilized for points in the Closing Gaps component of CCRPI.

School administrators are encouraged to explore strategies that promote a positive school climate given its positive correlation to student achievement (Huang et al., 2017). Waters et al. (2003) analyzed studies conducted over a thirty-year period and identified twenty-one leadership responsibilities that were determined to be significantly associated with student achievement. This study sought to understand the relationship between school climate domains and student achievement data within the CCRPI accountability system. This research was rooted in a theoretical framework of balanced leadership, which describes the knowledge, skills, strategies, and tools that leaders need to positively impact student achievement. Using the eighteen responsibilities related to the research by Waters et al. (2003) within the balanced leadership framework and the results from this study, which examined the correlation between the archival data for the four domain components that drive Georgia's School Climate Rating for all traditional middle schools in the State of Georgia and the achievement data from the archival student achievement data portions of Georgia's CCRPI for these same schools from the last two

available data sets, newly hired and current administrators should be assisted in making informed

decisions that impact school climate and student achievement.

<div align="center">Discussion</div>

This study used de-identified archival data from the 2018 and 2019 Georgia College and

Career Ready Performance Index (CCRPI). Data were collected using the publicly available

CCRPI website for the four components of the school climate score (Survey Score, Discipline

Score, Safe and Substance-Free Learning Environment Score, and Attendance Score) and

achievement data from the Content Mastery Score and the Closing the Gaps Score. The data set

included 414 traditionally configured middle schools (schools serving only 6th, 7th, and 8th grade

students). Study results are discussed in the following sections addressing each of the four

equally weighted research questions. Descriptive statistics were used to examine each data set.

Correlational analysis and multiple regression analysis were used to answer each research

question. Consistent with the existing literature, results showed that school climate and student

achievement are related. Further discussion about each research question is below.

Research Questions One and Two

Research Question One was: 1. What is the relationship between the Survey Data

component, Discipline Data component, Safe and Substance-Free Learning Environment

component, and the Attendance component of the School Climate Domain from Georgia's

School Climate Rating and the Content Mastery Score within the CCRPI student achievement

data for middle schools in the State of Georgia? Each of the four variables (i.e., Survey Score,

Discipline Score, S-F Learning Score, and Attendance Score) for the 2018 data set, as shown in

Table 3, demonstrated statistically significant positive relationships at the $p<0.01$ level to the

variable Content Mastery. All four variables demonstrated moderate to strong correlations with

the largest two positively correlated variables being Discipline Score at $r = .706$ and Survey Score at $r = .606$. Similarly, each of these same four variables for the 2019 data set, as shown in Table 4, demonstrated significant positive relationships at the $p<0.01$ level with Content Mastery. The variables demonstrated moderate to strong correlations with the strongest correlations being Discipline Score with $r = .683$ and Survey Score with $r = .574$.

Research Question Two was: 2. What is the relationship between the Survey Data component, Discipline Data component, Safe and Substance-Free Learning Environment component, and the Attendance component of the School Climate Domain from Georgia's School Climate Rating and the Closing Gaps Score within CCRPI student achievement data for middle schools in the State of Georgia? Only two of the four variables for the 2018 data set, as shown in Table 5, demonstrated statistically significant correlations at the $p<0.01$ level with the Closing the Gaps Score. The two variables demonstrated positive weak correlations with Survey Score at $r = .203$ and Discipline Score at $r = .132$. In contrast, all four variables for the 2019 data set, as shown in Table 6, demonstrated statistically significant positive correlations at the $p<0.01$ level to the Closing the Gaps Score variable. Though positively correlated, these correlations were all weak with the largest two correlations being Survey Score with $r = .246$ and Discipline Score with $r = .227$. While these findings align with the first research question's findings the relative weakness of the correlations is important to recognize. This does not exactly align with the findings from the Content Mastery Score and School Climate data, where the correlations were much stronger. While both relationships were positive, this signifies that climate data has a stronger relationship with Content Mastery achievement data than the Closing the Gaps data.

Findings related to Research Question One and Two corroborates the current literature (Dicke et al., 2019) suggesting disciplinary climate is positively related to student achievement

and achievement is correlated to classroom discipline practices (Jones & Shindler, 2016; Gage et al., 2016). In addition, other research stated that perceptions of school climate could significantly explain achievement (Maxwell et al., 2017; O'Malley et al., 2015). These findings also support that there is a significant positive relationship between school climate and student achievement (Geleta, 2017), and school climate is a leading factor in explaining student learning and achievement (Cohen et al., 2009; Greenway, 2017; Maxwell et al., 2017).

Research Question Three

Research Question Three was: 3. To what degree do relationships exist between the Content Mastery Score within the CCRPI for middle schools in the State of Georgia and the Survey Data component, Discipline Data component, Safe and Substance-Free Learning Environment component, and the Attendance component of the School Climate Domain from Georgia's School Climate Rating? Regression results in Table 7 from the 2018 data set indicate that all four components of the school climate rating are statistically related at the *p*<0.01 level to 2018 Content Mastery. The Discipline Score component had the strongest relationship with a t score of 13.28 and beta coefficient of .573, while the Attendance Score Component has the weakest relationship with a t score of 3.03 and beta coefficient of 1.009. Regression results in Table 8 from the 2019 data set show that three of the four components of the school climate rating are statistically related at the *p*<0.01 level to 2019 Content Mastery. The Discipline Score component had the strongest relationship with a t score of 13.62 and beta coefficient of .646, while the Survey Score Component has the weakest significant relationship with a t score of 5.57 and beta coefficient of .748. The 2019 Attendance Score Component is not statistically related to 2019 Content Mastery. This also corroborates the current literature (Dicke et al., 2019) that stated that disciplinary climate is positively related to student achievement. In addition, it

supports the research findings suggesting that school climate and student achievement have a significant positive relationship (Dicke et al., 2019; Maxwell et al., 2017; O'Malley et al., 2015; Geleta, 2017) and school climate is a leading factor in explaining student learning and achievement (Cohen et al., 2009; Greenway, 2017; Maxwell et al., 2017). Also, school climate and safety are interrelated, such that student perceptions of school safety positively relate to student grades (Cohen et al., 2009; Hopson et al., 2014). However, they contradict research findings from Hancock et al. (2017) that suggested that attendance should be a priority for all schools, and research that found as truancy rates increased, student achievement declined (Lacoe & Steinberg, 2018).

Research Question Four

Research Question Four was: 4. To what degree do relationships exist between the Closing Gaps Score within CCRPI for middle schools in the State of Georgia and the Survey Data component, Discipline Data component, Safe and Substance-Free Learning Environment component, and the Attendance component of the School Climate Domain from Georgia's School Climate Rating? Regression results in Table 9 from the 2018 data set show that only one school climate components is statistically related at the $p<0.01$ level to the 2018 Closing the Gaps Score. The Survey Score component was statistically related and had the strongest relationship with a t score of 2.69 and beta coefficient of .800, while the other three components (Discipline Score, Safe and Substance-Free Learning Environment Score, and Attendance Score) were not statistically related. Regression results in Table 10 from the 2019 data set show that none of the school climate components are statistically related at the $p<0.01$ level to the 2019 Closing the Gaps Score. The Discipline Score, Survey Score, and Safe and Substance-Free components had positive relationships, although not statistically significant. In addition, the

Attendance Score, also not statistically significant, was negatively related to the Closing the Gaps Score with a t score of -0.001. These findings supported the research that perceptions of a place contribute to a school's success or failure (Anderson, 2019). However, with very little statistically significant relationships between the school climate components and the Closing the Gaps scores, the results contradict much of the research that showed that students' perceptions of victimization also predicted an individual's lower reading and mathematics achievement (Ripski & Gregory, 2009), and high-chronic victimization (bullying) was consistently related to lower disparities in school engagement, academic self-perceptions, and academic achievement (Ladd et al., 2017). In addition, similar to Research Question Three, this once again contradicts research findings from Hancock et al. (2017) that suggested that attendance should be a priority for all schools, and research that found as truancy rates increased, student achievement declined (Lacoe & Steinberg, 2018).

Limitations, Delimitations, and Assumptions

The following limitations restricted this study. First, data within the school climate components are reliant on schools reporting accurate information from their Student Information System. Second, survey data are reliant on schools' participation in the state surveys. Seventy-five percent of staff are required to complete the Georgia School Personnel Survey, and 75% of students are required to complete the Georgia Student Health Survey 2.0 (GaDOE, 2018-b). Although it is a requirement to participate, some schools simply forget to issue the surveys to their students or send the link to the staff and ensure they complete it. Lastly, there may be an inconsistency related to the number of parents that complete the surveys for each middle school. At least 15 parent surveys must be completed for each school (GaDOE, 2018-b). Therefore, how the school selects these parents and delivers the survey is up to the school.

A delimitation for this research study is that it confined itself to middle schools with a traditional grade level configuration, serving sixth, seventh, and eighth grades, within the State of Georgia's public school systems. Another delimitation is that due to the COVID-19 outbreak, there will not be an accountability measure containing school climate and student achievement until November 2023. This research study assumes that the State of Georgia's accountability measure is accurately represented on the publicly available website for the Content Mastery Score, the Closing Gaps Score, and the four components of the School Climate Rating for each middle school in this study.

<center>Implications for Practice</center>

This study adds to the current research that each school climate area is related to student achievement. As accountability increases, administrations face the challenge of navigating many different areas of possible change to determine priorities (Louis et al., 2005). The findings of this research study showed that administrators may want to prioritize discipline within their school and perceptions of their school community. To promote student achievement, schools must use a variety of measures to make data-informed decisions to drive instruction and school processes (Murray, 2014), and findings through this study support using the school climate domains within the CCRPI accountability system to make decisions to improve achievement. School administrators are encouraged to explore strategies that promote a positive school climate given its positive association with student achievement (Huang et al., 2017) and Aldridge & Fraser (2016) suggests that it would be worthwhile for school principals to consider enhancing factors within the school climate to make improvements in their respective schools. It is important to note that the Discipline Score component and the Survey Score component have a stronger relationship with student achievement. This may encourage administrators to focus more on

initiatives that are directly related to these areas, which supports research that stated that differentiated interventions may be needed to replace standardized approaches to school discipline and student support (Shukla et al., 2016). Through this study, administrators can use the responsibilities discussed in the balanced leadership framework to adjust policies and procedures surrounding discipline and perception data currently embedded in their culture. It is also important to note that implementing multiple initiatives can overwhelm teachers, so administrators need to prioritize using the balanced leadership framework as a guide.

In addition, it is important to note that the relationship between school climate components and the content mastery achievement data was much stronger than the relationship between school climate and the Closing the Gaps Score. This may indicate to administrators that other areas of focus beyond what factors into the school climate ratings may assist in raising the Closing the Gaps Score. This also may indicate that the Closing the Gaps Score and Content Mastery Score are not closely aligned.

This study is additionally important due to the lack of data available over the last few years due to COVID. November of 2023 will be the first time since 2019 that all components, including the School Climate Rating, will be available to Georgia administrators and the public.

Recommendations for Future Research

The findings of this study are the first step in determining the relationship between the school climate components and student achievement components of Georgia's College and Career Ready Performance Index (CCRPI) for middle schools. Middle school principals, particularly those in the state of Georgia, should benefit from the findings of this study. In addition, because of the link to other research, principals outside of the State of Georgia could also benefit from the findings.

Future research is needed to determine whether the relationship between school climate and student achievement is similar for elementary, middle, or high schools. In addition, separating the data into rural, suburban, and urban schools and running similar tests may also help administrators specifically in those areas. It also may be beneficial for research to be conducted on the relationship between Content Mastery and Closing the Gaps, since there were some differences in the strength of the relationship between each of these data sets and the School Climate Scores.

Conclusion

This study adds to the research on the relationship between school climate and student achievement (Dicke et al., 2019; Maxwell et al., 2017; O'Malley et al., 2015; Geleta, 2017; Cohen et al., 2009; Greenway, 2017). Using the 2018 and 2019 data sets from Georgia's CCRPI Accountability Measure, the researcher determined through correlational research that perception data (Survey Score) and discipline data (Discipline Score) have a strong positive relationship to student achievement. This was true for both measures (Content Mastery and Closing the Gaps) across both years. Administrators can use these results to prioritize initiatives in their schools related to perceptions and discipline to improve student achievement. Especially since the principal's actions in a school have a moderate but significant relationship with student achievement (Marzano et al., 2005). Administrators can accomplish gains in these areas by looking at the number of office discipline referrals in their Student Information System, identifying trends, and discussing these trends with their stakeholders. By involving all stakeholders in the decisions of the school, this will also increase your perception data (Fan & Williams, 2018; McCoach et al., 2010).

When examining the combined relationship of the independent variables to the dependent variable through multiple regression, this research study found that the school climate components were more strongly related to Content Mastery and had a non-significant, weaker relationship with the Closing the Gaps score. This is important to point out, as the Closing the Gaps Score is a factor in a school's overall CCRPI rating, and other areas within the school, beyond school climate, may need to be considered when trying to make gains in that area. The multiple regression analysis did support that the four areas of the school climate component data were significantly related to the content mastery achievement data. Therefore, administrators should focus on these areas when trying to improve their schools Content Mastery Score.

Administrators should notice that this study contradicts research that stated that attendance is significantly related to student achievement (Lacoe & Steinberg, 2018; Demir & Akman Karabeyoglu, 2016; Hancock et al., 2017) when considering the multiple regression results that studied the relationship between the school climate components and the Closing the Gaps Score. This may make administrators postpone efforts to improve attendance and allow them to prioritize other areas influencing school climate and student achievement. This also is important for district level leaders to recognize, as attendance efforts after COVID-19 have become more of a focus in many districts.

More research is needed to study the relationship at other grade bands. In addition, research considering the demographics of each location may aid administrators in making further decisions. The researcher also recommends a closer look at the relationship between the Closing the Gaps Score and the Content Mastery Score. This study may serve as a model to complete this additional research by providing baseline data about the relationship between the school climate components and achievement data.

Impact Statement

With the growing focus on accountability in education, schools are expected to provide students with college and career-ready knowledge and skills to prepare them for their next opportunities. Georgia's state accountability measure rates schools utilizing both school climate and student achievement. Schools that consistently do not score well in these areas are labeled as priority or focus schools and are provided with intense support from the state department. To avoid these types of intensive support, administrators must make decisions and implement initiatives to improve their schools continuously. This study utilized multiple data points across two years to help administrators prioritize these decisions based on which areas of school climate have a stronger relationship with student achievement. Now armed with the knowledge that the Discipline Score and Survey Score are more significantly related to student achievement, thus, administrators can focus on these areas to improve their schools. Future researchers can easily replicate the processes and analyses utilized in this study to determine if other grade bands would achieve similar results.

References

Adams, R., Taylor, J., Duncan, A., & Bishop, S. (2016). Peer victimization and educational outcomes in mainstreamed adolescents with autism spectrum disorder (ASD). *Journal of Autism & Developmental Disorders*, *46*(11), 3557–3566. https://doi.org/10.1007/s10803-016-2893-3

Aldridge, J. M., & Fraser, B. J. (2016). Teachers' views of their school climate and its relationship with teacher self-efficacy and job satisfaction. *Learning Environments Research*, *19*, 291–307. http://dx.doi.org/10.1007/s10984-015-9198-x

Allen, N., Grigsby, B., & Peters, M. L. (2015). Does leadership matter? Examining the relationship among transformational leadership, school climate, and student achievement. *International Journal of Educational Leadership Preparation*, *10*(2), 1–22.

American Psychological Association. (2018). *Socioeconomic status.* Retrieved from http://www.apa.org/topics/socioeconomic-status/

Anderson, C. J. (2019). A leader's emotional self-control and management of others impacts a school's climate. *Journal of Invitational Theory & Practice*, *25*, 39–59. https://10.26522/jitp.v25i.3470

Arens, A. K., & Morin, A. J. S. (2016). Relations between teachers' emotional exhaustion and students' educational outcomes. *Journal of Educational Psychology*, *108*(6), 800–813. https://doi.org/10.1037/edu0000105

Bakhshaee, F., & Hejazi, E. (2017). Student's academic engagement: The relation between teacher's academic optimism and female student's perception of school climate. *International Journal of Mental Health and Addiction*, *15*(3), 646. https://doi.org/10.1007/s11469-016-9674-2

Berkowitz, R., Moore, H., Astor, R., & Benbenishty, R. (2017). A research synthesis of the

    associations between socioeconomic background, inequality, school climate, and

    academic achievement. *Review of Educational Research*, *87*(2), 425-469.

    https://doi.org/10.3102/0034654316669821

Blank, C., & Shavit, Y. (2016). The association between student reports of classmates' disruptive

    behavior and Student achievement. *AERA Open*, *2*(3).

Bryk, A. S., Gomez, L. M, Grunow, A., & LeMahieu, P. (2015). *Learning to improve: How*

    America's schools can get better at getting better. Harvard Education Press.

Chirkina, T. & Khavenson, T. (2018). School climate: A history of the concept and approaches

    to defining and measuring it on PISA questionnaires. *Russian Education & Society*,

    60(2), 133-160. https://doi.org/10.1080/10609393.2018.1451189

Choe, D. (2020). Parents' and adolescents' perceptions of parental support as predictors of

    adolescents' academic achievement and self-regulated learning. *Children and Youth*

    Services Review, *116*. https://doi.org/10.1016/j.childyouth.2020.105172

Cohen, J., McCabe, L., Michelli, N. M., & Pickeral, T. (2009). School climate: Research, policy,

    practice, and teacher education. *Teachers College Record, 111*(1), 180-213.

    https://doi.org/10.1177/016146810911100

Cohen, J., Pickeral, T., & McCloskey, M. (2009). Assessing school climate. *The Education*

    Digest, *74*(8), 45-48.

Cohen, J. (2012). School climate and culture improvement: A prosocial strategy that recognizes,

    educates, and supports the whole child and the whole school community. *The Handbook*

    of Prosocial Education, 227-270.

Corbin, C. M., Downer, J. T., Ruzek, E. A., Lowenstein, A. E., & Brown, J. L. (2020). Correlates of change in elementary students' perceptions of interactions with their teacher. *Journal of Applied Developmental Psychology*, *69*. https://doi.org/10.1016/j.appdev.2020.101144

Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches.* Sage Publications.

Daily, S. M., Mann, M. J., Kristjansson, A. L., Smith, M. L., & Zullig, K. J. (2019). School climate and academic achievement in middle and high school students. *Journal of School Health*, *89*(3), 173-180. https://doi.org/10.1111/josh.12726

Darmody, M., & Smyth, E. (2016). Primary school principals' job satisfaction and occupational stress. *International Journal of Educational Management*, *30*, 115–128. http://dx.doi.org/10.1108/IJEM-12-2014-0162

Davis, J. R., & Warner, N. (2018). Schools matter: The positive relationship between New York city high schools' student academic progress and school climate. *Urban Education*, *53*(8), 959–980.

Demir, K., & Akman Karabeyoglu, Y. (2016). Factors associated with absenteeism in high schools. *Eurasian Journal of Educational Research*, *62*, 37–56. http://dx.doi.org/10.14689/ejer.2016.62.4

Dicke, T., Marsh, H. W., Riley, P., Parker, P. D., Guo, J., & Horwood, M. (2018). Validating the copenhagen psychosocial questionnaire (COPSOQ-II) using set-ESEM: Identifying psychosocial risk factors in a sample of school principals. *Frontiers in Psychology*, *9*, 584. http://dx.doi.org/10.3389/fpsyg.2018.00584

Dicke, T., Marsh, H. W., Parker, P. D., Guo, J., Riley, P., & Waldeyer, J. (2019). Job satisfaction of teachers and their principals in relation to climate and student achievement. *Journal of*

Educational Psychology. Advance online publication.

https://doi.org/10.1037/edu0000409.supp

Dutta, V., & Sahney, S. (2016). School leadership and its impact on student achievement: The

mediating role of school climate and teacher job satisfaction. *International Journal of*

Educational Management, *30*(6), 941–958.

Evensen, M. (2019). Adolescent mental health problems, behaviour penalties, and distributional

variation in educational achievement. *European Sociological Review*, *35*(4), 474–490.

https://doi.org/10.1093/esr/jcz015

Fan, W., & Williams, C. (2018). The mediating role of student motivation in the linking of

perceived school climate and achievement in reading and mathematics. *Frontiers In*

Education, Vol 3 (2018). https://doi.org/10.3389/feduc.2018.00050/full

Field, A. P. (2013). *Discovering statistics using SPSS: and sex and drugs and rock 'n' roll (4th*

Edition). Sage.

Fullan, M., McKenzie, W. B., Getty, & Hamilton, J. (2014). *The principal: Three keys to*

maximizing impact. Jossey-Bass.

Gage, N., Larson, A., Sugai, G., & Chafouleas, S. (2016). Student perceptions of school climate

as predictors of office discipline referrals. *American Educational Research Journal*,

53(3), 492-515. https://doi.org/10.3102/0002831216637349

Gardella, J. H., Tanner, S. E. E., & Fisher, B. W. (2016). Academic consequences of multiple

victimization and the role of school security measures. *American Journal of Community*

Psychology, *58*(1/2), 36–46. https://doi.org/10.1002/ajcp.12075

Geleta, A. (2017). Schools climate and student achievement in secondary schools of Ethiopia.
European Scientific Journal, *13*(17). https://doi.org/10.19044/esj.2017.v13n17p239

Georgia Department of Education. (n.d.-a). *School climate.* Retrieved from
http://www.gadoe.org/External-Affairs-and-Policy/Policy/Pages/School-Climate.aspx

Georgia Department of Education. (n.d.-b). *An overview of the college and career ready
performance index (CCRPI).* Retrieved from http://www.gadoe.org/Curriculum-
Instruction-and-
Assessment/Accountability/Documents/Reference%20Guides%20and%20Support%20Fil
es/CCRPI%20Overview%20110317.pdf

Georgia Department of Education. (n.d.-c). *Accountability.* Retrieved from
http://www.gadoe.org/Curriculum-Instruction-and-
Assessment/Accountability/Pages/default.aspx

Georgia Department of Education. (n.d.-d). *College and career ready performance index.*
Retrieved from http://www.gadoe.org/CCRPI/Pages/default.aspx

Georgia Department of Education. (2016). *2017 CCRPI indicators.* Retrieved from
http://www.gadoe.org/Curriculum-Instruction-and-
Assessment/Accountability/Documents/Indicators%20and%20Targets/2017%20CCRPI%
20Indicators.pdf

Georgia Department of Education. (2019). *2019 school climate star ratings data calculation
guide for principals and district users*. Retrieved from
https://www.gadoe.org/schoolsafetyclimate/Documents/2019%20School%20Climate%20
Star%20Rating%20Calculation%20Guide_October%202019.pdf

Georgia Department of Education. (2018-a). *2018 CCRPI middle school calculation guide.*

Retrieved from http://www.gadoe.org/Curriculum-Instruction-and-

Assessment/Accountability/Documents/Resdesigned%20CCRPI%20Support%20Docum

ents/2018%20CCRPI%20Middle%20School%20Calculation%20Guide%20May%20201

8.pdf

Georgia Department of Education. (2018-b). *2018 school climate star ratings data calculation*

guide for principals and district users. Retrieved from http://www.gadoe.org/External-

Affairs-and-

Policy/Policy/Documents/2018%20School%20Climate%20Star%20Rating%20Calculatio

n%20Guide.pdf

Georgia Department of Education. (2018-c). *CCRPI Improvement Targets and Closing Gaps.*

Retrieved from https://www.gadoe.org/Curriculum-Instruction-and-

Assessment/Accountability/Documents/Resdesigned%20CCRPI%20Support%20Docum

ents/CCRPI%20Improvement%20Targets%20and%20Closing%20Gaps%20012418.pdf

Girard, S., & Lemoyne, J. (2018). Analyzing the contribution of student-perceived motivational

climate to predict student goal adoption in physical education: testing invariance relative

to teacher-induced climate. *Physical Educator, 75*(4), 701–724.

http://dx.doi.org/10.18666/TPE-2018-V75-I4-8197

Gottfried, M. A. (2019). Chronic absenteeism in the classroom context: Effects on achievement.

Urban Education, *54*(1), 3-34. https://doi.org/10.1177/00420859156187

Greenway, G. H. (2017). Relationship between school climate and student achievement.

(Doctoral dissertation). Georgia Southern University, Statesboro, Georgia.

Gross, J. M. S., Haines, S. J., Hill, C., Francis, G. L., Blue-Banning, M., & Turnbull, A. P. (2015). Strong school–community partnerships in inclusive schools are "part of the fabric of the school…we count on them." *School Community Journal*, *25*(2), 9–34. Retrieved from http://www.schoolcommunitynetwork.org/SCJ.aspx

Gruber, J., & Fineran, S. (2016). Sexual harassment, bullying, and school outcomes for high school girls and boys. *Violence Against Women*, *22*(1), 112–133. https://doi.org/10.1177/1077801215599079

Hancock, K. J., Lawrence, D., Shepherd, C. C., Mitrou, F., & Zubrick, S. R. (2017). Associations between school absence and academic achievement: Do socioeconomics matter? *British Educational Research Journal*, *43*(3), 415-440. https://doi.org/10.1002/berj.3267

Hancock, K. J., Gottfried, M. A., & Zubrick, S. R. (2018). Does the reason matter? How student-reported reasons for school absence contribute to differences in achievement outcomes among 14–15 year olds. *British Educational Research Journal*, *44*(1), 141–174. https://doi.org/10.1002/berj.3322

Hoffman, J. A., Anderson-Butcher, D., Fuller, M., & Bates, S. (2017). The school experiences of rural youths: A study in Appalachian Ohio. *Children & Schools*, *39*(3), 147–155. https://doi.org/10.1093/cs/cdx010

Hopson, L., Schiller, K., & Lawson, H. (2014). Exploring linkages between school climate, behavioral norms, social supports, and academic success. *Social Work Research*, *38*(4), 197-209. https://doi.org/10.1093/swr/svu017

Huang, F. L., Eklund, K., & Cornell, D. G. (2017). Authoritative school climate, number of parents at home, and academic achievement. *School Psychology Quarterly*, *32*(4), 480–496. https://doi.org/10.1037/spq0000182

Ice, M., Thapa, A., & Cohen, J. (2015). Recognizing community voice and a youth-led school-community partnership in the school climate improvement process. *School Community Journal*, *25*(1), 9-28.

Johnson, S., Pas, E., & Bradshaw, C. (2016). Understanding the association between school climate and future orientation. *Journal of Youth & Adolescence*, *45*(8), 1575-1586. https://doi:10.1007/s10964-015-0321-1

Johnson, J. F. Jr., & Uline, C. L. (2005). Preparing educational leaders to close achievement gaps. *Theory Into Practice*, *44*(1), 45-52. https://doi.org/10.1207/s15430421tip4401_7

Jones, A., & Shindler, J. (2016). Exploring the school climate--student achievement connection: Making sense of why the first precedes the second. *Educational Leadership and Administration: Teaching and Program Development*, *27*, 35-51.

Kibriya, S., Xu, Z. P., & Zhang, Y. (2017). The negative consequences of school bullying on academic performance and mitigation through female teacher participation: evidence from Ghana. *Applied Economics*, *49*(25), 2480–2490. https://doi.org/10.1080/00036846.2016.1240350

Kim, H., Schwartz, K., Cappella, E., & Seidman, E. (2014). Navigating middle grades: Role of social contexts in middle grade school climate. *American Journal of Community Psychology*, *54*(1/2), 28-45. https://doi.org10.1007/s10464-014-9659-x

Konishi, C., Miyazaki, Y., Hymel, S., & Waterhouse, T. (2017). Investigating associations between school climate and bullying in secondary schools: Multilevel contextual effects modeling. *School Psychology International*, *38*(3), 240-263. https://doi:10.1177/0143034316688730

Konold, T., & Cornell, D. (2015). Measurement and structural relations of an authoritative school climate model: A multi-level latent variable investigation. *Journal of School Psychology*, 53(6), 447-461. https://doi.org/10.1016/j.jsp.2015.09.001

Kraft, M. A., Marinell, W. H., & Shen-Wei Yee, D. (2016). School organizational contexts, teacher turnover, and student achievement: Evidence from panel data. *American Educational Research Journal*, *53*(5), 1411–1449. https://doi.org/10.3102/000283121666747

Kwong, D., & Davis, J. R. (2015). School climate for academic success: A multilevel analysis of school climate and student outcomes. *Journal of Research in Education*, *25*(2), 68–81.

Lacey, A., Cornell, D., & Konold, T. (2017). The relations between teasing and bullying and middle school standardized exam performance. *Journal of Early Adolescence*, *37*(2), 192–221. https://doi.org/10.1177/027243161559642

Lacoe, J. (2016). Too scared to learn? The academic consequences of feeling unsafe in the classroom. *Urban Education*. https://doi.org/10.1177/0042085916674059

Lacoe, J., & Steinberg, M. P. (2018). Rolling back zero tolerance: The effect of discipline policy reform on suspension usage and student outcomes. *Peabody Journal of Education*, *93*(2), 207-227. https://doi.org/10.1080/0161956X.2018.1435047

Ladd, G. W., Ettekal, I., & Kochenderfer-Ladd, B. (2017). Peer victimization trajectories from kindergarten through high school: Differential pathways for children's school engagement and achievement? *Journal of Educational Psychology*, *109*(6), 826–841. http://dx.doi.org/10.1037/edu0000177

Lee, J., & Stankov, L. (2018). Non-cognitive predictors of academic achievement: Evidence from TIMSS and PISA. *Learning and Individual Differences*, *65*, 50–64. https://doi.org/10.1016/j.lindif.2018.05.009

Lindahl, R. A. (2011). The crucial role of assessing the school's climate in planning school improvement. *Educational Planning*, *20*(1), 16-30. https://doi.org/10.3102/0002831208329598

Lindahl, R. A. (2014). What do the data tell Alabama's middle school principals about their school improvement efforts? *New Waves - Educational Research & Development*, *17*(1), 1.

Louis, K. S., Febey, K., & Schroeder, R. (2005). State-mandated accountability in high schools: Teachers' interpretations of a new era. *Educational Evaluation and Policy Analysis*, 27(2), 177-204. https://doi.org/10.3102/01623737027002177

Malone, M., Cornell, D., & Shukla, K. (2017). Association of grade configuration with school climate for 7th and 8th grade students. *School Psychology Quarterly*, *32*(3), 350-366. https://doi.org/10.1037/spq0000174

Marzano, R. J., & Waters, T. (2009). *District leadership that works: Striking the right balance*. Solution Tree.

Marzano, R. J., Waters, T., & McNulty, B. A. (2005). *School leadership that works: From research to results*. Mid-Continent Research for Education and Learning.

Maxwell, L. (2016). School building condition, social climate, student attendance and academic achievement: A mediation model. *Journal of Environmental Psychology*, *46*, 206-216. https://doi.org/10.1016/j.jenvp.2016.04.009

Maxwell, S., Reynolds, K., Lee, E., Subasic, E., & Bromhead, D. (2017). The impact of school climate and school identification on academic achievement: multilevel modeling with student and teacher data. *Frontiers In Psychology*, Vol 8 (2017), https://doi.org/10.3389/fpsyg.2017.02069/full

McCoach, D., Goldstein, J., Behuniak, P., Reis, S., Anne, C., Sullivan, E., & Rambo, K. (2010). Examining the unexpected: Outlier analyses of factors affecting student achievement. *Journal of Advanced Academics*, *21*(3), 426-468. https://doi.org/10.1177/1932202X1002100

Moore Jr., D. L., Kuofie, M., Hakim, A., & Branch, R. (2016). Teachers' perceptions of principals as instructional leaders and student academic achievement in elementary schools. *Journal Of Marketing & Management*, *7*(1), 1-23.

Mundy, L. K., Canterford, L., Kosola, S., Degenhardt, L., Allen, N. B., & Patton, G. C. (2017). Peer victimization and academic performance in primary school children. *Academic Pediatrics*, *17*(8), 830–836. https://doi.org/10.1016/j.acap.2017.06.012

Murray, J. (2014). Critical issues facing school leaders concerning data-Informed decision-making. *Professional Educator*, *38*(1), 1-8.

National Center for Education Statistics. (2017) *Condition of education* 2017. U. S. Department of Education.

National School Climate Council (2007). *What is school climate?* Retrieved from https://www.schoolclimate.org/about/our-approach

O'Malley, M., Voight, A., Renshaw, T., & Eklund, K. (2015). School climate, family structure, and academic achievement: A study of moderation effects. *School Psychology Quarterly*, *30*(1), 142-157. https://doi:10.1037/spq0000076

Pavlakis, A. E. (2015). Reaching all families: Family, school, and community partnerships amid

    homelessness and high mobility in an urban district. *Urban Education*, 1–31.

    https://doi.org/10.1177/0042085915613547

Price, H. E. (2016). Assessing U.S. public school quality. *Educational Policy*, *30*(3), 403.

    https://doi.org/10.1177/0895904814551

Reynolds, K., Lee, E., Turner, I., Bromhead, D., & Subasic, E. (2017). How does school climate

    impact academic achievement? An examination of social identity processes. *School*

    Psychology International, *38*(1), 78-97. https://doi.org/10.1177/0143034316682295

Ripski, M.B., & Gregory, A. (2009). Unfair, unsafe, and unwelcome: Do high school students'

    perceptions of unfairness, hostility, and victimization in school predict engagement and

    achievement? *Journal of School Violence, 8*, 355-375.

    https://doi.org/10.1080/15388220903132755

Robinson, J. B. (2015). *A study of Georgia school districts' balanced scorecard alignment to the*

    College and Career Ready Performance Index. (Doctoral dissertation) University of

    Georgia (UGA), Athens, Georgia.

Ruiz, L. D., McMahon, S. D., & Jason, L. A. (2018). The role of neighborhood context and

    school climate in school-level academic achievement. *American Journal of Community*

    Psychology, *61*(3-4), 296-309. https://doi.org/10.1002/ajcp.12234

` Sandilos, L. E., Rimm-Kaufman, S. E., & Cohen, J. J. (2017). Warmth and demand: The relation

    between students' perceptions of the classroom environment and achievement growth.

    Child Development, *88*(4), 1321–1337. https://doi.org/10.1111/cdev.12685

Shindler, J., Jones, A., Williams, A. D., Taylor, C., & Cardenas, H. (2016). The school climate-

    student achievement connection: If we want achievement gains, we need to begin by

improving the climate. *Journal of School Administration Research and Development*, *1*(1), 9–16.

Shukla, K., Konold, T., & Cornell, D. (2016). Profiles of student perceptions of school climate: Relations with risk behaviors and academic outcomes. *American Journal of Community Psychology*, *57*(3/4), 291-307. https://doi.org/10.1002/ajcp.12044

Stiglbauer, B., Gnambs, T., Gamsjäger, M., & Batinic, B. (2013). The upward spiral of adolescents' positive school experiences and happiness: Investigating reciprocal effects over time. *Journal of School Psychology*, *51*(2), 231-242. https://doi.org/10.1016/j.jsp.2012.12.002

Sulak, T. (2016). School climate and academic achievement in suburban schools. *Education and Urban Society*, *48*(7), 672-684. https://doi.org/10.1177/0013124514541

Tanner-Smith, E., & Fisher, B. (2016). Visible school security measures and student academic performance, attendance, and postsecondary aspirations. *Journal of Youth & Adolescence*, *45*(1), 195–210. https://doi.org/10.1007/s10964-015-0265-5

Thapa, A., Cohen, J., Guffey, S., & Higgins-D'Alessandro, A. (2013). A review of school climate research. *Review of Educational Research*, *83*(3), 357-385. https://doi.org/10.3102/00346543134839

United States Department of Education. (n.d.). *About ED*. Retrieved from https://www2.ed.gov/about/landing.jhtml?src=ft

Van Eck, K., Johnson, S., Bettencourt, A., & Johnson, S. (2017). How school climate relates to chronic absence: A multi–level latent profile analysis. *Journal of School Psychology*, *61*, 89-102. https://doi.org/10.1016/j.jsp.2016.10.001

Wang, M., & Degol, J. (2016). School climate: A review of the construct, measurement, and

impact on student outcomes. *Educational Psychology Review*, *28*(2), 315-352.

https://doi.org/10.1007/s10648-015-9319-1

Wang, W., Vaillancourt, T., Brittain, H., McDougall, P., Krygsman, A., Smith, D., & Hymel, S.

(2014). School climate, peer victimization, and academic achievement: Results from a

multi-informant study. *School Psychology Quarterly*, *29*(3), 360-377.

https://doi.org/10.1037/spq0000084

Waters, T., Marzano, R. J., & McNulty, B. (2003). *Balanced leadership: what thirty years of

research tells us about the effect of leadership on student achievement*. McRel: Mid-

Continent Research for Educational Learning.

Xuan, X., Xue, Y., Zhang, C., Luo, Y., Jiang, W., Qi, M., & Wang, Y. (2019). Relationship

among school socioeconomic status, teacher-student relationship, and middle school

students' academic achievement in China: Using the multilevel mediation model. *PLoS

ONE*, *14*(3). https://doi-org/10.1371/journal.pone.0213783