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UNIVERSITY OF NORTHERN COLORADO

Greeley, Colorado

The Graduate School

AN EXAMINATION OF SUPPORT PROVIDED TO STUDENTS
ATTENDING TWO PERFORMING COLORADO HIGH
SCHOOLS WITH A SIGNIFICANT PERCENTAGE
OF STUDENTS EXPERIENCING POVERTY

A Dissertation Submitted in Partial Fulfillment
of the Requirements for the Degree of
Doctor of Education

Rebecca Albert Vollrath

College of Education and Behavioral Sciences
Department of Leadership and Development: Higher Education and P-12 Education
Educational Leadership and Policy Studies

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This Dissertation by: Rebecca Albert Vollrath

Entitled: *An Examination of Support Provided to Students Attending Two Performing Colorado High Schools with a Significant Percentage of Students Experiencing Poverty*

has been approved as meeting the requirement for the Degree of Doctor of Education in College of Education and Behavioral Sciences in Department of Leadership, Policy, and Development, Program of Educational Leadership and Policy Studies

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ABSTRACT

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Students living in poverty are noted to experience a variety of barriers, which include literacy gaps (Buckingham et al., 2013), lower reading achievement entering high school (Reardon et al., 2013), lower graduation rates (National Center for Education Statistics, 2016), higher incidences of learning disabilities and behavior problems (Morgan et al., 2009), and other negative psychological and educational outcomes that could affect academic achievement (Mistry et al., 2009). The aforementioned items have created barriers to learning and achievement while high school leadership across the United States have worked to support all students at school. Colorado high schools generally have used Multi-Tiered Systems of Supports to support students at varying levels of intensity both academically and behaviorally (CDE, n.d.b). The purpose of this qualitative case study was to explore how two performing Colorado high schools with a significant percentage of impoverished students supported all students. For this study, Colorado high schools that met or exceeded the average Colorado Scholastic Aptitude Test (CO SAT) score for the 2017-2018 school year were considered performing.

This two-site qualitative case study used purposive sampling, document review, semi-structured interviews, qualitative coding, written memos, and constant comparative analysis to identify themes as to how two performing Colorado high schools with a significant percentage of impoverished students supported students. The findings from Mountain High School and Plains

High School revealed that both high schools provided a variety of structural, academic, and supports that promoted a sense of belonging and safety. Additionally, the study revealed that Mountain High School and Plains High School provided targeted and individualized support to groups of students (e.g., English learners, students with disabilities, students identified as gifted and talented, and students who were struggling academically or emotionally).

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I could not have done any of this without my husband. He has stood beside me and has been a great support throughout this journey. There were countless times you did more than your share to provide me the necessary time and space to complete my degree.

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I would like to thank my committee members who provided valuable feedback and guidance as I tackled a complicated research topic during a pandemic that impacted us all in unexpected ways.

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TABLE OF CONTENTS

CHAPTER

I. INTRODUCTION TO THE STUDY	1
Problem Statement	6
Purpose of the Study	7
Research Question.....	7
Overview of the Methods.....	8
Definition of Terms.....	8
Conclusion.....	9
II. REVIEW OF LITERATURE.....	11
Barriers to Achievement in High-Poverty Schools	12
Increasing Achievement in High-Poverty Schools	15
Response to Intervention.....	18
Positive Behavioral Interventions and Supports	20
Multi-Tiered System of Supports.....	24
Challenges of a Multi-Tiered System of Supports	27
Using a Multi-Tiered System of Supports to Support Historically Marginalized Populations	31
Colorado Multi-Tiered System of Supports	32
Conclusion.....	34
III. METHODOLOGY	37
Epistemology.....	38
Theoretical Framework	38
Methodology	39
Trustworthiness	48
Researcher Stance	52
Conclusion.....	55
IV. FINDINGS	56
Mountain High School Findings	57
Plains High School Findings	72
Comparison of Mountain High School and Plains High School	87
Notable Differences.....	89
Conclusion.....	93
V. DISCUSSION AND CONCLUSIONS.....	95
Summary of Findings.....	95

Discussion of Findings 97
Implications of Findings..... 111
Limitations of Study 113
Implications for Future Research 115
Conclusions 116

REFERENCES..... 119

APPENDIX

A: Institutional Review Board Approval 144
B: Interview Protocol and Sample Interview Questions 146

LIST OF TABLES

Table 1: Positive Behavioral Interventions and Supports Prevention Model 22

CHAPTER I

INTRODUCTION TO THE STUDY

The Department of Education Act of 1867 authorized the establishment of the Office of Education, which later became the United States Department of Education in 1980 (Snyder et al., 2009). Since the formation of the United States Department of Education, several pieces of legislation have been authorized, all of which were intended to help the United States Department of Education successfully implement its mission to “promote student achievement and preparation for global competitiveness by fostering educational excellence and ensuring equal access” (United States Department of Education, 2011, para. 1). Snyder et al. (2009) explained that in 1964 both the Civil Rights Act along with the Economic Opportunity Act were authorized with the intention to improve schools and student achievement by ending segregation and expanding educational opportunities for students living in poverty. One year later, the Elementary and Secondary Education Act of 1965 expanded federal grants and programs especially for students living in poverty (United States Department of Education, n.d.). Another key piece of educational legislation was signed into law by President George W. Bush when the No Child Left Behind (NCLB) Act (2002) was authorized (Snyder et al., 2009). NCLB (2002) addressed aspects of education related to standards, common assessments, accountability measures, school improvement, teacher and leader effectiveness, a well-rounded education, and federal education funding to improve student achievement in the United States. The Individuals with Disabilities Education Improvement Act (2004) expanded support for the achievement of students with disabilities by modifying the individualized education program process, including

procedural safeguards, increasing the school's voice in special education service placement, and recommending schools use Response to Intervention (RTI), a three-tiered model intended to use evidenced-based practices to identify students' needs early (Wrightslaw, n.d.).

President Barack Obama signed the American Recovery and Reinvestment Act in 2009 (Congressional Research Service, 2009). It was partially intended to close existing achievement gaps, improve student achievement, improve high school graduation rates, and support college and career success through courses and programming. More recently, Every Student Succeeds Act (ESSA) (2015) was implemented to support student achievement and improve American schools. Much like NCLB (2002), ESSA (2015) addressed: standards, assessments, accountability, school improvement, teacher and leader effectiveness, a well-rounded education, and federal funding for education, and included language that recognized the need for a multi-tiered system of supports for literacy services, students considered at-risk, and underperforming students. ESSA (2015) also designated funds to support students with special needs, English language learners (ELL), students living in poverty, interventions for students at low performing schools, growth-gap achievement populations, and school counseling.

Likewise, supporting students living in poverty and/or attending high-poverty schools was addressed in previous pieces of legislation. This was likely because while all students may face assorted challenges (McWhirter et al., 2007), students living in poverty and/or attending high-poverty schools face educational barriers related directly to poverty (McWhirter et al., 2007). For example, according to McWhirter et al. (2007), many intellectual, social, physical, emotional, mental, and health-related issues are associated with poverty, which places students at risk of dropping out of school. Gorski (2018) said that "what stands out most about the barriers low-income families face is that none of them, *not a single one*, has anything to do with the

students' intellectual capabilities or desire to learn" (p. 2). Gorski's (2018) comment supported the efforts of the federal government to address concerns associated with students living in poverty through legislation to address equity on behalf of students.

In 2019, approximately 15 million children in the United States lived in homes where the income was below the federal poverty threshold (National Center for Children in Poverty [NCCP]). It has been suggested that the current federal poverty threshold was too low, and that readjusting the poverty threshold would raise the potential percentage of children living in poverty in the United States to 43% (NCCP, 2019). Therefore, many students are affected by the challenges of living in poverty in the United States of America. Some of the challenges that students living in poverty have experienced include literacy gaps (Buckingham et al., 2013), lower reading achievement entering high school (Reardon et al., 2013), lower graduation rates (National Center for Education Statistics, 2016), higher incidences of learning disabilities and behavior problems (Morgan et al., 2009), and other negative psychological and educational outcomes that can affect academic achievement (Mistry et al., 2009).

Several strategies and/or supports have been identified to increase the achievement of students in high-poverty schools. The Bureau of Legislative Research (2014) prepared a report that recommended effective teaching, professional development, professional learning communities, effective school leadership, RTI, identifying what works for struggling readers, after-school programs, providing summer school opportunities, developing effective communication with parents, effective early childhood education programs, and a no-excuses approach. These strategies supported students primarily academically, while the Whole Child Initiative, launched in 2007 by the Association for Supervision and Curriculum Development

(ASCD) (n.d.), advocated for a strategy designed to expand the narrow focus of academic achievement to include other aspects that:

Ensure each child, in each school, in each community, is healthy, safe, engaged, supported, and challenged. It engages all stakeholders—educators, families, policymakers, and community members—in defying the “percentage proficient” culture array of factors influencing long-term success rather than short-term achievement.

(ASCD, n.d., para. 5)

Focusing on the whole child considered more than just the academic needs of students living in poverty. It also considered the needs of other groups of children. For example, exploited and refugee children from other nations; children of divorce, family, and community violence; children with health and mental health disparities; children in families in financial crisis; children with special learning needs; and students of minority races were all considered as needing more than academic support alone (Kochhar-Bryant, 2010). Ultimately, the Whole Child Initiative (ASCD, n.d.) supported strategies to support the academic, behavioral, and social-emotional needs of students to help them be successful.

As previously mentioned, ESSA (2015) included language that acknowledged the need for a multi-tiered system of supports for literacy services, students considered at-risk, and underperforming students. ESSA (2015) also designated funds for students with special needs, ELLs, students living in poverty, interventions for students at low performing schools, growth-gap achievement populations, and school counseling. Therefore, in a similar way to the Whole Child Initiative (ASCD, n.d.), ESSA (2015) supported the academic, behavioral, and social-emotional needs of students to improve student achievement.

To support students, ESSA (2015) recommended implementing a multi-tiered system of supports which was further defined as "a comprehensive continuum of evidence-based, systemic practices to support a rapid response to students' needs, with regular observation to facilitate data-based instructional decision making" (Title IX, Sec. 8002(33)). It included behavioral support for at-risk students through early interventions, and a multi-tiered system of supports was again mentioned when referring to the implementation of behavior supports to strengthen academic programming (ESSA, 2015).

ESSA (2015) suggested state education agencies, school districts, and schools consider context and develop a multi-tiered system of supports accordingly. While each state was expected through ESSA (2015) to ensure a multi-tiered system of supports existed, states adopted different models to implement a multi-tiered system of supports. For example, Colorado adopted an approach to student support called a Multi-Tiered System of Supports (MTSS) that included the academic component of RTI, behavioral supports like those from Positive Behavioral Interventions and Supports (PBIS), and social-emotional supports (Colorado Department of Education [CDE], 2016b). The CDE's model of MTSS was defined as a "whole-school, prevention-based framework for improving learning outcomes for every student through a layered continuum of evidence-based practices and systems" (CDE, 2016f, para.1). Colorado's MTSS model included five essential components: team-driven shared leadership, data-based problem solving and shared decision-making, a layered continuum of supports, evidence-based practices, and family, school, and community partnering (CDE, 2016f). The layered continuum of supports for Colorado's MTSS referred to the intensity of support, which was determined by student need, ranging from universal supports designed for every student to more targeted

supports designed to support some students to intensive supports typically designed for only a few students (CDE, 2016f).

Problem Statement

Despite the efforts to support students living in poverty that have been addressed through legislation, students living in poverty still face educational barriers. Some of the challenges that students living in poverty may experience include literacy gaps (Buckingham et al., 2013), lower reading achievement entering high school (Reardon et al., 2013), lower graduation rates (National Center for Education Statistics, 2016), higher incidences of learning disabilities and behavior problems (Morgan et al., 2009), and other negative psychological and educational outcomes that could affect academic achievement (Mistry et al., 2009).

This study was proposed in 2019, permission to conduct the study was granted in 2020, and data were collected in 2020. While research existed surrounding RTI, PBIS, and social-emotional learning, at the time of this study, there was a gap in research that addressed how high schools with a significant percentage of students experiencing poverty supported all students and how MTSS was structured in high schools with a significant percentage of students that were considered performing (Lesh et al., 2021). There was also some research that supported the use of RTI, PBIS, and social-emotional supports in schools; however, most of the research had not focused on high school students (Lesh et al., 2021), nor had it focused on high schools with a significant percentage of students that likely faced several challenges related to poverty.

In Colorado schools, these challenges among others are addressed at varying levels of intensity both academically and behaviorally using MTSS to support students (CDE, 2016b). Although Colorado adopted a MTSS model in 2016, less than 10 public, charter, alternative, and online Colorado high schools with grades 9-12 only with a significant percentage of students

experiencing poverty demonstrated college and career readiness performance scores at or above the average Colorado SAT scores for the 2017-2018 school year. Colorado high schools that met or exceeded the average Colorado Scholastic Aptitude Test (CO SAT) score for the 2017-2018 school year were considered performing for this study.

Therefore, conducting research that investigated student supports in high-poverty, performing high schools was needed to provide insight into what academic, behavioral, and social-emotional supports and interventions are available, accessed, and effective at the high school level. Exploring the MTSS of high-poverty, performing Colorado high schools could be used to inform the MTSS in other high-poverty high schools, which might result in increased college and career readiness performance scores.

Purpose of the Study

The purpose of this qualitative case study was to explore how two performing Colorado high schools with a significant percentage of impoverished students supported all students. Colorado high schools that met or exceeded the average CO SAT score for the 2017-2018 school year were considered performing for this study. It was hoped that completing this study would help bridge the research gap on student supports and MTSS in high schools with a significant percentage of impoverished students. More importantly, it was hoped that the findings from this study could be used to inform the MTSS structure in other high-poverty high schools, which might result in increased college and career readiness performance scores.

Research Question

The investigation of student supports and the use of MTSS in performing Colorado high schools with a significant percentage of students experiences poverty was guided by the following research question:

- Q1 How do two performing Colorado high schools with a significant percentage of impoverished students support all students?

Overview of the Methods

The study I conducted was a two-site qualitative case study that explored how performing high schools with a significant percentage of impoverished students supported students. A case study design was chosen because it allowed me to gain in-depth knowledge about two bound cases while understanding how each high school's context may have influenced the decisions that were made in terms of student supports. After selecting the schools based on 2017-18 state demographic and assessment data and gaining permission to conduct the study at the selected sites, I collected data in 2020 using semi-structured interviews, reviewing public documents, and writing memos. Semi-structured interviews allowed me to gain an understanding from multiple participants of each bound case to better understand the phenomenon that occurred in each high school. The public document review allowed me to gain knowledge of each high school's context, while the memos provided an opportunity to begin analyzing the data while I was collecting it. I was able to synthesize the data as I understood the context of each case separately. I analyzed the data using open, axial, and selective coding. I chose to engage in these types of coding because they supported my ability to categorize the data, find the relationships between the open codes, and develop themes from the data.

Definition of Terms

For this study, the following definitions were used:

High-poverty. High schools, including all public, charter, alternative, and online Colorado high schools (9-12) with 17 or more students during the 2017-2018 school year, were deemed *high-poverty* or to have had a significant percentage of impoverished students if the percent of students who qualified for free and reduced lunch was one standard deviation

above the state mean. The mean percentage of free and reduced lunch for all public, charter, alternative, and online Colorado high schools (9-12) with 17 or more students for 2017-2018 was 44% (CDE, n.d.a). Since the state average of students who qualified for free and reduced lunch in 2017-2018 was 44% (CDE, n.d.a), schools with a student population of 67% free and reduced lunch for the 2017-2018 school year were deemed high-poverty or to have a significant percentage of impoverished students.

Performing. Those public, charter, alternative, and online high-poverty Colorado high schools (9-12) with 17 or more students whose scores were at or above the average 2017-018 Colorado (CO) Scholastic Aptitude Test (SAT) score of 1014. The CO SAT was the college and career readiness indicator used in Colorado in 2017-2018 (CDE, 2018d). Because poverty creates educational barriers and challenges for students (Buckingham et al., 2013; McWhirter et al., 2007; Mistry et al., 2009; Morgan et al., 2009; National Center for Education Statistics, 2016; Reardon et al., 2013), schools that met or exceeded the average CO SAT score for the 2017-2018 school year were considered performing for this study.

School leadership. This was defined as school personnel who were on the school's leadership team. This was typically a mixture of people that included, but was not limited to: the principal, assistant principals, deans of students, teachers, counselors, interventionists, and specialists.

Conclusion

The purpose of this qualitative case study was to explore how two performing Colorado high schools with a significant percentage of impoverished students supported all students. Students living in poverty can experience many challenges. Colorado high schools generally

used MTSS to support students at varying levels of intensity both academically and behaviorally at the time of this study (CDE, 2016b).

There was a gap in research for both MTSS at the high school level and concerning student supports in high-poverty, performing high schools at the time of this study. It was hoped that completing this study would inform student supports, structures, and MTSS in high-poverty, performing high schools. It was hoped that the findings from this study might inform leaders in other high-poverty high schools, which might result in increased college and career readiness performance scores.

This dissertation contains five chapters. Chapter 1 presented the introduction, purpose, and rationale for the study. Chapter 2 contains a review of related literature, which is divided into sections, including: barriers to achievement in high-poverty schools, increasing achievement in high-poverty schools, RTI, PBIS, MTSS, challenges of MTSS, using MTSS to support historically marginalized populations, and Colorado MTSS. Chapter 3 includes the theoretical framework, research methodology and methods, issues related to trustworthiness of the study, and my personal research stance. Chapter 4 includes the findings of the study, and Chapter 5 discusses the findings and implications of the study, including connections to the literature, limitations of the study, and recommendations for future research.

CHAPTER II

REVIEW OF LITERATURE

The literature was reviewed to explore barriers to achievement in high-poverty schools, increasing achievement in high-poverty schools, response to intervention (RTI), positive behavioral interventions and supports (PBIS), MTSS, challenges of MTSS, using MTSS to support historically marginalized populations, and Colorado MTSS.

Supporting students living in poverty and/or attending high-poverty schools was addressed in pieces of federal legislation like the Every Student Succeeds Act (ESSA), 2015 and No Child Left Behind Act (NCLB) of 2002, in part, because while all students may face assorted challenges (McWhirter et al., 2007), students who have lived in poverty and/or attended high-poverty schools faced educational barriers related directly to poverty (McWhirter et al., 2007). Some of the challenges that students who have lived in poverty could experience included: literacy gaps (Buckingham, et al., 2013), lower reading achievement entering high school (Reardon et al., 2013), lower graduation rates (National Center for Education Statistics, 2016), higher incidences of learning disabilities and behavior problems (Morgan et al., 2009), and other negative psychological and educational outcomes that could affect academic achievement (Mistry et al., 2009).

In 2019, approximately 15 million children in the United States lived in homes where the income was below the federal poverty threshold at the time of this study (National Center for Children in Poverty [NCCP], 2019). It was suggested that the federal poverty threshold was set at a level that failed to capture all the people living in poverty, and if it were adjusted to better

reflect actual poverty levels, the percentage of children that lived in poverty in the United States could be 43% (NCCP, 2019). Therefore, many students have been affected by the challenges of living in poverty in the United States of America.

In the state of Colorado, over 910,000 children went to school (Colorado Department of Education [CDE], 2018a), and more than 270,000 of those students attended high schools (CDE, 2018a) in 2018. Because the state average percent of students who qualified for free and reduced lunch at traditional public, charter, alternative, and online Colorado high schools (9-12) was 44% (CDE, n.d.a) and because the state of Colorado supported a Multi-Tiered System of Supports (MTSS) framework at the time of this study to support high school students, it was an appropriate setting to conduct research.

Barriers to Achievement in High-Poverty Schools

While poverty is typically associated with a family's income being below the federal level (NCCP, 2019), Burney and Beilke (2008) argued that "level of income does not adequately capture all of the differences between those who have resources and those who do not" (p. 173). Rothstein (2004) noted that duration of time the family has lived in poverty, additional family assets, and the poverty level when the child was under age five were all factors that influence achievement. Additionally, poverty could be experienced differently for different racial and ethnic groups or individuals within groups or individuals from the same geographic area (Burney & Beilke, 2008) and, therefore, affect achievement differently. For example, Hernandez and Cervantes (2011) explained that these same barriers may be exacerbated by language barriers, documentation status, and discrimination for immigrant children. Dearing (2014) added that because of the additional challenges that immigrant children face growing up in poverty that intervention and support may take years.

Students living in poverty may have had limited access to resources to help build foundational skills such as literacy (Rothstein, 2004). Chatterji (2006) found that poverty rather than ethnic or racial background was the strongest contributing factor to students' lack of preparedness with respect to reading. Buckingham et al. (2013) also found students living in poverty experienced literacy gaps and Reardon et al. (2013) noted lower reading achievement entering high school for students living in poverty as well. Duncan and Murnane (2011) noted wide differences in enrichment activities for families that lived in poverty compared to those who did not live in poverty such as music lessons, travel, and summer camps, which all also helped build foundational skills and background.

Beyond literacy, students who lived in poverty also have experienced lower graduation rates (National Center for Education Statistics, 2016). Lankford et al. (2002) found that "Nonwhite, poor, and low performing students, particularly those in urban areas, attend schools with less qualified teachers" (p. 54). Additionally, Jacob (2007) also found the annual turnover was higher in high-poverty urban schools (22%) compared to teacher turnover in all public schools (15%). This means that access to quality instruction may also be a barrier to achievement for students living in poverty because researchers like Hattie (2012) and Borg et al. (2018) established that individual teachers who provide quality instruction have a positive impact on student learning and achievement.

Students living in poverty may have had other negative health or psychological outcomes that could affect academic achievement (Mistry et al., 2009). Berliner (2009) expressed the following out-of-school factors that impact health and student learning:

- (1) low birth-weight and non-genetic prenatal influences on children;
- (2) inadequate medical, dental, and vision care, often a result of inadequate or no medical insurance;
- (3)

food insecurity; (4) environmental pollutants; (5) family relations and family stress; and (6) neighborhood characteristics. (para. 1)

The aforementioned factors may have led to the following challenges at school for students living in poverty that can range from “neurological damage and attention disorders to excessive absenteeism, linguistic underdevelopment, and oppositional behavior” (Berliner, 2009, para. 1).

Zalaznick (2015) noted that some students who came to school hungry or traumatized from the home environment struggled to learn despite the strategies implemented in order to support their academic achievement and the learning environment; however, Muñoz et al. (2015) noted that barriers to students’ learning could be removed through school-based centers “designed to promote the flow of resources and support to families in ways that strengthen the growth and development of the students and its family unit” (p. 89). Higher incidences of learning disabilities and behavior problems for students who lived in poverty have been recorded as well (Morgan et al., 2009). By implementing the interventions and supports that were determined by school personnel to be appropriate for students, they had a better opportunity to be academically successful (Muñoz et al., 2015).

Gifted, but unidentified, students living in poverty have faced educational barriers as well (Borland, 2005; Hamilton et al., 2018). According to the National Association of Gifted Children (NAGC) (n.d.), the intent of all specialized educational programming was to benefit student learning through specialized practices. Siegle et al. (2016) noted that, “Exposure to meaningful advanced content is essential for maximum growth” (p. 122) for gifted students, and according to the NAGC (n.d.), there were specific strategies that could be used to benefit gifted students, including: acceleration, curriculum compacting, differentiation, pull-out and other specialized programs, and teacher training. There was also evidence that students living in

poverty were underrepresented in gifted identification (Borland et al., 2000; Sparks, 2015). Additionally, Hamilton et al. (2018) found that even when students who lived in poverty exhibited equally high mathematics and reading achievement, they were less likely to be identified for gifted services compared to students not living in poverty, and Borland (2005) found students who lived in poverty were five times less likely to participate in gifted programming compared to students not living in poverty. Barriers to education have been created when gifted students went unidentified and did not have the opportunity to receive appropriate programming (Trépanier, 2015), and gifted students who went unidentified might have suffered underachievement (Rodov & Truong, 2014). Some studies have shown that unidentified gifted students could suffer depression, drop out of school, abuse drugs, become incarcerated and even commit suicide all resulting consequences of the gifted children's educational needs being neglected (Rodov & Truong, 2014). In conclusion, numerous studies have shown that students that experience poverty can be faced with several different barriers that impact achievement.

Increasing Achievement in High-Poverty Schools

Because students living in poverty face several different barriers to their achievement, there has been research conducted to address how to increase the achievement of students in high-poverty schools. Several strategies and supports have been previously identified to increase the achievement of students in high-poverty schools. The Bureau of Legislative Research (2014) prepared a report that recommended: effective teaching, professional development, professional learning communities, effective school leadership, RTI, identifying what works for struggling readers, after-school programs, providing summer school opportunities, developing effective communication with parents, effective early childhood education programs, and a no excuses approach. In the case of struggling readers, one-to-one tutoring from highly qualified teachers,

reading specialists, paraprofessionals, and volunteers were noted as well as small group tutorials, and classroom instructional process approaches (Bureau of Legislative Research, 2014) were recommended. The no excuses approach developed by Reeves (2003) included schools in Milwaukee, Wisconsin where the student body was 90% or more free and reduced lunch, 90% or more minority students, and 90% or more of the students met state academic standards in reading and another area. Reeves (2003) identified five themes that separated “90/90/90” schools from other lower performing schools: laser focus on student achievement, clear curriculum choices, frequent assessment of student progress with multiple opportunities for improvement, written responses in students’ performance assessments, scoring assessments using objective means, and teacher collaboration. However, Baeder (2011) questioned the authenticity of Reeves’s (2003) research.

The Washington Education Association (WEA) (n.d.) tracked the progress of the high-poverty schools that received School Improvement Grants in 2010 and 2011 and developed additional recommendations to support achievement in high-poverty schools. The WEA (n.d.) supported the continued additional funding to high-poverty schools, which included extended learning time, smaller class sizes, and wraparound services- supports that included partnering the families with additional resources within the community. Additional recommendations for improved achievement in high-poverty schools included: sufficient time for teachers to participate in professional learning communities; high-quality principal leadership; using data to drive instruction; ensuring sufficient teacher collaboration and planning time; funding basic education for all high-poverty students; aligning behavioral and curriculum expectations of feeder schools within districts; funding quality aligned, on-site pre-school for high-poverty

students; and that the state education agency should evaluate their own service providers for effectiveness and collaborate to make its reviews of schools transparent (WEA, n.d.).

Burney and Beilke (2008) suggested the importance of early intervention, better school programming, holistic identification of high-ability students in poverty, supporting the development of coping strategies and developing resilience, and included strategies to support the entire family to support the academic achievement of students who lived in poverty. Dearing et al. (2016) also found support that, for students attending high-poverty urban schools, linkages built to the community through school-based assistance could increase accomplishment by removing barriers to learning. Ways to support students was further supported by recent legislation as ESSA (2015) funds were to be designated for students with special needs, English language learners (ELL), students living in poverty, interventions for students at low performing schools, growth-gap achievement populations, and school counseling.

Kennedy (2018) reported the findings from a longitudinal study on Write to Read in high-poverty contexts as an intervention to support students' literacy skills. Kennedy (2018) found that student motivation and engagement increased with the implementation of Write to Read and noted that reading enjoyment, autonomy support and relevance, reading strategies, student discourse strategies that promoted peer support and social engagement, and student self-efficacy were all characteristics that supported engagement. The study also reported that students in high-poverty schools had increased engagement and reading when mixed-ability grouping and student discourse were used.

Fahey-Smith (2015) reviewed the Cristo Rey model designed to support students living in poverty by removing barriers to their academic success. The Cristo Rey Network is a network of faith-based charter schools that uses a framework that values high standards, mutual respect, and

trust (Fahey-Smith, 2015). The Cristo Rey Framework includes supporting students with character development, college and career preparatory development, and a corporate work study program where students work one full day each week through four years of high school.

There has been an increased effort to incorporate social-emotional learning (SEL) standards at the state level (Dusenbury et al., 2018) which has also supported the Whole Child Initiative (ASCD, n.d.). Fourteen states had prekindergarten through twelfth grade SEL standards in 2018 (Dusenbury et al., 2018). According to the Collaborative for Academic, Social, and Emotional Learning (2022), all 50 states have now adopted prekindergarten standards for SEL and a total of 27 states have adopted K-12 SEL competencies.

Several different strategies have been identified to help students living in poverty overcome barriers to achievement and to increase achievement in high-poverty schools.

Response to Intervention

RTI is part of an effort to ensure that struggling students were identified and provided the appropriate interventions or supports to reach expected or more than expected academic progress and to identify and appropriately serve the learning needs of those students with disabilities (Individuals with Disabilities Education Improvement Act [IDEA], 2004). The intensity of support within RTI varies from those supports that are afforded to all students, those that are more intense and target a small group of students, and those that are the most intense and offered to only a few students (Williams, 2022). RTI refers to varying levels of high-quality instructional support for students, universally screening students for potential areas of need, progress monitoring, using data-driven decisions to determine the need for special education support (Fuchs & Fuchs, 2006), and uses a problem-solving process (Gresham, 2007).

RTI gained popularity with the signing of the IDEA in 2004, which dropped the requirement of using the IQ-achievement discrepancy criteria to determine eligibility for special education services. It is seen as:

a preventative approach . . . intended to rectify a number of long-standing problems arising from the use of the discrepancy model including the disproportionate number of low-income students and ELLs identified as learning disabled and the need to wait for documented failure before providing services. (Wixson, 2011, p. 504)

Ultimately, RTI should be viewed as a whole school initiative meant to make the best use of instruction as opposed to a special education or a general education initiative that required collaboration from classroom teachers, special education teachers, Title 1 and support personnel (when applicable), building level and school district administrators, reading specialists and literacy coaches, school psychologists, ELL teachers, state and national agencies, parents and families, and students (Ehren et al., n.d.).

Research regarding the effectiveness of RTI has been mixed. For example, in a meta-analysis, Burns et al. (2005) found success and great potential in RTI programs from different states, especially in association with reading and mathematics. However, the study spoke to RTI as it impacted kindergarten through third grade students and did not include middle school or high school students. Studies by Torgesen (2009) and Wanzek and Vaughn (2010) both found the number of special education referrals decreased after the implementation of RTI. More recently, a study completed by the National Center for Education Evaluation and Regional Assistance (Balu et al., 2015) included more than 20,000 K-3 students in 13 states and showed that most students identified as needing intervention through RTI made no growth throughout a school year and in some cases, students lost ground.

Much of the research surrounding RTI has focused on elementary students and has not included high school populations. Hughes and Dexter (2008), for example, examined the effectiveness of RTI models in 16 different studies, only one of which included high school students. According to a research synthesis by Edmonds et al. (2009), there has been some evidence that older readers could be responsive to targeted and intensive reading interventions. Vaughn et al.'s (2008) research further supported the notion that supporting reading difficulties in the secondary grades was not too late, especially if the intervention was long-term. It was unclear why research was lacking in this area, although it noted additional student characteristics, such as reading multiple years below grade level and low motivation after years of academic struggles (National High School Center et al., 2010) may have influenced the amount of research. More recently Baldy (2018) found that implementing evidence-based reading strategies across content disciplines based upon the results of assessment data for middle school students improved reading achievement, while high school students did not see improvements at the same level after the first year. Baldy (2018) noted it was unclear as to why the high school students did not show as much reading achievement improvement as the middle school students but did note that only a handful of teachers implemented the strategies with fidelity. Even though RTI has been widely used for years to identify students' needs and students' supports to varying degrees of intensity, research concerning its effectiveness has been mixed.

Positive Behavioral Interventions and Supports

While RTI was designed to address academic learning needs, PBIS was designed to address behavior needs. Some behavioral supports have been referred to as PBIS. Initially, PBIS was designed as a collection of strategies meant to improve the social behaviors of students with

disabilities by using proactive and systematic techniques that were not punitive (Carr et al., 2002) and meant to foster a positive school climate (Averill & Rinaldi, 2011). In the 1990's, zero-tolerance policies as an approach to discipline and school safety became popular across the country (Wald & Losen, 2003). This trend led to an increase of out-of-school suspensions and expulsions (Wald & Losen, 2003). From this, a controversy arose concerning the racial disparities in suspension and expulsion rates (Skiba et al., 2014). In comparison to kids in comparable schools, there are significantly fewer out-of-school suspensions for students with disabilities and African American students in schools utilizing school-wide PBIS (Gage et al., 2018).

IDEA (2004) expanded the intended recipients of PBIS to both general education and students with disabilities (IDEA, 2004). In some ways, PBIS paralleled RTI as it embraced a multi-tiered, data-based approach (Averill & Rinaldi, 2011; Horner et al., 2020). The core elements at each of the three tiers in the PBIS prevention model are defined in Table 1 (Horner et al., 2020). PBIS focuses on both the behavioral and social-emotional needs of students as well as well as prevention (Öğülmüş & Vuran, 2016). By 2017, more than 26,000 schools had actively implemented PBIS (Horner et al., 2017). Perhaps a coincidence, but between 2012-2016, suspensions and expulsions decreased across the country except for in Mississippi (Kamenetz, 2018), although Black high school students were still twice as likely to be suspended as White or Hispanic high school students, and students with a disability were also twice as likely to be suspended as those without a disability (Kamenetz, 2018).

Table 1*Positive Behavioral Interventions and Supports (PBIS) Prevention Model*

Prevention Tier	Core Elements
Primary	Behavioral Expectations Defined Behavioral Expectations Taught Reward system for appropriate behavior Clearly defined consequences for problem behavior Differentiated instruction for behavior Continuous collection and use of data for decision-making Universal screening for behavior support
Secondary	Progress monitoring for at risk students System for increasing structure and predictability System for increasing contingent adult feedback System for linking academic and behavioral performance System for increasing home/school communication Collection and use of data for decision-making Basic-level function-based support
Tertiary	Functional Behavioral Assessment (full, complex) Team-based comprehensive assessment Linking of academic and behavior supports Individualized intervention based on assessment information focusing on (a) prevention of problem contexts, (b) instruction on functionally equivalent skills, and instruction on desired performance skills, (c) strategies for placing problem behavior on extinction, (d) strategies for enhancing contingency reward of desired behavior, and (e) use of negative or safety consequences if needed. Collection and use of data for decision-making

Gagnon et al. (2020) found, “the establishment of a school-based leadership team for coordinating PBIS activities is an important component for successful implementation” (p. 187). Gagnon et al. (2020) also noted the importance of collecting and using student behavior data to support the implementation of PBIS to its fullest extent. George et al. (2018) reported difficulties implementing Tier II and Tier III supports and PBIS interventions, and again a couple of years later (George et al., 2022). While implementation at Tiers II and Tier III was still reported to be

lower compared to Tier I (George et al., 2022), there was an increase in schools implementing Tier II and Tier III interventions and practices.

Some research conducted in elementary schools concerning the school wide implementation of PBIS showed that PBIS was associated with less office referrals and suspensions and improved school climate (Bradshaw et al., 2010), and Horner et al. (2009) and Pas et al. (2019) reported an increase in students' achievement with the implementation of school-wide PBIS. Some elementary schools that had implemented school wide PBIS also reported that students needed fewer support services after the implementation of school-wide PBIS (Bradshaw et al., 2012; Childs et al., 2016; Freeman et al., 2016; Pas et al., 2019). Pas et al. (2019) noted statistically significantly better improvements for both behavior and academic indicators when school personnel had been formally trained in school-wide PBIS and noted that truancy improved in secondary schools that participated in the study as well.

Even though the majority of research related to PBIS has been completed at the elementary level (Gagnon et al., 2020), there is some support of PBIS at the secondary school level as well (Smolkowski et al., 2016). A study conducted in a large urban school district found that school-wide implementation of PBIS at elementary, middle, and high school levels decreased incidents of school discipline concerns among other positive effects (Smolkowski et al., 2016). Another study found that PBIS had a hand in improving school climate (Öğülmüş & Vuran, 2016). According to the Center for Positive Behavioral Interventions and Supports (n.d.), the context of the school is a significant factor to consider when schools design systems of support for students. High schools should consider three main contextual factors: student age, school size, and school culture (Center for Positive Behavioral Interventions and Supports, n.d.). Flannery et al. (2018) shared that administrators should be actively involved and openly

supportive of PBIS implementation, practitioners should be aware of the variations related to the implementation at the high school level, students should become actively involved in both their schools and communities, and policymakers should be aware of PBIS's potential impact on school safety and student outcomes—behavioral, social, and academic—to be positioned to make the best decisions (between grades and post-secondary) in “Lessons Learned on Implementation of PBIS in High Schools”. Not much was known about the effectiveness of systemic reform programs, such as PBIS, when applied directly to high-poverty schools (Gagnon et al., 2020). PBIS has policy backing, but according to Bal (2018), has three crucial problems—addressing disproportionality, promoting reciprocal and sustained student, family, and community involvement, and making PBIS culturally responsive, that have not been addressed in the literature.

Multi-Tiered System of Supports

RTI and PBIS “integrates a continuum of systemwide resources, strategies, structures, and practices” (Averill & Rinaldi, 2011, p. 91). MTSS is the combination of RTI and PBIS to address the “academic, social, emotional, and behavioral development of children from early childhood through adolescence” (Averill & Rinaldi, 2011, p. 91). The four components of MTSS included varying levels of support, screening, progress monitoring, and data-driven decisions (National Association of School Psychologists [NASP], 2016). The levels of support vary in intensity from universal supports available to all students (Tier 1), targeted supports meant to serve some students (Tier 2), and intensive supports (Tier 3) intended to support a few students (NASP, 2016). The goal of these varying levels of support is to meet students with support when and where it was needed to prevent students from needing more intense support (NASP, 2016). Screening refers to an assessment that was generally universally administered to early-identify

potential challenges and areas for student concern for all students, especially those considered at risk (NASP, 2016). Progress monitoring refers to frequent checks that helped determine the effectiveness of the level of support and evidence-based intervention(s) being used (NASP, 2016). Using data-driven decisions means that the data collected through universal screening and progress monitoring used together to make decisions regarding the level of support necessary to support students (NASP, 2016). Additionally, MTSS emphasizes problem-solving and “acknowledges that instruction and/or contextual issues, not student inability, could be the reason why students are not learning” (Averill & Rinaldi, 2011, p. 92). Gamm et al. (2012) recognized 10 components of an effective MTSS framework include:

1. A well-defined district- and school-based leadership and organizational structure;
2. District policies and practices that align with and support a multi-tiered system;
3. Technology sufficient to support instructional decision making (e.g., data) and implementation of instruction (e.g., UDL);
4. Robust and valid core instruction delivered to all students;
5. The use of data-based decision making to match instructional resources to educational needs;
6. Assessment of expected rates of progress;
7. The use of three tiers of increasingly intensive (time and focus of instruction) instructional supports and strategies;
8. Professional development to ensure fidelity of implementation of the MTSS methodology and the Common Core State Standards;
9. An evaluation process that monitors both implementation and outcomes; and
10. The engagement of parents and caregivers. (pp. 7-8)

According to the NASP (2016), some of the benefits of MTSS include improved outcomes for all students, improved instruction and alignment of curricula, improved climate and safety, a learning environment free from bullying and harassment, effective discipline policy and practice, and support for students' mental and behavioral health. However, research concerning the impact of MTSS on academic achievement is still lacking. MTSS research more often has focused on behavior and social-emotional needs of students at the secondary level (Flannery et al., 2014; Swain-Bradway et al., 2015), although Pyle and Vaughn (2012) found the reading achievement gap widened for secondary students who did not receive reading interventions and/or supports. Pyle and Vaughn (2012) also expressed concern in making sure that screening and progress monitoring tools were both valid and reliable and suggested that support may require a school-wide effort and remediation for multiple years (Pyle & Vaughn, 2012). Morningstar et al. (2018) said when strategies associated with MTSS, such as RTI and PBIS, were implemented with fidelity, positive results are starting to be reported at the secondary level. Additionally, Morningstar et al. (2018) noted the importance that contextual and systemic factors associated with secondary students when establishing strategies like RTI and PBIS as a part of MTSS.

Maier et al. (2016) also found that some urban schools that had MTSS already in place had not achieved positive outcomes for students. Pierce and Mueller (2018) argued that rural schools should be innovative in their MTSS and rely heavily on evidence-based practices and should "focus their efforts on efficiency" (p. 190). Steed et al. (2013) suggested MTSS could help rural schools combat the challenges they face of limited staff and resources. Lesh et al. (2021) stated that research at the high school level concerning MTSS was still not in abundance and the findings varied. There appears to be a lack of knowledge regarding how to create and

implement systems that best fulfill the academic and behavioral needs of secondary students, including the distribution of suitable evidence-based approaches (Morningstar et al., 2018). Lesh et al. (2021) suggested that the requirement for substantial and rigorous professional development, the clarification of roles, an increase in implementation fidelity, and staff accountability would better support the student outcomes stemming from MTSS.

Challenges of a Multi-Tiered System of Supports

The findings around MTSS at the high school level varied, and there have been several challenges associated with MTSS. For example, Averill and Rinaldi (2011) asserted that “working within the MTSS framework requires that all school district staff, including teachers, central office personnel, school leaders and student support specialists, change the way in which they have traditionally worked” (p. 92). Likewise, Hoon et al. (2018) found that MTSS required a “slow transformational process relative to its supportive scaffolding components, such as Administrative Leadership, and that attention to mediating factors in installation, rather than TA [federally funded technical assistance] directly solely to the mechanics of MTSS installation, is important” (p. 10). Averill and Rinaldi (2011) also noted that district and school leaders and other stakeholders should come to a consensus concerning MTSS best practices first and then build the appropriate infrastructure to support it. The next stages of implementation must be completed with fidelity and subsequently and appropriately evaluated and revised (Abbott & Wills, 2012; Averill & Rinaldi, 2011).

One challenge associated with MTSS implementation has been a lack of professional development given to school district and school personnel to make the slow transformative process successful (Freeman et al., 2017; Lesh et al., 2021). To combat this, Freeman et al., (2017) suggested MTSS coaching. Another challenge associated with the implementation of

MTSS in urban schools was how teacher turnover inhibited systemic change (Kraft et al., 2015). High-poverty urban schools often had less experienced teachers (Borg et al., 2018; Greenfield et al., 2010). Having less experienced teachers could lead to confusion about the MTSS process and frequent changes of the process (Braun et al., 2018). It could also leave well-meaning teachers ill-equipped through a lack of knowledge of how to respond to student needs (Greenfield et al., 2010). For example, Braun et al., (2018) found schools struggled to “intensify interventions for non-responders” (p.7), and participants said these students end up “living in Tier 2” (Braun et al., 2018, p. 7) meaning the achievement gap did not close for these students nor did their targeted supports change or intensify. Finally, while teachers have been found to perceive benefits of MTSS to students, the paperwork and data collection have created additional work for teachers (Martinez & Young, 2011), which can be a deterrent for some teachers to support implementation.

Another challenge for MTSS has been the incomplete implementation of all three tiers for both RTI and/or PBIS. For example, Hoon et al., (2018) found that 68% of the schools in their study did not have a behavior support system at Tier 1, and 90% did not have a screening process for behaviors, whereas many of the schools did have levels of support already in place for academics, especially in the area of reading. Lane et al. (2011) noted that while many schools had implemented universal screening for academic skills, fewer schools were doing so for behavior.

Additionally, while ESSA (2015) supported an increase in social-emotional support for students, many schools did not offer universal mental health screenings (Splett, et al., 2018). A study conducted by Splett et al. (2018) indicated that, compared to the number of students served at the time of their study, introducing universal mental health screening would have increased the

number of kids identified as at risk by 180%. Hodgkinson et al. (2017) noted that children of color and those from low-income areas face significant barriers to accessing behavioral and mental health treatments and that increasing mental health screenings at school might help these groups of students access behavioral and mental health support. Bruhn et al. (2014) stated that the three primary justifications cited by respondents for not implementing screening were a lack of funds, lack of understanding this type of screening, and accessibility to emotion/behavior health screeners. Wood and McDaniel (2020) said that 53% of elementary, middle school, and high school principals in their study in Indiana admitted they relied primarily on office discipline referrals to determine students at risk for behavioral or mental health concerns, which means that students are not identified until after students have demonstrated a need for support rather than before students demonstrated a need for support. For students, early detection and intervention can result in better social-emotional, behavioral, and academic outcomes (National Center for School Mental Health, 2020). Verlenden et al. (2020) expressed the following:

Schools must establish a plan for using screening data to guide intervention and prevention programming, aiming not only to identify students needing additional support but also to improve classroom and school practices through the support of teachers and other school stakeholders. (p. 95)

Hoon et al. (2018) found that administrative leadership impacted the successful implementation of MTSS, although there was evidence that administrative leadership impacted behavior slightly more than academic aspects. As the head decision-maker within a school, administrative leadership is the authority surrounding the allocation of resources including but was not limited to finances, building space, and personnel (Eagle et al., 2015). This means that how administrative leadership divides the resources surrounding MTSS could have a great impact on

its implementation and impact on students (Eagle et al., 2015), which could result in a successful implementation of MTSS or weak implementation of MTSS.

Most research on MTSS examined a particular facet not the overall impact of the system on academic achievement (Deshler, 2015). Research regarding MTSS in academic areas has occurred at the elementary level (Faggella-Luby & Wardwell, 2011; King et al., 2012; Lesh et al., 2021), and it should not be assumed that what was successful at the elementary level would be successful at other levels (Faggella-Luby & Wardwell, 2011). Center for Positive Behavioral Interventions and Supports (n.d.) explicitly mentions the context of each school as an important factor to consider concerning the implementation of MTSS, which includes the age of the students. While there is a growing body of research concerning MTSS at the middle school level (Dufrene et al., 2010; Fuchs et al., 2010; Solis et al., 2014), research surrounding MTSS at the high school level was limited.

Some of the perceived challenges to the implementation of MTSS at the secondary level include the size of the school, the school's schedule, number of teachers and more departments, and the developmental stage of students (Flannery et al., 2013, 2014). A study conducted by the National High School Center et al. (2010) that included 20 high school principals found that support at the elementary level focused on prevention, early intervention, and special education identification and intensification of supports when necessary. On the other hand, academic supports at the secondary level tended to focus on remediation, supplemental support, and credit recovery with the goal of passing classes and assessments necessary for graduation (National High School Center et al., 2010).

Using a Multi-Tiered System of Supports to Support Historically Marginalized Populations

MTSS was designed to support all students; this section reviewed how MTSS supports historically marginalized student populations specifically. IDEA was reauthorized in 2004 to support students with disabilities and modified the individualized education program process, including procedural safeguards, increasing the school's voice for special education service placement, and including RTI, a three-tiered model that uses evidence-based practices to early-identify students' needs (Wrightslaw, n.d.). ESSA (2015) included language that recognized the need for money to be allocated for special education, ELLs, low-performing schools, growth-gap achievement populations, and school counseling.

Sailor and McCart (2014) supported the shift to schoolwide frameworks like RTI and MTSS because they extended the “application of the evidence base beyond eligibility determination for special education due to a specific learning disability, to all students including those at risk for school failure due to circumstances other than, or in addition to disabilities” (p. 58). MTSS was designed to support students based upon need, when it was needed, as opposed to older support models that focused on the physical location of student supports. Sailor and McCart (2014) said “special education is a service, not a place” (p. 58). While past student support models were driven by special education, the schoolwide approach of MTSS was intended to be developed by both general and special education and supports the use of universal design learning (UDL) guidelines intended to academically support all students (Sailor & McCart, 2014). UDL is known to be a strategy to differentiate instruction for all learners in a way that removes or reduces barriers (Gamm et al., 2012). According to the Center for Applied Special Technology, otherwise known as CAST (n.d.), this occurs by providing students multiple means for engagement, multiple means of representation, and multiple means of action and

expression. In the case of ELLs, UDL recommended using the appropriate language supports as well (Gamm et al., 2012).

McCardle et al., (2005) found that ELL students were often not identified as having a disability or given the appropriate supports on the same timeline as their English-language proficient peers with disabilities; sometimes these supports were given two or three years later. Additionally, a disproportionately high number of ELLs have been identified as having disabilities and receiving special education services (Artiles, 2011; Barrio, 2016; Barrio & Combes, 2015; Cavendish et al., 2015; Morgan et al., 2015; Sullivan, 2011). This may have been due, in part, to educators' inability to identify disabilities in students who had limited English language proficiency (Wagner et al., 2005). MTSS models were believed to present a less biased approach to determining whether the root cause of students' struggles stemmed from a disability or limited English language proficiency (Healy et al., 2005; Linan-Thompson et al., 2006). MTSS focused on monitoring growth over time as opposed to a single assessment data point, which could create a bias for ELLs and students who lived in poverty especially (Laing & Kamhi, 2003; Spaulding et al., 2006). Weddle et al. (2016) determined that "multitiered systems of language support. . . may offer a mechanism to accelerate the identification of diverse students with disabilities while providing preventative language intervention to those without disabilities" (p. 125). Klinger and Edwards (2006) also said that MTSS provided a beneficial framework for supporting ELLs when structured and implemented effectively.

Colorado Multi-Tiered System of Supports

ESSA (2015) included language that recognized the need for a multi-tiered system of supports for literacy services and the Colorado Department of Education (CDE) began supporting the MTSS model between 2010 and 2015 (CDE, n.d.f; E. Schaper, personal

communication, January 7, 2018). While Colorado previously adopted an MTSS approach that included the academic component of RTI and behavioral supports like those from PBIS (CDE, n.d.b), the CDE model of MTSS, 2018, was defined as a “whole-school, prevention-based framework for improving learning outcomes for every student through a layered continuum of evidence-based practices and systems” (CDE, n.d.f, para.1).

In 2018, Colorado’s MTSS model included five essential components: team-driven shared leadership, data-based problem solving and shared decision making, a layered continuum of supports, evidence-based practices, and family, school, and community partnering (CDE, n.d.f). Team-driven shared leadership was the first listed component of Colorado’s MTSS framework and emphasized that schools and districts should include a variety of stakeholders to organize and coordinate the planning, implementation, and evaluation of MTSS (CDE, n.d.h). Team driven shared leadership was supported by Freeman et al. (2015), for example, who discussed the effectiveness of MTSS with district and building leadership support. Data-based problem solving and shared decision-making was explained as, “A consistent process is used by stakeholder teams and applied at multiple levels to analyze and evaluate relevant information to plan and implement strategies that support sustainable improved student and system outcomes” (CDE, n.d.c, para.1). Additional support was available from the CDE to provide guidance concerning what was ideal, acceptable, and unacceptable regarding data-based problem solving and shared decision-making (CDE, n.d.g). The layered continuum of supports for Colorado’s MTSS referred to the intensity of supports which was determined by student need, ranging from universal supports designed for every student to more targeted supports designed to support some students and intensive supports that are typically designed for only a few students (CDE, n.d.f). Evidence-based practices were defined by the CDE as “approaches to instruction,

intervention, and assessment that have been proven effective through research indicating improved outcomes for students” (CDE, n.d.d, para. 1); however, the CDE did not give any additional guidance in terms of a preferred list of evidence-based practices. This component of the Colorado MTSS model has changed since the study. It is now a comprehensive screening and assessment system, which is defined as, “...the coordinated effort of gathering information across multiple measures to support decision making at the system and student level for the whole child” (CDE, 2023b). Finally, family, school, and community partnering emphasized collaboration in the quest to improve student outcomes (CDE, n.d.e). The CDE provided a list of resources to help with this component of MTSS (CDE, n.d.e). Additional resources were available from the CDE related to MTSS concerning implementation science, PBIS, RTI, bullying prevention and education, adult learning opportunities about MTSS, and the state personnel development grant (CDE, n.d.f). While Colorado’s model of MTSS provided some guidance and recommendations regarding the components of MTSS that should be present, it should be noted that it did not have any set expectations concerning the development of each district’s and/or school’s MTSS, nor were there any recommendations for elementary, middle, or high school levels or high-poverty settings.

Conclusion

This review of literature revealed that some of the challenges students who lived in poverty included: literacy gaps (Buckingham et al., 2013), lower reading achievement entering high school (Reardon et al., 2013), lower graduation rates (National Center for Education Statistics, 2016), higher incidences of learning disabilities and behavior problems (Morgan et al., 2009), and other negative psychological and educational outcomes that affect academic achievement (Mistry et al., 2009). Additionally, research has suggested different means to

improve achievement in high-poverty schools (Burney & Beilke, 2008; Reeves, 2003; WEA, n.d.); different tiered intervention models such as RTI and PBIS that were combined to make the MTSS model that the state of Colorado had implemented to provide academic, behavior, and social-emotional support for students at the time of this study. However, this literature review noted that research surrounding the effectiveness of tiered interventions has been mixed or sparse at the secondary level (Lesh et al., 2021); MTSS was meant to support all students including historically marginalized populations (Healy et al., 2005; Laing & Kamhi, 2003; Sailor & McCart, 2014; Wrightslaw, n.d.); and there were challenges to implementing MTSS (Averill & Rinaldi, 2011; Braun, et al., 2018; Hoon, et al., 2018; Kraft et al., 2015).

These differences exemplify why what is found at the elementary and middle levels cannot necessarily be applied to the high school level with respect to the implementation of MTSS. To learn more about what would be successful at the high school level and in different schools' contexts, additional MTSS research at the high school level is necessary. Limited research around MTSS at the high school level leaves schools to develop their own MTSS/RTI implementation plans (Morningstar et al., 2018; Schiller et al., 2020).

Conducting research that investigated student supports in high-poverty, performing high schools could provide insight to what academic, behavioral, and social-emotional supports and interventions are available, accessed, and effective at the high school level. Colorado high schools that met or exceeded the average Colorado Scholastic Aptitude Test (CO SAT) score for the 2017-2018 school year were considered performing for this study and indicated college and career readiness. High schools that have demonstrated average or above average college and career readiness performance could also provide insight because college and career readiness achievement has been identified as a challenge for high-poverty schools. Exploring the MTSS

structure of high-poverty, performing Colorado high schools could be used to inform the MTSS structure in other high-poverty high schools, which could result in increased college and career readiness performance scores. Additionally, while research existed surrounding RTI, PBIS, and social-emotional learning, at the time of this study, there was a gap in research that addressed how high-poverty, performing high schools supported all students. There was also some research that supported the use of RTI, PBIS, and social-emotional supports in schools; however, most of the research was not focused on high school students, nor high-poverty high schools where the students likely face several challenges.

CHAPTER III

METHODOLOGY

The purpose of this qualitative case study was to explore how two performing Colorado high schools with a significant percentage of impoverished students supported all students. For this study, Colorado high schools that met or exceeded the average Colorado Scholastic Aptitude Test (CO SAT) score for the 2017-2018 school year were considered performing. Some of the challenges that students living in poverty could experience included: literacy gaps (Buckingham et al., 2013), lower reading achievement entering high school (Reardon et al., 2013), lower graduation rates (National Center for Education Statistics, 2016), higher incidences of learning disabilities and behavior problems (Morgan et al., 2009), and other negative psychological and educational outcomes that could affect academic achievement (Mistry et al., 2009). Colorado high schools have generally used a multi-tiered system of support (MTSS) to support students at varying levels of intensity both academically and behaviorally (Colorado Department of Education [CDE], n.d.b). There was a gap in research for both MTSS at the high school level and concerning student supports in high-poverty, performing high schools at the time of the study. It was hoped that completing this study would help bridge the research gap on student supports and MTSS in high-poverty, performing high schools, and more importantly the findings from this study might be used to inform the MTSS structure in other high-poverty high schools, which might result in increased college and career readiness performance scores. In this chapter, I explain the study's epistemology, theoretical perspective, methodology, and methods for data collection and analysis, and address the study's trustworthiness.

Epistemology

My epistemological view for this study is rooted in constructionism, which Crotty (1998) defined as “the view that all knowledge, and therefore all meaningful reality as such, is contingent upon human practices, being constructed in and out of interaction between human beings and the world, and developed and transmitted within an essentially social context” (p. 42). Crotty (1998) asserted that meaning is constructed by humans based upon their interactions with the world and that meaning can change based upon context. School leaders oversee the design and development of student supports within their respective schools, and each school’s MTSS is based upon its context and interactions with teachers, students, and the community at-large. I explored how the context of two high-poverty, performing Colorado high schools impacted student supports that were provided.

Theoretical Framework

This study is considered phenomenological as I described the experiences of school leaders as it related to the phenomenon of supporting students in two high-poverty, performing Colorado high schools (Creswell, 2013; Crotty, 1998). For this study, I analyzed data collected through semi-structured interviews with school personnel and described their experiences supporting all students in a high-poverty, performing high school; reviewed online documents concerning each school’s current demographics and academic performance related to Colorado’s college and career readiness indicator in 2018, the Colorado SAT (CDE, 2018d); and used memoing along with constant comparative analysis during both the data collection phase as well as during the initial phase of data analysis. I explored how two high-poverty, performing Colorado high schools supported all students.

Methodology

While information about MTSS is available and the body of research is growing concerning MTSS, there was a gap in research for both MTSS at the high school level and student supports in high-poverty, performing high schools at the time of the study (Lesh et al., 2021). Supporting students is a complex process, and I wanted to explore what it looked like in two high-poverty, performing Colorado high schools. An effective approach to this was to conduct a two-site case study. Merriam (1998) described a case as “a thing, a single entity, a unit around which there are boundaries” (p. 27). For this study, there were two cases, Case A and Case B- two high-poverty, performing high schools in Colorado, which are referred to using pseudonyms in Chapters 4 and 5. Merriam (1998), Stake (1995), and Yin (2002) defined case study differently. I aligned more with Stake (1995) and Merriam (1998) who both approached case study from a constructivist viewpoint and who favored qualitative methods for a case study. Merriam (1998) further described the characteristics of a case study as particularistic, descriptive, and heuristic. This study focused on two particular high-poverty, performing Colorado high schools and developed a descriptive explanation of how students were supported. For this study, I used case study methods such as semi-structured interviews and document review, which were both favored by Merriam (1998), Stake (1995), and Yin (2002). I also included member checking and constant comparative analysis, both of which were supported by Merriam (1998).

Setting and Participants

I selected Colorado as the setting for this two-site case study because MTSS was supported through the CDE at the time of the study. Between 2010 and 2015, the CDE began supporting the MTSS model (CDE, n.d.f; E. Schaper, personal communication, January 7, 2018),

although the definitions associated with MTSS at the time of this study were officially adopted in 2016 (E. Schaper, personal communication, January 7, 2018). The CDE provided numerous public resources that could be used by Colorado schools to support the development of MTSS (CDE, n.d.f). Additionally, the CDE offered the State Personnel Development Grant, a facet of the United States Department of Education that provided grants to help state educational agencies reform and improve their systems for personnel preparation and professional development of individuals providing early intervention, educational, and transition services to improve results for children with disabilities” (United States Department of Education, 2016, para. 1) through the Office of Special Education Programs. This grant was used in Colorado to support the implementation of:

MTSS, Colorado supported implementation of Response to Intervention (RtI) and Positive Behavioral Interventions and Supports (PBIS) frameworks; effective early childhood education; supports for students with significant supports needs (SSN); supports for students with autism spectrum disorders (ASD); and meaningful partnering between schools and families and communities. (CDE, 2018e, para. 1)

Thus, at the time of data collection, Colorado schools have had years to access CDE MTSS resources and a MTSS structure that is “a prevention-based framework of team-driven data-based problem solving for improving the outcomes of every student through family, school, and community partnering and a layered continuum of evidence-based practices applied at the classroom, school, district, region, and state level” (CDE, n.d.f, para. 1).

I used purposive sampling for this study. Creswell (2013) described purposive sampling as a process in that “the inquirer selects individuals and sites for study because they can

purposefully inform an understanding of the research problem and cultural phenomenon in the study” (p. 156).

For this study, I selected participants based upon three criteria. First, I considered the population of public, charter, alternative, and online Colorado high schools with grades 9-12 only for 2017-2018, which resulted in 326 potential participating schools. My next step was to eliminate all high schools where the student count was less than 16. This decision was in line with the CDE’s practice of suppressing data for schools whose student count was less than 16 for Instructional Programs and Free and Reduced Lunch Eligibility “to protect student privacy” (CDE, 2018c, para. 2). This decreased the number of potential participating schools to 291.

I then used the mean percent of students qualifying for free and reduced lunch in traditional public, charter, alternative, and online Colorado high schools (9-12) as a second selection criterion. Since the state average of students qualifying for free and reduced lunch was 44% (CDE, n.d.a), I only considered examining schools where the percent of students qualifying for the free and reduced program was one standard deviation above the 44% mean previously mentioned (CDE, n.d.a). Those schools were deemed “high-poverty” for the purpose of this study. This meant that all traditional public, charter, alternative, and online Colorado high schools (9-12) with 17 or more students that were one standard deviation above the mean free and reduced lunch percentage for 2017-2018 included those schools where the free and reduced lunch percent was 67% or higher during the 2017-2018 school year. This brought the number of potential participating schools to 52.

The third criterion I used to determine the potential participants for this study were “performing” Colorado high schools. Schools that demonstrated average or above average college and career readiness performance were of interest because college and career readiness

achievement addressed a significant challenge for high-poverty schools. For this study, I used Colorado Scholastic Aptitude Test (CO SAT) scores from the 2017-2018 school year to indicate college and career readiness, which aligned with the Colorado Department of Education's expectations (CDE, 2018d). The mean overall score for the 2017-2018 CO SAT was 1014 (CDE, 2018b). Seven traditional public, charter, alternative, and online high-poverty Colorado high schools (9-12) with 17 or more students had scores that were at or above the average CO SAT score of 1014 for the 2017-2018 school year.

All the qualifying schools were invited to participate in this study. Two of the schools agreed to participate. I had hoped to get more participation among those schools that met the criteria for the study to develop a theory about how Colorado high schools supported all students. Because two schools agreed to participate at the onset of the COVID-19 pandemic, a two-site case study was feasible. Additionally, the two sites that agreed to participate in the study that met all three criteria for the study were tuition-free public charter 9-12 high schools that are part of a two different networks of charter schools within a school district in Colorado.

Once the sites were chosen, I determined that school leaders from high-poverty, performing Colorado high schools were important to gather data from given their role in the decision-making process related to student supports. Because each school's leadership team members might have different responsibilities, I spoke to five or more people instrumental to supporting students at each school, although they did not have the same job titles and responsibilities from school to school. I interviewed members of each school's leadership team, including administrators, school personnel charged with structuring the school's MTSS, teachers, and/or counselors. People in these roles are traditionally a part of the decision-making process related to student support.

Data Collection

The data collection methods for this two-site case study were influenced by Stake (1995), Merriam (1998) and Yin (2002). While the researchers did not agree on the same data collection tools, all three agreed that data in a qualitative case study should be collected using interviews, and through observation (Merriam, 1998; Stake, 1995; and Yin, 2002). For this two-site case study, I collected three types of data using three different methods. First, I reviewed public documents pertaining to each individual high school. Next, I conducted semi-structured interviews with participants that volunteered to participate in the study at each site. Finally, I analyzed memos that I wrote throughout the course of the data collection process.

Document Review

To understand the school and its context, I reviewed public documents available through the CDE, and the participating school's website. The data I reviewed helped me understand the school's current context and included and was not limited to the following: the school's Unified Improvement Plan at the time of the study which is intended to improve student learning by utilizing a continuous cycle; the School Performance Framework at the time of the study that graded each school based on the student achievement and growth in state assessments; postsecondary measures like graduation rates, drop-out rates, college entrance exams and college matriculation rates; school, district, and student supports (including any information surrounding MTSS); and each school's demographics. I looked for corresponding data on each school's respective website. Reviewing these public documents helped provide context for each school.

Semi-structured Interviews

After reviewing the public documents available through the CDE and participating schools' websites, I conducted semi-structured interviews. The interviews for this study were

conducted at a time and place of the participants' choosing. Each interview was approximately an hour in length and was digitally recorded and transcribed. Participants were asked the same guiding questions in the same order (see Appendix B for the interview protocol), and I used additional probing questions, when necessary, in order to gather details that helped me to better understand how these high schools supported students.

I favored a semi-structured interview method of data collection. Semi-structured and unstructured interviews lend themselves to more detailed and in-depth responses (Coleman, 2012; Merriam, 2009). I wanted the opportunity to elicit data from the interview that were comprehensive. Additionally, given that the participants had different roles within their respective schools the semi-structured interview allowed me to cover the same topics in each interview. While the participants may have not elaborated on all the exact same topics, I was able to cover all the same topics to varying degrees based upon the depth and description of their responses (Coleman, 2012; Merriam, 2009). Finally, the interviews were conducted solely by me. I used member checks and other methods to mitigate this potential bias which was discussed later in this chapter. Given the safety concerns that arose during the COVID 19 pandemic, I was not able to complete all interviews in person. Approximately half of the interviews were completed in person, while the other half of the interviews were conducted via Zoom.

After the semi-structured interviews were conducted, I transcribed the interviews, and I completed member checks. The interviewees were given the opportunity to review the transcript within one week of the semi-structured interview to ensure content accuracy, have an opportunity to make corrections, and provide necessary clarifications. Next, I reviewed public documents and then began analyzing the interview data and writing memos as described.

Memos

Memoing took place concurrently during both the data collection phase as well as during the initial phase of data analysis. After I reviewed public documents, I collected data through semi-structured interviews from the participants of both high schools or cases. Data were collected from both cases concurrently and at the participants' convenience. After I conducted the first couple of interviews, I wrote memos that reflected my first impressions of the data for each case. At the end of each subsequent interview, I wrote a new memo comparing it to the data I had collected previously.

This study was in progress when the COVID 19 pandemic began in February and March of 2020, and the study's design shifted to a two-site case study. Merriam (1998), Stake (1995) and Yin (2002) all favored interviews and observations in a case study. However, because of the safety concerns at the time, observations were not feasible. Additional methods were included in the study to ensure robust data were collected.

Data Analysis

Document Review

The first set of data I reviewed for this study included the public online documents available at the CDE and each school's respective website. This process was different from a formal documentary analysis. While reviewing the public documents was a part of my data collection, it was meant to provide context for the semi-structured interviews, not a content and textual analysis as described by Fitzgerald (2012). The data collected through online sources was examined in the context of other data (Fitzgerald, 2012) and examined for authenticity, credibility, representativeness, and meaning (Fitzgerald, 2012). The information gained through

the document review was synthesized with the data collected through the semi-structured interviews and helped to provide context to each case.

Interview Data Analysis

The interview data were coded using open, axial, and selective coding. First, I engaged in open coding, when I analyzed the text of each interview labeling or coding parts of the data (Creswell, 2012; Saldana, 2016). I then used axial coding when I formed initial categories from the data collected by chunking the information gained through the semi-structured interviews and examined ways categories might relate to the open codes (Creswell, 2012; Saldana, 2016). Finally, I engaged in selective coding when I combined the categories into core categories (Creswell, 2012).

Memos

I also utilized written memos (Creswell, 2012; Saldana, 2016) in my analysis. These memos reflected my thought process throughout the study (Birks & Mills, 2015). Birks et al. (2008) argued that written memos were often associated with ground theory, but that they could be used to enhance all qualitative research to help the researcher to extract meaning or understanding from the data. While some memos were useful to the identification of themes, others helped preserve my analysis from one day to the next, and others were not useful (Birks & Mills, 2015). Regardless, all memos were kept on the chance that their contents could be relevant at some point during the study.

Concurrent Data Analysis Practices

After the semi-structured interviews had concluded and after I conducted member checks, I began open coding for Case A only. I used constant comparison analysis and referred to the data in the interview transcripts as well as my memos through this initial coding phase. Constant

comparative analysis is a method where the collected data were “coded into emergent themes or codes” (Hewitt-Taylor, 2001, p.29). Hewitt-Taylor (2001) further explained the constant-comparative analysis can take place in a study where there was a single method of data or multiple sources used for data collection. Next, I completed axial coding, where I took the initial codes and looked for relationships between them to develop categories (Saldana, 2016). Lastly, I selectively coded the data for Case A by turning the categories into core categories or themes that developed from the data (Saldana, 2016). After Case A was analyzed, I completed the same process using the same methods for Case B. Once I completed the analysis of each case independently, I completed a cross-case analysis and examined the similarities and differences between the two cases.

Ethical Considerations, Confidentiality, and Data Security

Prior to seeking participants for the study, I gained consent from the appropriate district personnel to conduct the study. Once the district’s approval was gained, I applied for approval for the study through the University of Northern Colorado’s Institutional Review Board, and then an email was sent to the principals of schools who meet the selected criteria. Once the principal provided consent, I invited individuals identified as leaders to participate. Then individual participants signed a letter of consent prior to their interview.

Data were stored in Microsoft Word documents on computer hard drives that were password-protected, and only the researcher had access to the data. Digital recordings were saved on password-protected computers, and only the researcher had access. I created and assigned pseudonyms to each participant that were used instead of participants’ real names in all transcriptions, written publications, and presentations resulting from this project. Additionally,

pseudonyms were used for the names of schools and school districts. The research advisor retained consent forms for three years. Interview data and consent forms will be destroyed three years after the completion of the study.

Trustworthiness

An important aspect of qualitative research is establishing the trustworthiness of the study (Krefting, 1991; Shenton, 2004). Krefting (1991) shared strategies to increase the trustworthiness of qualitative work: credibility, transferability, dependability, and confirmability, and she discussed criteria for each strategy. I addressed trustworthiness in terms of credibility, transferability, dependability, and confirmability for this study.

Credibility

To establish trustworthiness, I included several methods to improve credibility. Lincoln and Guba (1985) argued that credibility was important to establishing trustworthiness. A practice designed to increase the credibility of the study is “triangulation” (Shenton, 2004, p. 65). I triangulated the data using different methods to compensate for the individual limitations of a single method (Bush, 2012). For this study, I collected data through semi structured interviews, reviewed public documents, and my written memos. Additionally, I interviewed multiple people at each participating school.

I included member checks to increase credibility of the study (Bush, 2012; Shenton, 2004). Some researchers believe member checks to be the single most important practice to increase credibility (Lincoln & Guba, 1985). I provided all participants an opportunity to review the transcript of the semi-structured interview for corrections and/or clarifications.

Additionally, I included “tactics to ensure honesty in informants” (Shenton, 2004, p. 66) to increase credibility. As the researcher, I ensured permission from the school district and

school leaders to include the school in the study. Because I am a doctoral student, I had no authority to require schools to participate in the study, and there was no additional organization or business that funded the study. Therefore, there was no organization with a vested interest in the results of this study. All participants were asked to volunteer to participate in this study. Participants had the opportunity to refuse participation in the study. Teacher leaders volunteered through their building administration. I informed participants that I would protect confidentiality of their statements and that they were free to talk about their ideas and experiences without fear of repercussions from their superiors. I also took the advice of Shenton (2004) by beginning to build a rapport with participants from the onset of the study, and, finally, I made it clear that participants could withdraw from the study at any point without questions from me.

Another practice that increased the credibility of the study is by engaging in “reflective commentary” (Shenton, 2004, p. 67). I used memoing to record my thoughts as I engaged in the data collection and constant comparative analysis. This also helped provide me with an audit trail along with other data so that it was easier to follow my analysis.

A part of building the credibility of the study was also the “background, qualifications and experience of the investigator” (Shenton, 2004, p. 68). Patton (1990) expressed the importance of the credibility of the researcher, especially in qualitative research because the researcher is often the data collection instrument in qualitative research. Not only have I been involved in education for more than 20 years, but I have also studied MTSS, participated on grade-level and building-level MTSS teams, and been the building-level MTSS coordinator. I also have some experience as a researcher. I completed past studies involving the effects of parental involvement on the academic achievement of 8th grade students (a mixed methods study); explored gifted and talented referrals among English language learners (ELL) (a

qualitative study); and the academic, behavioral, and social-emotional supports for high schools (a qualitative study). Those studies were completed as a part of the coursework necessary to each my master's degree, educational specialist degree, and my doctorate. This study was also completed in part to earn my doctorate in educational leadership and policy studies.

Finally, I increased the credibility of this study through the “examination of previous research findings” (Shenton, 2004, p. 69). By examining previous research findings and comparing their results to mine, I was able to see whether my findings were in-line with previous research.

Transferability

According to Merriam (1998) the key to external validity of a study was the extent to which the findings from one study can be applied to other situations. Bush (2012) echoed this same message, though he discussed “reliability” (p. 79) of the study. Given that qualitative studies tend to target a particular environment or set of individuals and often have a smaller number of participants, it was less likely to find the results of the study were applicable to other situations and populations (Shenton, 2004). While the findings of this study will not be transferable to all high schools or even all high-poverty high schools because the contextual factors that likely impact each situation (Center for Positive Behavioral Interventions and Supports, n.d.), the findings might be useful to school leaders as they supports were available in two high-poverty high schools that demonstrate average or above college and career readiness SAT scores in Colorado.

Dependability

Fidel (1993) and Marshall and Rossman (1999) both acknowledged that one challenge to dependability in qualitative research is that the phenomena being studied are always changing.

For example, as the context of the participating schools for this study changed, it was possible the school's supports morphed along with it. Because of this, it was important that I had a thorough and accurate description of the phenomena, according to the participants in the study, and it was equally important that I extensively described the study's data collection and data analysis methods as well as the describe the study's findings to leave an audit trail for others.

Confirmability

Shenton (2004) stated that “confirmability is the qualitative investigator's comparable concern to objectivity” (p. 72). Confirmability addresses to what extent the study's findings are the result of the participants' experiences and ideas as they related to the phenomenon being studied rather than the ideas and bias of the researcher. One way to ensure the confirmability of a study was through triangulation of the data (Bush, 2012; Shenton, 2004). As previously stated, I triangulated the data collected through semi-structured interviews, reviewing public documents, and referencing my written memos. Additionally, I interviewed multiple people at each participating school and completed member checks to support the credibility and the confirmability of the research study. Scott and Morrison (2006) noted that respondent validation, or member checks, reduced the risk of bias when data were collected through semi-structured interviews.

I also left an audit trail that will allow future readers of the study to trace my steps concerning the decisions I made in the process of developing the study and collecting and analyzing the data (Shenton, 2004).

Additionally, a key indicator of confirmability, according to Miles and Huberman (1994), is the degree to which the researcher admitted to his or her own bias. Thus, it is especially important for me to disclose my researcher's stance. Additionally, it was necessary for me to

engage in reflective commentary through memoing throughout the study to demonstrate the recognition of my potential biases and self-awareness (Shenton, 2004). All these methods discussed contributed to the study's trustworthiness.

Researcher Stance

It was important that I take the time to examine my own experiences and potential biases to increase the trustworthiness of this study. I have more than 20 years of experience in education. I have lived and worked in four different states: Iowa, Minnesota, Virginia, and Colorado, and I spent many of those years teaching English/language arts grades 8-12, coaching both volleyball and track and field, and sponsoring multiple school clubs/activities. I have been a secondary literacy coordinator, a gifted and talented site manager, intervention lab teacher, an eCredit recovery teacher, a high school assistant principal, a high school co-principal, and most recently a high school Career and Technical Education Director, Concurrent Enrollment Coordinator and District Safety and Security Director. I have worked in high schools (grades 9-12) with approximately 400 students up to more than 2,000 students, and each where the free and reduced lunch population has been 35-45%. I have worked in both rural and suburban schools with varying degrees of ethnic and racial diversity.

In my first job in my home state of Iowa, my principal insisted teachers learn best practices for Response to Intervention (RTI). It was a priority of my principal along with the Iowa Department of Education to educate teachers how to support learners with differences or learning challenges in the general classroom, and it was ingrained into my teaching practices many years ago the importance of differentiating for learners' needs. Because of this, I recognize that one of my biases is that I believe all students can learn course content with the appropriate instruction and support despite learning differences or challenges that may exist.

Early in my career, I thought learning differences or challenges could primarily be overcome through strong instruction alone. I was aware that learning differences or challenges could impact student behaviors, but I was unaware and uneducated about how behavior could impact student learning and achievement. Additionally, I did not know how socioeconomic status could impact student learning or student learning needs.

Although I have grown as an educator each year through professional development and experience, it was not until I had moved to Colorado in 2012 that I learned about MTSS. The state of Colorado was supporting an MTSS model after supporting the RTI and PBIS models independently of one another. While I felt comfortable in my understanding of RTI, I took it upon myself to learn through books, professional development, and online resources to understand the concepts of MTSS. Additionally, my professional role changed from a classroom teacher to a specialist whose responsibilities flowed between different types of support. This created an even stronger desire to learn more about MTSS. I additionally become an active member of the 9th grade-level and building-level MTSS teams where I was employed at the time. To date, I have been a building-level MTSS coordinator, a grade-level MTSS facilitator, member of the building-level MTSS team, and the building MTSS lead.

Working within MTSS strengthened my desire to support students. It also created another bias because I believe that MTSS can provide academic, behavior, and social-emotional support to students. At the same time, I believe that what works for one school does not necessarily work for another. This leads me to another bias in that I believe each school's context is important. This bias shaped my epistemological and theoretical perspectives. In this way, I have accounted for and recognized my biases and how they have shaped the way I see the world, knowledge, and learning.

A significant percentage of students who received direct instruction from me as a secondary literacy coordinator qualified for free and reduced lunch. I saw how living in poverty could affect students, and I recognized the challenges that faced students living in poverty. It was the students I supported that inspired me to learn more about how to better support them. I wondered what MTSS looked like, especially in those high schools where there was a high percentage of students experiencing poverty and where the data also showed most students performed at or above college and career readiness benchmarks for student achievement.

I had knowledge as to how instructional best practices at Tier 1 can support students living in poverty. I also had personal knowledge of common secondary intervention literacy programming options and best instructional practices as well as best practices for teaching gifted and talented students. My experiences and knowledge could have created a bias. It was important I continued to keep an open mind with regards to participating schools' choices, and I am confident this occurred because I have experience as a researcher and understand the importance of putting aside biases and leading with an open mind.

It was, however, important that I not only question how my biases and potential biases could affect the data analysis process, but also how these biases and potential biases could affect my interactions with the participants of this study. Most notably, my knowledge base and experience concerning MTSS may have affected the questions I asked during the interview process. Because I have a strong background with MTSS, I asked questions that address all the components of MTSS. On one hand, this was beneficial; it led to clarifying questions and gaining a more detailed description, but it also could have influenced the questions' content and the participants' responses in a way that puts pressure on the participant to address components of MTSS that they would otherwise not. As the researcher, it was my responsibility to ask open-

ended questions that allowed participants the opportunity to respond in an authentic and thorough way and not to influence or help to shape participants' responses. While my experiences and biases might have affected the data collected and the analysis of the data for the study, I used several methods to improve the trustworthiness of the study and mitigate the possible effects of these experiences and biases.

Conclusion

The purpose of this qualitative case study was to explore how two performing Colorado high schools with a significant percentage of impoverished students supported all students. In this chapter, I have described the methods used for this two-site case study including purposive sampling, document review, semi-structured interviews, qualitative coding methods, written memos, and constant comparative analysis to identify themes. I described my research stance and the methods I used to increase trustworthiness in this study also. In the next chapter, I explain the findings of the study.

CHAPTER IV

FINDINGS

The purpose of this qualitative case study was to explore how two performing Colorado high schools with a significant percentage of impoverished students supported all students. The research question guiding this study was:

- Q1 How do two performing Colorado high schools with a significant percentage of impoverished students support all students?

Two out of the seven Colorado high schools that met the criteria agreed to participate in this study. These schools were public, charter, alternative, and online Colorado high schools with grades 9-12 only for the 2017-2018 school year where the reported free and reduced lunch population was 67% or higher and had scores that were at or above the average CO SAT score of 1014 for the 2017-2018 school year, which was considered “performing” for this study. Both schools that agreed to participate in the study met all three criteria for the study and were tuition-free public charter 9-12 high schools that were part of two different networks of charter schools within Colorado.

I reviewed public documents available through the CDE, including the participating school’s website. I conducted semi-structured interviews with school leaders from both high schools, including the principals, assistant principals, department chairs, and lead teachers that volunteered to participate in the study. After the interviews were transcribed, member checks were completed. Written memos were utilized during the data collection and the initial coding

phases. Semi-structured interview data that were analyzed using open, axial, and selective coding.

In this chapter, I describe the findings for “Mountain High School.” Next, I describe the findings for the “Plains High School.” Finally, I note the similarities and differences in the findings for Mountain High School and Plains High School. I use pseudonyms in place of participants' real names throughout the findings.

Mountain High School Findings

Mountain High School was in an urban area of Colorado. In 2017, there were over 550 students enrolled at the high school. The student body was approximately 72% Latinx, 14% Black or African American, 8% Asian, 4% White, 1% American Indian, native Hawaiian, or other Pacific Islander, and 1% two or more races. Students with learning differences evidenced by an Individualized Education Plan (IEP) composed 11% of the student body, 43% of the students were considered English language learners (ELLs), 7% of the students were identified as gifted and talented, and 82% of the students qualified for free or reduced lunch.

Mountain High School opened in 2015 and was considered a “Performing School,” according to the state of Colorado, since its inception. In 2017-2018, Mountain’s High School’s Performance Framework demonstrated that the school’s academic achievement earned an approaching rating with 55.7% of the possible points earned. In terms of academic growth, Mountain High School met expectations earning 82.1% of the possible points, and in the category for post-secondary in workforce readiness Mountain High School met expectations earning a meets rating with 75% of the points possible.

Mountain High School was a 9-12 charter high school in a Colorado school district that was also part of a nation-wide charter network. Mountain High School was tuition-free, public

high school without academic enrollment requirements. Enrollment preference was given to students who already attended a charter school within the charter network, had a sibling who already attended Mountain High School, had a parent who taught at Mountain High School or at another school within the charter network, lived in an area that was impacted by school closures, lived in an area where there was a high percentage of students eligible for free and reduced lunch, or lived in the school district boundary. After considerations like these, there was a lottery for admission to school if enrollment space was still available or if someone who applied lived outside of the district enrollment area.

According to the school's website, the school focused on high expectations for all students, developing student character, and maintaining a safe, structured, and nurturing environment. The school also utilized extended learning days and supported students with academic coursework and tasks related to college entry such as completing college applications and scholarship applications. Mountain High School also supported Advanced Placement courses for students during high school.

I conducted semi-structured interviews with six different school administrators and teacher leaders from Mountain High School as well as reviewed documents and wrote memos for analysis. For Mountain High School, I interviewed the principal (Ashley), assistant principal (Carter) and four teacher leaders (Elaine, Bill, Diana, and Farrah). The participants' tenure time at the school varied between less than one year up to the school's opening in 2015. Two themes developed from the data that helped to answer the research question.

Mountain High School Supports to All Students

The first theme that developed from the analysis of the data was that Mountain High School provided several supports to all students. These supports were categorized into three

different areas: structural supports, which included scheduling and teams that work together to support different groups of students; academic supports, which included data-driven instruction, doubled English language arts and math classes; and supports that promoted a sense of belonging and safety, which included social-emotional supports, consistent discipline, an advisory system, and multiple methods for engaging families.

Structural Supports

Students at Mountain High School were provided structural supports, which included scheduling and teams that worked together to support different groups of students. One way that students at Mountain High School received structural support through scheduling was by having an extended school day beginning at 7:40 AM and ending at 3:54 PM rather than 3:20PM three days a week. These extended school days were used to provide more instructional time for students.

Another way all students were supported structurally at Mountain High School was through different structured teams at Mountain High School. For example, Mountain High School had a restorative practices team that focused on climate and culture within the building comprised of the building principal, two assistant principals of instruction, an athletic director, and a dean. This team coupled with an assistant principal of operations made up the administrative team in the building. The school also had grade-level leaders and department leaders that Principal Ashley referred to as the instructional team for the building. The grade-level teams in the school and department leads helped lead the building to support all students. For example, the ninth-grade team worked closely with one another to address needs for the entire ninth grade. There was a ninth-grade team leader that acted “more as a facilitator than a unilateral decision maker,” according to teacher leader Evelyn. The ninth-grade team discussed

what was happening in classrooms, focusing on academics and the behaviors of students. This group also discussed individual students and larger-scale trends considering all ninth-grade students and how to respond to those concerns, explained teacher leader Evelyn. The department chairs helped provide instructional coaching to their colleagues within their respective departments; the assistant principals of instruction also provided instructional coaching to the teachers throughout the building. Instructional coaching structures were implemented to support instruction and benefit students. Referring to instructional coaching and structured teams among the staff, Evelyn said, “systems and accountability have been really helpful for students.”

Another structure the school created was a program that supported reading and literacy called the Millionaires Club. Teacher leader Diana said that all books in the library were identified by Lexile/Reading level. Students were made aware of their individualized reading level based upon assessment data, and students worked to read books that added up to a Million Points. Students who reached their goal were rewarded with a field trip later in the school year. This was another way the school supported reading for all students. Students were expected to always have a reading book of their choice with them. These structural supports were put into place to support all students at Mountain High School.

Academic Supports

Mountain High School had also provided academic supports to all students which included data-driven instruction, doubled reading and math classes. Mountain High School used data-based problem solving and decision making throughout the year to support all students. Teacher leader Evelyn explained that the students at Mountain High School took practice standardized tests at the beginning of the year, in the middle of the year, and at the end of the year to measure their learning and growth of learning. After each assessment, teachers completed

a test-item analysis in teams to determine the 10-15 most frequently missed questions and then developed an instructional plan to address the students' knowledge and skill gaps. The teams worked to create materials/tools that were shared with members of their teaching team to support all the students. Teacher leader Evelyn said, "data is a pretty big part of how we academically support students." In other cases, particular departments and individual teachers collected data daily concerning students' understanding and adjusted their instruction to address what needed to be retaught, added teacher leader Farrah.

Additionally, Mountain High School teachers supported all students through instructional strategies. Teacher leader Diana recounted the following strategies that were expected to be present in classrooms at Mountain High School: one-on-one support for all students during class which provided students the opportunity to receive individualized feedback; small group instruction each class period for approximately 15 minutes; flexible grouping that was responsive to students needs during any given lesson; student access to lessons/notes online; and lesson notes provided to students, when requested. Teacher leader Diana said that she "can usually spend anywhere from 10-15 minutes each class period doing small group instruction for students that need it at that time, so, it's true differentiated instruction at the moment." Diana also said that she offered her notes to students after class if they needed more time, and there was typically an online component to her class where students could access the notes and other supports from each lesson. Providing notes to all students supported Principal Ashley's expectations that she wanted "to see Sheltered Instruction techniques in all classrooms this year to support the high percentage of emergent bilingual learners in the high school and because the strategies are good for all students' learning." Several instructional expectations were set to support all students at Mountain High School.

Another example of how all students at Mountain High School were supported academically was through course scheduling. Assistant Principal Carter explained that Mountain High School offered more hours of instruction and learning in English language arts each week compared to most other high schools in the district. Most students had a reading class and a composition class. Additionally, the school scheduled something similar with math classes, where students had two different math classes with different course titles on their schedule. This provided students additional time with a math or English language arts content area expert. While this limited the elective courses students could take in high school, it also supported the development of math and literacy skills. Teacher leader Evelyn asserted, “The main things [that support students] are the systems we have in place to support teachers to be effective and to make sure that students are held accountable.” Regardless of students’ achievement level, all students at Mountain High School were afforded these academic supports.

Additionally, Teacher leader Bill described academic support available to all students outside of school. Any students who wanted additional support with their studies were welcomed to stay after school to work with teachers on certain days. Teachers were required to stay after contract time a minimum of once every two weeks after school, but most teachers chose to stay after contract hours at least once a week to support struggling students. Some teachers even chose to stay every day. Bill expressed that these office hours outside of contract time could be a student’s choice to attend or assigned by the teacher. Teacher leader Evelyn believed after-school support was the most accessed academic support in the school and, likely, the most effective.

Supports that Promote a Sense of Belonging and Safety

Supports that promoted a sense of belonging and safety were also provided to all students at Mountain High School, including social-emotional supports, consistent discipline, a daily

advisory period, and engaging families. All students at Mountain High School had social-emotional and mental health support available to them if they chose to access it. Each student at Mountain High School had a school counselor assigned to them, and there were additional social-emotional and mental health support personnel available to those students who needed/wanted to access those supports.

Mountain High School participants also noted the importance of supporting all students through clear and consistent discipline. Teacher leader Bill believed that students felt inconsistent discipline enforcement to be frustrating and that students “took it personally,” wondering why one student was given consequences while another had not. He added that inconsistent enforcement could erode the relationship between students and teachers. Principal Ashley elaborated by saying that responding to student behaviors through a more restorative approach to discipline versus a “punitive lens that has historically been in our school,” was a change the building was still working to implement. Principal Ashley asked the staff to begin using a more equitable lens when responding to student behaviors. She asked staff members to provide opportunities to build student agency and encourage discourse with students when responding to a student who challenges them. Principal Ashley believed that talking with students first rather than moving straight into punitive measures also helped support “students in building up their own self-worth but also built some strong relationships with our teachers and staff who respond in that way,” added Ashley. Teacher leader Bill said, “It’s tough because sometimes in the moment they [the students] don’t care or say they don’t care or won’t talk to you, but they do care. Those moments stick with them, and they remember that you do care.” He also said the teachers asked the students to help the teachers understand the reasons behind their actions. This might be in reference to why the student was angry, why the student did not

complete the assignment, or why the student was upset in the moment. Ashley shared that in-school suspensions were no longer a disciplinary option for students who broke classroom rules, but rather they had to check in with one of the restorative practice coordinators to discuss why the behavior occurred and find out what the school could do to support the student instead.

Teachers were also expected to check in with students several times prior to asking the student to visit one of the restorative rooms to understand why a student was breaking classroom rules.

Principal Ashley added that often a student may have needed a break or did not understand the course assignment or content rather than being defiant. According to Principal Ashley, the goal was “really trying to build in those structures and systems to empower the staff to handle any kind of need that kids have, so we can really help them in the classroom before they ever get to our restorative team.” Supporting ongoing student behaviors was also something that Ashley identified as an area for growth in the building. She added, “We need to do a better job of collecting data on our Tier 2 and even sometimes our Tier 3 students who are struggling with behaviors.” She also said this was something that they needed to change moving forward.

Another support provided to all students at Mountain High School was an advisory period at the beginning of each day. Teachers used this time to ensure students completed their homework for the day, according to Principal Ashley. Advisory took place every morning except one day per week for 15 minutes and then again at the end of the day for ten minutes. Bill described the goal of the morning advisory period as an opportunity for students to “get themselves in that [academic] head space” for the day. Teachers often made announcements for the day, asked students if they completed their assignments for the day, confirmed if students had the necessary supplies for classes, and checked to see if anyone needed extra social-emotional support before ever being dismissed to their first academic class. Advisory teachers also strongly

encouraged parents to attend conferences four times each year and send the parents of all students a progress report every two weeks that needed to be signed by a parent. Evelyn noted that she believed advisory was the most effective support in the building.

Both Principal Ashley and teacher leader Bill identified advisory as a way for staff to build relationships with students. Teachers followed the same group of advisees through their high school career which allowed teachers and students to build stronger relationships. Ashley said, “the student’s advisor should really become the family’s first point of contact at the school.” Bill included that an intention of advisory is for students to feel like they have one person they can go to:

If they go to 6 or 7 different teachers, they may not feel particularly close to them, but there is one that they do—their advisor. So the idea is- that’s your person. If you have a question about a class or if you are struggling, then that’s who you can go to, or they can reach out on your behalf.

Bill said the hope was that students had a direct connection with someone at school that they trust. Likewise, Assistant Principal Carter expressed his belief that “informal conversations with a student who has a need and an adult whom they trust” was the most accessed support in the building.

Mountain High School leadership made several efforts to engage with students, parents, and families and supported a sense of belonging and safety for students by communicating student progress with parents, creating positive relationships with families, and being in partnership with families. For example, Mountain High School leadership engaged with students, parents, and families to support a sense of belonging and safety for students by communicating student progress with parents through parent teacher conferences, progress reports, and phone

calls about attendance. Advisory teachers strongly encouraged parents to attend conferences four times each year. Teacher leader Evelyn reported that she typically saw 97-100% of her students' families for each of the four parent teacher conferences throughout the year. Evelyn attributed the parent attendance at conferences in part to the fact that the school "started with a really careful mindset towards systems of support." The school also made accommodations for parents who was unable to attend conferences in person and would hold virtual conferences or phone conferences. Advisory teachers also send the parents of all students an academic progress report for all their classes every two weeks that needed to be signed by a parent, and to support attendance and assure parents of their student's presence at the school and in classes, an automated call went out after each class began to notify parents if their child was tardy or absent.

Leaders at Mountain High School also worked to create positive relationships with students, parents, and families through newsletters, positive calls from teachers, family night, and communicating the availability of the principal. There was a weekly newsletter that was sent to parents. Teacher leader Bill said that the administrative leadership team also encouraged teachers to send emails, calls, and/or text messages home to parents that were positive. Bill said teachers communicated with parents concerning classroom behaviors and academic concerns, but that they were working to engage parents and families more in positive ways. "If you get in a habit of only calling when it's bad—that's- that's not good. A lot of teachers really work on letting parents know when there is something good happening in the classroom too. That means a lot to parents to hear that," added Bill. There was also a staff member on site responsible for family and community engagement as well. Additionally, Bill organized a family night when parents /and students as well as prospective students came into the building to meet the administrators and teachers, see the clubs and activities the school offered, and enter a raffle at

the event. The principal also posted a link on the school website so parents could access her availability and schedule meetings.

Finally, Mountain High School leaders made several efforts to engage with students, parents, and families and supported a sense of belonging and safety for students by being in partnership with families by getting feedback through text every two weeks and the parent action committee. Carter explained that every couple of weeks a message was sent to all parents that asked, “How are we doing?” in reference to Mountain High School. This was another way the staff worked to build a partnership with parents and families which provided them an opportunity to supply feedback to the administrative leadership team. There were also opportunities throughout the year to attend a monthly opportunity to chat with the principal. Parents had the opportunity to provide feedback to the school through a phone application noted by Ashley and Farrah. There was also a parent action committee that met to address building-wide concerns, for example, the student handbook was revised. There were several stakeholder groups involved in that process, including parents, teachers, and students to gain different perspectives and make the process more collaborative to ensure buy-in and to support all students. These efforts were designed to engage with all students’ parents and families to support all students at Mountain High School and promote a sense of belonging and safety.

In summary, Mountain High School provided several supports to all students. These supports were categorized into three different areas: structural supports, which included scheduling and teams that work together to support different groups of students; academic supports, which included data-driven instruction, doubled English language arts and math classes; and supports that promoted a sense of belonging and safety, which included social-

emotional supports, consistent discipline, a student advisory system, and multiple methods for engaging families.

Mountain High School Targeted and Individual Supports

The second theme that developed from the analysis of the data was that Mountain High School staff provided both targeted and individual support to students. These supports were provided to ELLs, students with disabilities, students identified as gifted and talented, and students who were struggling academically or emotionally.

Mountain High School provided support designed to target ELLs. Targeted support for ELLs began through a district requirement that all teachers complete training to teach students using culturally and linguistically diverse practices. Teacher leader Farrah used her training to instruct new vocabulary words and to build the students' capacity to use mathematical terms in the classroom. Diana shared:

Language is a huge part of all our classrooms. We take the standpoint that even if you're not an ELL student, that you still gain so much from learning new vocabulary every day and having anchors for that vocabulary, like visuals and the time to practice it.

Her comments demonstrated her support for this district requirement to provide targeted support to ELL students' instructional needs, and to support strategies that support the learning of all students. Principal Ashley also explained that due to the large number of ELL students co-teaching was implemented in several classes to better support the academic challenges associated with those learning high school level content where instruction was not provided in the students' native language. ELL students also had individualized support through a plan that included goals and strategies designed to support the student's success. Some ELL students also had additional support in a language development class.

Co-taught classes at Mountain High School provided targeted support to both ELLs and students with disabilities. Co-teaching occurred especially in English language arts and math classes where there were high numbers of students with learning differences. Diana also noted that the classes that she co-taught with a special education teacher were smaller in size, typically 19-20 students, whereas her non-co-taught classes typically had between 30-35 students.

Students with disabilities were given additional support in a variety of ways and most often had an IEP. General education teachers initially reviewed each student's IEP at the beginning of the school year to understand the individualized accommodations and/or modifications that needed to be put into practice in the classroom to provide academic, behavior, physical, and/or social-emotional support to the student throughout the school year. The general education teachers also completed summaries during the year that revealed students' progress towards their goals that were given to the student's case manager. Teacher leader Bill said that case managers typically asked:

What the student was struggling with in class, what was going well in class, what strengths do you see in the student, how do you see the student interacting with their peers, what supports are working, and what supports are not working.

Bill said the case manager then compiled the teachers' feedback and used it along with feedback from the student's IEP team to adjust the student's plan as necessary and as appropriate. Additionally, some students with an IEP had additional support classes with individualized instruction to support them in meeting their IEP goals.

Students identified as gifted and talented were supported throughout the year in their area(s) of giftedness through their Advanced Learning Plan. Students' Advanced Learning Plan varied greatly from student to student based upon their identified area(s) of giftedness and

appropriate individualized supports. Students were identified as gifted and talented per an approved process submitted to the state which was the same process that all schools in the district used to identify students. There were several Advanced Placement (AP) courses available to gifted and talented students along with other students who applied for the courses at Mountain High School: AP Biology, AP Chemistry, AP Calculus, AP Literature and Composition, AP Language and Composition, AP US History, and AP World History. Principal Ashley also noted that while support was in place for students identified as gifted and talented that it was “an area of growth” mentioning that she wanted to include more instructional strategies to support gifted and talented learners into general classroom instruction moving forward. Diana agreed, saying that while the school provided advanced classes for students identified as gifted and talented, “we don’t do enough” to support their learning.

While office hours were open to all students after school for additional support, the staff targeted those students whose grade point average (GPA) fell below a 2.0 or have a D or F in any class. Typically, if a student had not completed their work for that day, they had to stay after school hours and complete the homework on that day. Teacher leader Bill described this as an accountability system for homework called “Wall Street.” Bill elaborated saying that “Wall Street is supposed to be a symbol of success, which is why the school calls it that as well. To be successful, you have to do your homework. To be successful, you have to understand the course content.” Bill also believed this was a way the staff maintained high expectations for all students, “We aren’t going to accept work that isn’t completed to the best of each student’s ability because he/she can do better.” Bill noticed that there was more complaining among the freshmen about receiving a “Wall Street” compared to students in other grades noting that he thought the opportunity was good to help students learn course content and learn lessons in responsibility

and work ethic as well. Mountain High School ran two late bus routes, so transportation was not a challenge for students to stay after school.

There was an Affective Needs Center at Mountain High School that provided targeted and individualized support to students with more severe behavioral disorders, trauma, or social-emotional challenges. There was a full-time social worker and a couple of part-time social workers who worked with students at the school. School personnel referred students to the Affective Needs Center because of the behaviors they displayed, which varied significantly. The counselors offered a few small group opportunities that provided targeted support to students. Assistant Principal Carter explained that there was a group of 11th grade males who were struggling with self-confidence and a group of 9th grade girls that met to discuss how to build positive relationships. These small groups were developed based upon the students' needs. There was an additional mentoring program for students who needed support with social-emotional issues.

Despite the social-emotional supports available to targeted groups of students, Principal Ashley said that given the large number of challenges the students faced outside of school she identified social-emotional supports as an area of growth for the high school, saying that the school "has been so focused on academic results. . . that it's a piece we still need to tie into our support for all students even more." Teacher leader Bill also agreed this was a renewed focus this school year at Mountain High School and felt that social-emotional support was "really emphasized from the top down" at Mountain High School.

In summary, two themes developed from the data that was analyzed from a review of public documents, semi-structured interviews, and my memos of Mountain High School. First, Mountain High School provided several supports to all students: structural supports, academic

supports, and supports that promoted a sense of belonging and safety. Second, Mountain High School provided both targeted and individual support to students based on specific academic or social-emotional needs. These supports were provided to ELLs, students with disabilities, students identified as gifted and talented, and students who were struggling academically or emotionally.

Plains High School Findings

Plains High School was in an urban area of Colorado. There were over 350 students enrolled at the high school for the 2017-2018 school year. Additionally, the student body was approximately 64% Latinx, 21% Black or African American, 3% Asian, 8% White, 1% American Indian, native Hawaiian, or other Pacific Islander, and 3% of the students identified as being of two or more races. Additionally, 9% of the students have learning differences evidenced by an IEP, 63% of the students are considered English language learners, 15% have been identified as gifted and talented, and 82% of the students have free or reduced lunch.

Plains High School was considered a “Performing School,” according to the state of Colorado since its inception. In 2017-2018, Plains High School’s Performance Framework demonstrated that the school’s academic achievement earned an approaching rating with 46.9% all the possible points earned, which was just below the state’s lowest scale score associated with a meets rating of the 50-percentile rank. In academic growth, Plains High School also earned an approaching rating earning 49.1% of the possible points, which was also just below the state’s lowest scale score associated with a meets rating of the 50-percentile rank. In post-secondary in workforce readiness, Plains High School exceeded expectations earning 100% of the possible points.

Plains High School opened in 2016 and was a tuition-free 9-12 public charter high school. It was in a large Colorado school district and part of a large charter network. While Plains High School's website said that no particular type of applicant is guaranteed admission, they did provide preference given to student who were children of full-time employees of the school, students with a sibling that was admitted to the school, students who were attending another school within the charter network, students who lived in the enrollment zone, district resident students impacted by school closure decisions, students who lived in the district, and then non-district residents. After considerations like these, there was a lottery for admission to school if enrollment space was still available or if someone who applied did not meet any of the already mentioned criteria.

According to the school's website, the areas of focus at Plains High School included achievement, justice, and perseverance. The school developed a College Access Team designed to support students with their college entry through the second year of college, which planned to include advising and peer mentoring programs. The College Access Team supported students in a variety of ways at Plains High School. Their overarching goal was to help match Plains High School students with higher education institutions that match the student's academic, financial, and personal needs. The school now had two full-time positions devoted to this Team. While a student was enrolled as a junior or senior at Plains High School, The College Access Team provided seminars throughout the school year that included educating students and supporting them through the college application and acceptance process as well as goal setting and planning. The peer mentoring program and first year and second-year college supports were not yet finalized at the time of the study.

I conducted semi-structured interviews with eight different school leaders from Plains High School as well as reviewed documents and wrote memos for analysis. For Plains High School, I interviewed the principal (Heidi), two assistant principals (Gwen and Ian), and five teacher leaders (Jennifer, Kellie, Liam, Matthew, and Nelson). The participants' time at the school varied between less than one year up to since the school's opening in 2016. Two themes developed from the data collected for Plains High School.

Plains High School Supports to All Students

The first theme that developed from the data analysis was that Plains High School provided several supports that they provided to all students in three different areas: structural supports, which included the master schedule and teams that work together to support different groups of students; academic supports, which included data-driven instruction, doubled reading and math classes; and supports that promoted a sense of belonging and safety, which included social-emotional supports, consistent discipline, advisory, and engaging families.

Structural Supports

The first theme that developed from Plains High School was that the school provided support to all students, including the master schedule and different teams within the building worked together to support different groups of students. The building Principal "Heidi" at Plains High School believed that supporting all students was the foundation for the vision for the entire building. These supports began with systems currently in place, for example, the building had an administrative team, content area department teams, grade-level teams, and a newly formed multi-tiered system of support (MTSS) committee. The daily schedule supported students as well. Heidi explained, "Our leadership structure, department structure, grade level structure, and our actual schedule—those are the foundational pieces to the supports [we provide]." For

example, teacher leader Liam, the 10th grade leader regularly met with the MTSS coordinator, who provided guidance concerning next steps to support students experiencing challenges.

Teacher leader Matthew said the grade-level leader was considered the first contact for teachers regarding student concerns, and each grade-level team met every other week. Teacher leader Jennifer also spoke about some of the work in content area teams. She said that they “We’re trying to have vertical alignment, since we have extra individualized instruction time, and we want a system and plan for that 9th-12th grade building on each other.”

While Plains High School designated an MTSS coordinator, Principal Heidi said that MTSS was not a strong focus within the school since its inception and that there had not previously been an MTSS team in place. There was no additional information concerning the role of the MTSS coordinator’s role within the building provided. Heidi noted the MTSS structure was an area of growth for the building. She also noted that Plains High School had several supports in place “that would all be [considered] a part of an MTSS system.” Assistant Principal Ian added there was now an MTSS committee (in 2017-18) and elaborated about the members of the committee. He shared that the MTSS committee consisted of himself, the building principal, the school psychologist, the social worker, a special education teacher, a math teacher, and an English teacher. Teacher leader Liam described the school’s current MTSS process:

We collect data on attendance, grades, and behavior. Then we make a list of students who do not receive other support services, like a 504, IEP, or ELL support. Based upon the list [of students], we come up with a list of interventions and implement it while we collect data for four to six weeks to see if it works. If it doesn’t work, then we move more into

talking about whether we need a different intervention, or to move to testing, or if we need to involve parents more.

Liam also noted the fidelity of the MTSS process varied depending on the grade level teams and people.

The building leadership and faculty at Plains High School also engaged in data-based problem solving and decision making to impact all students. The leaders in the building used data throughout the year along with course failures, the number of students on track for graduation, absences, and behavior occurrences to consider what supports were needed for the student body at Plains High School, according to Principal Heidi. Additionally, the building administrators reviewed attendance data every two weeks to look for trends, and then teachers made phone calls home and sent out automated calls concerning attendance and grades as a part of grade-level meetings. Principal Heidi also checked in with the assistant principals each week to review different pieces of data, including whether teachers were using what was determined by the Plains High School administrative team and the greater charter network to be mastery practices in their classroom instruction. These structures, designed to support all students, were developed by the Plains High School administrators, implemented by the teachers and leaders.

Academic Supports

Several academic supports were implemented at Plains High School to support all students, including data-driven instruction, and doubled English language arts and math classes. For example, students at Plains High School completed Star Assessments for reading and writing three times a year as well as practice College Board assessments to prepare for the state's required assessments in the spring. Collecting this data helped teachers at Plains High School determine the students' instructional needs. Assistant principal Ian added that he thought the

school was doing a good job of collecting data in the areas of English/ language arts and math, with that there were “other areas where we are collecting data but having it done with fidelity and consistently are definitely areas for us to improve upon.”

The Plains High School administrative team worked to support teachers to utilize data-driven instruction in their teaching practices through instructional coaching and observation. The intent of this support provided directly to teachers was to support the academic progress of all the students in the building through data-driven instruction. Assistant Principal Ian, for example, said he engaged in instructional coaching with several of the content area departments on a weekly basis. Ian explained, “I schedule weekly classroom observations with each teacher from the departments I oversee. I meet with them weekly to debrief on those observations.” During weekly check-ins, teachers discussed their experiences utilizing data-driven instruction; they considered checkpoint assessment data, unit assessment data, SAT checkpoint assessments, or something more informal such as an exit ticket. Teachers were asked to reteach lessons once a week to ensure understanding when appropriate, according to Ian. He also added:

Our goal here is that we have at least 80% of our students passing each course. The teacher and I will look at whether their gradebook is meeting that goal. If they are, great, if not- let's look more closely at each student individually that's not currently passing and discuss the rationale behind the grade that the student currently has.

Ian commented that grading could reflect an individual student’s learning needs or a bigger systemic issue.

Teachers at Plains High School were also expected to implement common instructional practices as required by the school's administrative leadership team. Plains High School emphasized common instructional practices during instruction for all students. Principal Heidi

said there were a variety of academic supports provided to all students to ensure their academic success: sheltered instructional strategies, scaffolded lessons, repetitive skill practice, reteaching, differentiation within lessons, and consistent assessments to monitor learning. There was support for both content learning and skill mastery used to demonstrate understanding on state assessments. This also provided teachers the ability to support and meet the needs of all students through a variety of ways. For example, teacher leader Nelson discussed the importance of scaffolding within lessons and said that scaffolding helped him to effectively reach all the students, while another teacher leader Liam noted that “we [the teachers] start with Tier 1 with the basic instructional strategies that every teacher should use.” Teacher leaders Jennifer and Liam emphasized that differentiation was an expectation of all teachers. Liam explained, “At any moment, you might be teaching up to six different grade levels worth of reading ability while trying to push everyone and teach them grade-level content.” Assistant principal Ian explained:

Our English language arts teachers all have a requirement for 20 to 25 minutes in their daily instruction for individual instruction time. During that time, teachers use a program like IXL to work on each scholar's specific individual skill that they have gaps in or need more support for.

Ian also said that some teachers also provided additional small group instruction based upon student learning from the previous lessons during that time.

A scheduling decision that supported all students was the decision to double block both math and English language arts classes for ninth and tenth grade students. According to Principal Heidi, this decision was made after the charter organization “saw better results in Texas. . . with low-income kids that were coming in [to high school] lower” in terms of academic achievement. Teacher leader Liam felt that this may be the most effective way the students were supported

academically in Plains High School because it provided time for all students to receive small group instruction and remediation, when appropriate. Additionally, because there were two different blocks of time to support English language arts and math, teachers utilized an adaptive writing program called Quill during that time to support all students, said teacher leader Jennifer. Beyond the extra time, Assistant Principal Ian also explained that students had access to other reading and math support resources, such as Read Naturally Live, a reading based intervention program was students in grades 1-8 on a web-based platform; Khan Academy, a free website with online tools to support help PreK-12 students learn better reading and math skills among other topics through short lessons, practice exercises and materials for educators that can be personalized by creating an account; and IXL, an online subscription-based personalized K-12 learning support for different subjects, including reading and math . IXL includes diagnostics assessments and skill-based exercises to support learning and can be used as a progress monitoring tool.

An additional academic support for 9th graders only was called “College Prep” which was similar to a tutoring session. On the day when students were released early, they checked for missing assignments and worked on other organizational skills during College Prep.

Supports that Promote a Sense of Belonging and Safety

Plains High School also had several supports in place that promoted a sense of belonging and safety, which included social-emotional supports, consistent discipline, advisory engaging families, extra-curricular opportunities, and providing meals to students. Plains High School provided social-emotional support to all students through mindfulness. The class period after lunch each day was scheduled two to three minutes longer than the other periods to provide teachers time to implement mindfulness into every classroom at that time. Some teachers chose

to provide time for mindfulness at some point in every class period, while others did not. Teacher leader Liam explained that the school had a blue room available to all students—a place within the school where students could go to be alone and practice mindfulness. Teacher leader Matthew commented that the mindfulness practices demonstrated the school’s “willingness to listen to scholars and to what they have to say and offer them opportunities to explore their identities and to develop a positive conception of those identities and hopefully see themselves becoming first generation college graduates.” Additionally, all students at Plains High School had a school counselor and there was additional social-emotional and mental health support for those students who needed or wanted them.

Plains High School supported student behavior using restorative practices to promote a sense of safety and belonging. Out of school suspensions only happened at Plains High School for a few specific reasons: bringing drugs to school, bringing weapons to school, conducting violence, or threatening someone with violence, while other incidents were handled internally using a restorative process, according to Principal Heidi. Assistant Principal Ian described the behavior support as utilizing the positive behavior intervention and support (PBIS) framework but added that he was not sure if it was robust yet. Ian also additionally said that the teachers used Live School to record behavior concerns. Live School is an online behavior management platform where students’ behaviors can be tracked and can be rewarded.

The advisory program at Plains High School was also meant to bring students a sense of safety and belonging. While this program was still evolving, Principal Heidi said the general purpose for advisory was to have an adult in the building that tracked a small group of students’ (15-20) grades, attendance, made phone calls home, and became the students’ touch point of support in the building. Principal Heidi also noted that advisory was also a social and emotional

support for all students. Both Liam and Matthew also noted that advisory was a great opportunity to build relationships with their students. Principal Heidi also said they were about to implement SEL lessons in advisory over the next nine weeks from Teach For America.

All ninth-grade students also had “College Prep”; a term used for an additional advisory time when students met with their advisor to see if they had any missing assignments before they went to lunch. College Prep advisory occurred on the early release day for the school, according to the Principal Heidi. This support was provided to all ninth-grade students at Plains High School because as Principal Heidi commented that the “ninth-grade students did not have strong organizational skills.” Students used the time to complete their work, and those students who did not have any missing assignments were able to be released early for the school day. College Prep allowed for teachers and students to work together in smaller groups to support their academic questions. According to participants, students began to take more ownership of their studies, better understand their work, and organize their time more effectively, so only those students still needing support remained in the building on those afternoons.

Plains High School leadership made several efforts to engage with students, parents, and families supported a sense of belonging and safety for students by communicating student progress with parents, creating positive relationships with families, and being in partnership with families. Plains High School leadership made efforts to engage with students, parents, and families by communicating student progress and providing relevant support at parent teacher conferences. One common way this took place was through parent teacher conferences. Building leadership also organized tax preparation professionals and invited immigration lawyers on-site during parent teacher conferences to build a strong partnership with families. Teacher leader

Matthew noted that Plains High School also offered Free Application for Federal Student Aid (FAFSA) nights for families, some during parent teacher conferences.

Plains High School leadership made efforts to engage with students, parents, and families and created a partnership with families through the family council. This was a group of parents that met weekly and provided families the opportunity to give feedback to the school's leadership team. Parents were able to join this group any time they wanted.

Plains High School also made efforts to engage with students, parents, and families through being in partnership with families. Liam said, "We have both scholar and family design teams that we usually ask for feedback on innovative things we want to try and do as a school." For example, Plains High School recently partnered with families who were concerned that junior and senior students who were expected to have jobs or chose to have jobs did not have time after school hours to complete their homework. In response, the school created a study hall for all juniors and seniors as a part of their school day. Additionally, there was a concerted effort on the part of the leadership team to consider different ways that families could be involved in the school by providing their time, energy, or resources, to name a few, according to principal Heidi.

Plains High School offered extracurricular opportunities available to all students (e.g., weightlifting club, speech and debate). Principal Heidi explained that offering opportunities for students to be involved in school clubs and activities helped promote the sense of belonging and safety. One example of an activity that promoted a sense of belonging was the gentleman's fraternity that Assistant Principal Ian led. The gentleman's fraternity met weekly to develop

leadership skills. These students went to different leadership conferences throughout the year. Ian shared that students had “the opportunity to build friendships and develop empathy and those types of core values.”

Plains High School helped students meet their basic food needs to promote a sense of belonging and safety as well. The high school provided breakfast and lunch to all students. Teacher leader Nelson believed food may be the most effective support available to the students, while teacher leader Jennifer noted that food support was also likely the most accessed support among the students. Jennifer also said that a lot of teachers provided food and snacks to students throughout the day as well. She commented, “I would say probably half of the people in the building have a stash in the closet for when a kid comes in and seems ‘off the chain.’ they ask, ‘what do you need?’ because the student is just really hungry.” Teachers pay out of their own pocket for the snacks that they provide to students, and Jennifer said that the teachers spend their money in this way because they know that all students need food and nourishment to be open and ready to learn, that it helps the teachers build trust with the students, and that it helps relationship building with all of the students in general when they know that their teacher cares about them not just as students but also as people.

In summary, Plains High School provided several supports to all students. These supports were categorized into three different areas: structural supports, which included scheduling and teams that work together to support different groups of students; academic supports, which included data-driven instruction, doubled English language arts and math classes; and supports that promoted a sense of belonging and safety, which included social-emotional supports, consistent discipline, advisory engaging families, extra-curricular opportunities, and providing meals to students.

Targeted and Individual Supports At Plains High School

The second theme that developed from the data was that Plains High School staff provided both targeted and individual support to students. These supports were provided to ELLs, students with disabilities, students identified as gifted and talented, and students who were struggling academically, behaviorally or emotionally.

Teachers at Plains High School provided targeted and individual support to ELL students. One way teachers at Plains High School provided support to ELL students was through their mindset in supporting the students based upon their instructional needs. Teacher leader Matthew said culturally responsive teaching was a way of “honoring scholars for who they are,” and was a “major component of what works for scholars who are traditionally underserved.” Matthew also believed:

Cultural responsiveness is one of the most effective things that we do because before we can expect kids to learn they need to know that we really value them as individuals and that we genuinely care about them- not just their academics.

Teachers at Plains High School also support ELL students through culturally responsive teaching practices, which was also an expectation of teachers in all classes. Teachers at Plains High School were expected to participate in professional development that would support ELLs with their learning. Liam explained some of the culturally responsive teaching practices included providing visuals to students and that courses were dominated with student discourse to provide several opportunities for students to practice their listening and speaking skills. ELL students also had individualized support through a plan that included goals and strategies designed to support the student’s success, while those scoring in the 1.0-2.0 range on the ACCESS test may receive other more personalized support. Finally, another support that targeted ELL students was

co-taught English language arts and math classes. ELL students were provided this support to afford them access to two teachers in a classroom for additional support as needed.

Co-taught English language arts and math classes were also designed to provide more target support to students with disabilities as well. Students with disabilities at Plains High School were provided learning, behavior, physical, and/or social-emotional support through a case manager as well as through the implementation of the individualized accommodations and/or modifications listed on each student's IEP. Some students with an IEP had additional support classes with individualized instruction to support them in meeting their IEP goals. Assistant Principal Gwen explained, "We follow the students' IEP with fidelity, and we also review those plans annually to make sure we are supporting students and seeing them grow."

Plains High School provided targeted and individualized support to students identified as gifted and talented. Students were identified as gifted and talented per a state-approved process. Plains High School used the same process to identify all gifted and talented students as the other schools in the district. Assistant Principal Gwen coordinated these efforts at Plains High School including supporting the development of individualized advanced learning plans for gifted and talented students as well as the targeted academic programming support of Advanced Placement courses. Students identified as gifted and talented were given the opportunity to participate in field trips to enrich their learning too. For example, there was recently a field trip opportunity for students identified as gifted and talented at the state Capitol that afforded them the opportunity to complete a job shadow experience.

Plains High School also offered students an opportunity to work with individual teachers after school hours to support their academic learning. Teachers stayed after contract hours one afternoon each week to provide additional support to those students struggling to master course

content. Support provided after school hours was designed to target those students struggling, but it also provided a time for teachers to work one on one with students and provided individualized instruction.

Incidents of student behavior were brought to a student accountability board, which consisted of students at the high school who wanted to support a positive culture and climate at the school. These students would listen to the incidents and help determine what accountability might restore the school or relationship(s) impacted by the incident. This process may have included an apology to the entire student body or something on campus on a smaller scale, such as cleaning or helping a teacher with a task or assisting another student with a challenge they have encountered. Teacher leader Matthew said that he had a chance to observe the student lead accountability board, and it was “probably one of the coolest things I’ve ever seen on the school campus.” Matthew also noted that restorative practices could lead to “a [positive] shift in your relationships with the most difficult scholars.”

While all students at Plains High School were asked to practice mindfulness during a set time in the school schedule each day, students with social-emotional challenges also had access to a mindfulness room that provided targeted support to those in need of a place to think. Additionally, there was an Affective Needs Center at Plains High School that provided targeted and individualized support to students with more severe behavioral disorders, trauma, and/or social-emotional challenges. There was a full-time social worker and a couple of part-time social workers who worked with students at the school. Liam added that he anecdotally thought mental health and social-emotional supports were the most effective small group and individual support at Plains High School.

Two themes developed from the data that was analyzed from a review of public documents, semi-structured interviews, and my memos for Plains High School. The first theme that developed from the data was that Plains High School provided several supports to all students. These supports were categorized into three different areas: structural supports, which included scheduling and different teams that work together to support different groups of students. At Plains High School this also included a newly formed MTSS team. Plains High School also had academic supports, which included data-driven instruction, doubled reading and math classes; and supports that promoted a sense of belonging and safety, which included social-emotional supports, consistent discipline, advisory, and engaging families. The second theme that developed from the data was that Plains High School provided both targeted and individual support to students. These supports were provided to ELLs, students with disabilities, students identified as gifted and talented, and students who were struggling academically, behaviorally, or emotionally.

Comparison of Mountain High School and Plains High School

After separately analyzing Mountain High School and Plains High School, I analyzed the two cases together to reveal two similar themes: provide supports to all students and provide targeted and individual support to students. Both Mountain High School and Plains High School provided several supports to all students. In both schools, all students were supported with structural supports, academic supports, and supports that promoted a sense of belonging and safety. Additionally, both Mountain High School and Plains High School provided both targeted and individual support to students. These supports were provided to ELLs, students with disabilities, students identified as gifted and talented, and students who were struggling academically or emotionally.

Both Mountain High School and Plains High School provided structural supports to all students, such as scheduling and different teams that work together to support different groups of students. Both schools offered office hours to students after the school day to support student learning. Additionally, both schools' participants discussed having an administrative team, content area teams with a designated leader, and grade-level teams with a designated leader.

Both Mountain High School and Plains High School provided academic supports, such as data-driven instruction and doubled English language arts and math classes. For example, staff at both schools analyzed benchmark assessments and practice standardized test results to determine trends and used the data to plan instruction. Both schools supported the academic achievement of all students in the areas of English language arts and math by providing two different blocks of time in the students' schedules to receive instruction. Evidence-based instructional practices were present in both high schools such as small group instruction, flexible grouping, scaffolding, differentiation, reteaching, monitoring student learning, and instructional strategies to support ELLs.

Finally, Mountain High School and Plains High School provided supports that promoted a sense of belonging and safety to all students. Both high schools had counselors available to all students in their school, utilized restorative practices to support discipline, had an advisory program, and engaged with students and families in several ways.

The second common theme was that both high schools provided targeted and individualized supports to students. Both Mountain High School and Plains High School supported ELL students academically through co-taught English language arts and math classes, additional support classes and by ensuring that all teachers were trained in culturally and linguistically diverse teaching practices. Students with disabilities were supported academically

in both buildings through case managers, co-taught English language arts and math classes, and specialized instruction when deemed appropriate on a student's individualized education plan. Gifted and talented students were supported academically in both high schools through a building coordinator, Advanced Learning Plans, and through Advanced Placement course offerings. Both high schools also offered after-school academic support to students who were not performing well academically in their coursework. Both schools also had supports in place to support social-emotional and mental health. This included an Affective Needs Center that supported students that were often impacted by one or more of the following: autism, hearing impairment, serious emotional disability, intellectual disability, multiple disability, other health impairments, and/or a developmental delay. Both schools also had school counselors, school psychologists and social workers available to support students as well with their social-emotional and mental health needs.

Notable Differences

One of the notable differences between Mountain High School and Plains High School was that participants from Mountain High School discussed the importance of building relationships with students compared to Plains High School participants. For example, Mountain High School Principal Ashley expressed that it was important to build "relationships first and foremost" and that it was key to take a "proactive approach of building strong relationships." Ashley also noted the importance that having a sense of humor and being "authentic" played in developing those relationships with students and families. Principal Ashley also brought up relationship building when discussing the school's discipline approach of using restorative practices, during classroom instruction, as a purpose within the advisory program, and as a part

of family, school, and community partnering. Principal Ashley said that the staff's efforts to build relationships with students was one of the things that made her most "proud" this school year.

Mountain High School extended their value of relationship building from students to their families and how their communication methods built relationships with families. Mountain High School teacher leader Farrah brought up three different forms of communication used to engage parents: a phone call to students' families, an app used to disseminate information to families, and a text message sent out every two weeks requesting feedback from parents to help the school continue to support or better support students. Evelyn, another teacher leader at Mountain High School, said that the staff worked to communicate with families through more phone calls and that the principal held open forums to meet and discuss concerns with parents periodically during the school year.

A second notable difference was that Plains High School building leadership discussed hiring and supporting teachers more compared to Mountain High School building leadership. Plains High School building leadership explained that teachers were key to supporting students. For example, Principal Heidi stated that one of the important ways to support all students was by having qualified and passionate staff that served all students in the building. Heidi said, "We need the most experienced, most passionate, most engaging teachers here, and part of my role is to make sure that happens." Teachers helped to provide the structures of the school that supported teachers through the implementation of supports. Teacher leaders recognized this also. For example, teacher leader Matthew said hiring practices for Plains High School was a way to support students. Matthew went on to say that the school was "looking for teachers who are on board with the culture and values of the school and what we are trying to do in education."

Additionally, building leadership at Plains High School talked more about supporting teachers, including the teachers' mental health compared to building leadership at Mountain High School. Plains High School Principal Heidi said:

Teachers are wearing a lot of different hats in our building and are socially/emotionally struggling. That can't be. We want to move that. I think to work in a high-poverty environment and especially during the last six years-I have seen a change in the environment. There's a huge difference in the kids I started teaching to the kids I'm serving now as the building leader. I'm not sure of all the factors going into that, but the students are coming in lower academically and less ready for the demands of high school. We are really trying to be responsive while also not lowering the bar, but the student needs are greater, and the teachers just keep taking on more in order to support them.

Plains High School had put time into the school day to support students utilizing the practices of mindfulness. There was also a room designated in the building for students and staff to go to practice mindfulness during the school day. Additionally, Plains High School had a staff wellness room, and the building principal discussed the importance of supporting staff to prevent burn out. Heidi said they were painting one of the staff rooms and investing in board games, basketball hoops, air hockey, and other games to help people destress during their prep period during the school day.

Teacher leaders and administrators at Plains High School also explicitly mentioned training they received around several topics from their school and district. Several participants mentioned training and professional development around culturally and linguistically diverse practices, evidence-based practices, and restorative practices. Jennifer explained that all teachers receive a "foundations" training to support their classroom instruction and that teachers all

receive a score indicating their progress towards the implementation of what the school considers mastery instructional practices. This information is used to inform the instructional coaching that takes place throughout the school year with the assistant principal and the respective department chair. Plains High School teachers said there were several days of professional development at prior to the beginning of the school year, time prior to the start of the second semester after the winter break, some days designated throughout the school year for training, and an early release day in their schedule that was designed to provide time to work in their teams and to reinforce some of the items they were working on in terms of professional development throughout the year. Additionally, participants from Plains High School indicated they had received training around MTSS more than once this school year.

On the other hand, Mountain High School teacher leader participants did not offer much information about training, while one Mountain High School teacher leader Bill said that their teachers had professional development training for close to three weeks prior to the school year during concerning instructional practices for all students as well as those targeted to support ELL students and students with disabilities in the general education classroom. He also noted that teachers began reviewing and analyzing data as well as planning for the school year during that time.

Finally, participants at Mountain High School heard of MTSS, but all also said the school did not have a strong MTSS. More than one participant said Mountain High School did not practice MTSS. However, participants from Plains High School generally said they heard of MTSS and had been trained on MTSS. Plains High School had an MTSS Coordinator and said 2017-2018 was the first time there was an MTSS committee in the building. Teacher leader Liam explained the MTSS process was to collect data on attendance, grades, and behavior, to then

make a list of students who may have a need, to collaboratively develop a list of interventions for the individual students and to implement the determined intervention while collecting data for four to six weeks. At that time, the MTSS committee will review the effectiveness of the intervention and decide if a different intervention is needed, if additional testing should occur, or if parents should be involved more at that time. Liam also noted the fidelity of the MTSS process at Plains High School varied depending on the grade level teams and people, and there was general agreement that their school could improve their MTSS system.

Despite several similarities in the support provided to all students and targeted groups of students at both Mountain High School and Plains High School, there were still notable differences. Mountain High School emphasized relationship building with students and families more than participants from Plains High School in the semi-structured interviews. Plains High School building leadership spoke more about the importance of hiring the right teachers and supporting teachers to support students in the building. Participants at Plains High School also discussed professional development more compared to participants from Mountain High School. Finally, even though the committee was new and the implementation varied from grade level to grade level, participants from Plains High School described having an MTSS, while participants from Mountain High School described hearing about MTSS but not having one in place.

Conclusion

The purpose of this qualitative case study was to explore how two performing Colorado high schools with a significant percentage of impoverished students supported all students. In this chapter, I presented findings from Mountain High School and then the findings from Plains High School. Next, I presented notable comparisons and differences between Mountain High School and Plains High School. Both Mountain High School and Plains High School provided

supports to all students and provided targeted and individualized support to some students. Both high schools had used teams to support students, used data to drive instruction, implemented double English language arts and math classes, utilized evidence-based instructional practices, included an advisory program, implemented restorative practices to support behavior and discipline, and worked to engage parents and families.

One notable difference between the schools was that Mountain High School participants discussed the importance of relationship building more than Plains High School participants. Additionally, Plains High School participants discussed supporting teachers in a variety of ways compared to participants at Mountain High School. Finally, participants at Plains High School discussed they were trained in MTSS and had an MTSS coordinator while participants from Mountain High School did not. In the next chapter, I discuss the connections between previous literature and these findings, implications for practices based on these findings, and recommendations for future research.

CHAPTER V

DISCUSSION AND CONCLUSIONS

The purpose of this qualitative case study was to explore how two performing Colorado high schools with a significant percentage of impoverished students supported all students. This was a two-site case study with data collected through a document review, semi-structured interviews, and written memos. The findings from this study might be used to inform the multi-tiered system of support (MTSS) structure in other high-poverty high schools, which could result in increased college and career readiness performance scores. This chapter includes a discussion of findings related to the literature on barriers to achievement in high-poverty schools, strategies to increase achievement in high-poverty schools, MTSS, challenges of MTSS, and MTSS in Colorado. I will conclude the chapter by reviewing implications of the findings, limitations of the study, providing implications for future research, and concluding remarks. The research question guiding this study was:

- Q1 How do two performing Colorado high schools with a significant percentage of impoverished students support all students?

Summary of Findings

This study included two tuition-free public charter 9-12 high schools that were part of two different networks of charter schools within Colorado for the 2017-2018 school year. Both high schools reported a free and reduced lunch population that was 67% or higher and had assessment scores that were at or above the average CO SAT score of 1014 for the 2017-2018 school year. I conducted and analyzed six semi-structured interviews with school leaders from Mountain High School, and eight school leaders from Plains High School. Additionally, I

reviewed public documents and wrote memos throughout the course of the study. I presented the findings from Mountain High School and from Plains High School in Chapter 4.

Two similar themes developed from the findings for Mountain High School: provide support to all students and to provide targeted and individualized supports. The first theme to provide support to all students was categorized into three different areas: structural supports, which included the master schedule and teams that work together to support different groups of students; academic supports, which included data-driven instruction, doubled reading and math classes; and supports that promoted a sense of belonging and safety, which included social-emotional supports, consistent discipline, an advisory program, and engaging families. The second theme was to provide targeted and individualized support. These supports were organized to discuss supports that were provided to English language learners (ELLs), students with disabilities, students identified as gifted and talented, and students who were struggling academically or emotionally.

Two themes also developed from the findings for Plains High School: provide support to all students and to provide targeted and individualized support. The first theme to provide support to all students was categorized into three different areas: structural supports, which included the master schedule and teams that work together to support different groups of students; academic supports, which included data-driven instruction, doubled reading and math classes; and supports that promoted a sense of belonging and safety, which included social-emotional supports, consistent discipline, advisory engaging families, extra-curricular opportunities, and providing meals to students. The second theme that developed from the data was that Plains High School provided both targeted and individual support to students. These

supports were organized to discuss supports that were provided to ELLs, students with disabilities, students identified as gifted and talented, and students who were struggling academically, behaviorally, or emotionally.

While many practices in both schools were similar, there were notable differences between the two high schools. Mountain High School participants discussed the importance of relationship building with students more than Plains High School participants. Mountain High School also extended its emphasis on relationship building from students to their families, as well as its communication strategies that fostered family relationships. Another notable difference was that the administration at Plains High School discussed hiring and supporting teachers significantly more than the administration at Mountain High School. Additionally, Plains High School participants discussed supporting teachers in a variety of ways compared to participants at Mountain High School. Teacher leaders and administrators at Plains High School also explicitly mentioned the professional development they received around several topics from their school and district. Regarding MTSS, participants at Mountain High School were aware of MTSS, but all agreed that the school lacked a robust implementation. More than one respondent stated that Mountain High School did not implement MTSS. Yet, individuals from Plains High School reported having a new MTSS team, an MTSS coordinator, receiving MTSS training, and some participants were able to recount the MTSS procedures within the building.

Discussion of Findings

The findings for both Mountain High School and Plains High School were considered in context with the literature. Both cases were reviewed to reveal how the findings fit into the current literature for exploring barriers to achievement in high-poverty schools, strategies to increase achievement in high-poverty schools, MTSS, challenges of MTSS, using MTSS to

support historically marginalized populations, and MTSS in Colorado. The findings from this study show that the supports at Mountain High School and Plains High School showed some alignment with the literature to improve outcomes for students living in poverty.

Barriers to Achievement in High-Poverty Schools

According to the literature, there are barriers to achievement in high-poverty schools. Chatterji (2006) found that poverty rather than ethnic or racial background was the strongest contributing factor to students' lack of preparedness with respect to reading. Some of the challenges that students who lived in poverty could experience included literacy gaps (Buckingham et al., 2013), lower reading achievement entering high school (Reardon et al., 2013), lower graduation rates (National Center for Education Statistics, 2016), higher incidences of learning disabilities and behavior problems (Morgan et al., 2009), and other negative psychological and educational outcomes that could affect academic achievement (Mistry et al., 2009). Given that 82% or more of each student body qualified for free and reduced lunch, it is likely that many students who attended Mountain High School and Plains High School for the 2019-2020 school year were likely faced with some of the same challenges identified in the literature.

Both Mountain High School and Plains High School provided support to all students along with targeted and individual support to students that addressed the challenges mentioned in the literature. For example, to address the literacy gaps discussed by Buckingham et al. (2013), Mountain High School and Plains High School provided double blocks of English language arts classes to all students. Student reading achievement data were not provided to me and therefore it is unknown as to what literacy gaps may or may not exist at each school for students entering high school.

Additionally, both schools required teacher professional development to learn culturally and linguistically diverse practices to support the learning needs of ELLs with the overarching goal to improve achievement in all content areas, including literacy. The reading achievement data were not available to me for students as they entered high school for the school year of the study; however, both high school principals said that one of the reasons they did not provide more targeted reading support to those students reading two or more years below grade level was because the number of students who fit this description coming into their respective schools was so high that they worked to close the reading achievement gap through other means such as the double language arts block.

In 2017-2018, 13.2% of the student enrollment in the United States of America had identified disabilities (Smith, 2022). The number of students with identified disabilities attending Plains High School was 9% and at Mountain High School 11% for the 2017-2018 school year. These data were below the national average for that year and is therefore inconsistent with the literature by Morgan et al. (2009) which noted a higher number of incidences of learning disabilities and behavior problems among students living in poverty. Both Mountain High School and Plains High School provided similar types of support to students with disabilities. Each student with an identified disability had an Individualized Education Plan (IEP), a case manager, and most were enrolled in co-taught English language arts and math courses.

While it is difficult to determine the results of these strategies on student success, it should be noted that both schools also met or exceeded the CO SAT's overall average score given to eleventh grade students the year prior to the study which was a criterion for inclusion in the study. The CO SAT was not administered in 2019-2020 due to the COVID 19 pandemic. Because each school was relatively new in existence, there had yet to be a graduating class and

graduate rates were not able to be compared to the literature at the time (National Center for Education Statistics, 2016). However, in 2021-2022 the graduation rate for all students in the state of Colorado was 72%, while Mountain High School's graduation rate was 91%, and the Plains High School's graduation rate was approximately 97% respectively (CDE, 2023a). Both exceeded the state's average for the same school year.

It is unknown to what extent other negative psychological and educational outcomes that could affect academic achievement impacted students at Plains High School or Mountain High School (Mistry et al., 2009) because data concerning these topics were not available to me. Each high school had an Affective Needs Center with additional support and specialists, including social workers and a school psychologist. Both Mountain High School and Plains High School had counselors to support each student, social workers available for students' support, and targeted small groups to support students with social-emotional and mental health concerns. Plains High School took it a step further by scheduling and practicing mindfulness moments during the school day just after lunch as well as establishing a mindful room for students and staff to use. A study conducted by Mistry et al. (2009) encouraged efforts like these to support students emotionally and psychologically as well. Some of the supports at both schools align with the literature to improve outcomes for students living in poverty.

Strategies to Increase Achievement in High-Poverty Schools

Several strategies and/or supports have been previously identified through research to increase the achievement of students in high-poverty schools. Educators at both Mountain High School and Plains High School utilized some of the recommendations from the Bureau of Legislative Research (2014) and the WEA (n.d.) to support students, including professional development to provide effective instruction and school leadership, professional learning

communities in the form of content area teams and grade level teams, identifying what works for struggling readers, after-school programs in the form of an extended school day and after-school office hours, developing communication with parents, and using data to drive instruction. To support struggling readers, Mountain High School and Plains High School implemented one-on-one support from highly qualified teachers and small group instruction, both of which aligned with the literature (Bureau of Legislative Research, 2014). Additionally, the school promoted literacy across the curriculum which aligns to Vaughn et al. (2008) who asserted that it was not too late to promote reading in secondary schools, and Baldy who (2018) reported that implementing evidence-based reading strategies across content areas showed positive results as well. In addition, participants in both schools mentioned scaffolding as one of those strategies used in classrooms across content areas as an effective support for students (Rojas Rojas et al., 2019).

MTSS is a system that combines RTI and PBIS to address the “academic, social, emotional, and behavioral development of children from early childhood through adolescence” (Averill & Rinaldi, 2011, p. 91). While both academic and behavior support were present at both Mountain High School and Plains High School, participants from neither school used the term RTI when discussing the academic supports being in place at their respective school. Only one participant from either high school used the term PBIS when discussing behavior supports in the building. This participant from Plains High School mentioned PBIS, and said the high school needed a more robust PBIS system, while all other participants from Plains High School and all participants from Mountain High School discussed restorative practices as their primary behavior support.

There has also been research that expressed what a successful framework could look like in high-poverty, performing schools. For example, the Cristo Rey Model reviewed by Fahey-Smith (2015) shared the success of the schools within the charter network valued high expectations, mutual respect, trust, and included supporting students with character development, college and career preparatory development, and a corporate work study program. Some of the practices at the schools at the time of the study utilized some of strategies from the Cristo Rey Model. For example, Mountain High School focused on relationship building and the advisory program especially. At the same time, Plains High School had a similar advisory program, but they also had a team of people dedicated to college preparation as well.

Reeves (2019) also provided suggestions to supporting high-poverty schools to: assemble a PLC for their district or school, focus on student achievement, use collaborative scoring, prioritize factual writing, use frequent chances for success-based formative evaluation, constructive data analysis, and cross-disciplinary learning units. At Mountain High School, academic supports were made available to students and the formative assessments given and analyzed. Plains High School also provided several academic supports, analyzed formative and summative assessment data, and additionally asked students to engage in social justice themed projects each year that were cross-curricular.

Parrett and Budge (2020) suggested that a framework for collective action to support students in high-poverty schools. The characteristics of this framework include social justice-oriented leaders and educators; students are the center of both the school's vision and its professional practices; educators value excellence, equality, and equity; there was a focus on academic achievement, and there was a focus on the context of the school that included the surrounding neighborhood and community. Parrett and Budge (2020) detailed several high-

poverty, performing schools, three of which supported the collective action framework. Mountain High School was currently in a transition period at the time of the study, including a new principal, but her focus and the teachers' focus on relationship building and restorative practices supports a focus on students and social justice, and there were several supports in place that supported academic achievement and promoting a sense of belonging and safety, including parent, school, and community partnership. Plains High School also demonstrated part of the framework for collective action (Parrett & Budge, 2020) in their school-wide focus on social justice, support for professional development of its teachers, academic supports available as well as promoting a sense of safety and belonging also with parents and the community. The focus on professional development was also consistent with Lesh et al. (2021) that suggested clear, effective professional development and the clarity of responsibilities improve MTSS implementation and fidelity, as well as staff responsibility, would lead to improved student results.

Both schools also implemented the four components of MTSS to support students in their schools including varying levels of support, screening, progress monitoring, and data-driven decisions (National Association of School Psychologists [NASP], 2016). The schools had varying levels of support that varied in intensity from universal supports available to all students (Tier 1), targeted supports meant to serve some students (Tier 2), and intensive supports (Tier 3) intended to support a few students (NASP, 2016; Rumberger et al., 2017). For example, both high schools had universal supports available to all students (Tier 1). Each school provided structural supports (master schedule and teams that work together to support different groups of students); academic supports (data-driven instruction and doubled English language arts and math classes) and supports that promoted a sense of belonging and safety (social-emotional

supports, consistent discipline, an advisory program, and family engagement). Both high schools also provided targeted supports to some (Tier 2) and individualized support to a few (Tier 3). Targeted (Tier 2) and intensive (Tier 3) supports were provided to ELLs, students with disabilities, students identified as gifted and talented, and students who were struggling academically, behaviorally, or emotionally.

While participants in neither school said they had a screening process for mental health support, participants from both high schools referred to screening and benchmark assessments given three times per year for both reading and math and practicing standardized tests in preparation for the state assessments. Additionally, participants from both high schools commented about how the data from those assessments were used to determine what supports students needed and how to drive instruction in the classroom using the data from those practice assessments and benchmark testing. Participants from neither school discussed progress monitoring as something their high school did to support students at Tier 1 aside from the analysis of benchmark assessment data. At the same time, participants from both schools discussed the importance of progress monitoring students' reading and math achievement when the students were already identified as needing additional support and were receiving a targeted and/or more intensive support already (e.g., students with disabilities were progress monitored according to the goals in their IEP). Both schools in this study utilized strategies consistent with the literature to improve student achievement in high-poverty high schools.

Challenges of a Multi-Tiered System of Supports

Several challenges have been associated with MTSS. Hoon et al., (2018) described MTSS as a “slow transformational process” (p. 10). This was observed in the data collected for this study. Even though the state of Colorado had previously began supporting the MTSS model

between 2010 and 2015 (CDE, n.d.f; E. Schaper, personal communication, January 7, 2018), both high school principals admitted their current system of supports was evolving along with the needs of the student body.

For example, the Mountain High School principal, who was also new to the school, said she was in the process of implementing new behaviors supports with restorative practices. The fundamental principles of restorative practices include equity, respect, decency, and compassion (Gregory & Evans, 2020). Restorative techniques enable teachers to become behavioral mentors of their students, teaching them to be accountable for their own behavior and modeling vulnerability, which is a prerequisite for true accountability in restorative justice education (RJE) (Vincent, English, et al., 2021). Restorative practices are a long-term commitment that (a) requires both top-down and bottom-up support, (b) can call for a fundamental change in values if both staff and students are used to traditional discipline methods, and (c) vary from school to school (Vincent, English, et al., 2021) and whether this shift was implemented fully at Mountain High School is unknown. RJE was new to the building at the time of the study, and the staff was not collecting behavior data with fidelity at the time, which was a practice that Gagnon et al. 2020 said was important to maximize behavior support systems. The Mountain principal was clear in her support for RJE and that the staff was divided between those who preferred more traditional discipline methods and those who were open to restorative justice practices. Vincent, McClure, et al. (2021) acknowledged that both individual teacher buy-in, as well as administrative support, appeared to be essential for instructors to engage with a new skill set of RJE. Vincent, McClure, et al. (2021b) also noted that transforming teachers' values and views may be a lengthy process requiring additional time and constant exposure to training in restorative techniques. Watts and Robertson (2022) found that kids at the school with established

restorative practices had reduced rates of tardiness, suspension, and absenteeism compared to a comparison group taken from the other school building in the district that did not have established restorative practices. Neither high school spoke of having a school-wide PBIS, although Vincent, McClure, et al., (2021) noted RJE shows that staff training in techniques to proactively develop positive relationships with and among students and to restore these relationships when they have been damaged should be viewed as one way to assist PBIS implementation in high schools.

Mountain High School participants consistently said they did not have an MTSS system, although several of the Colorado MTSS components were present in the school to support students. Participants from Plains High School reported having a new MTSS team, an MTSS coordinator, receiving MTSS training, and some participants were able to recount the MTSS procedures within the building.

Mountain High School Assistant Principal Carter said that he “would argue quite vehemently that [teacher turnover] leads to poor or lower student growth and outcomes,” and thought this was a notable challenge for Mountain High School, which supports Kraft et al. (2015) that found another challenge associated with the implementation of MTSS was how teacher turnover inhibit systemic change. Jacob (2007) also noted that this impeded the implementation of MTSS. Since the time of the study, several of the school leaders that participated in the study have moved on and are no longer at Mountain High School or Plains High School.

Additionally, neither Mountain High School and Plains High School offered mental health screenings, although both high schools had mental health support available to all students, targeted groups of students, and individual students, while both schools did offer reading

supports and reading interventions to students with an IEP and those who were considered ELLs which was consistent with Splett et al. (2018) who found many schools did not offer universal mental health screenings while they did offer reading support. School leaders did not share that they were collecting data concerning how many students were accessing mental health supports or how they knew whether the mental health support was effective.

Assistant Principal Carter for Mountain High School believed that the amount of time and resources the school was able to provide the appropriate supports to students were challenges the school administration faced. Assistant Principal Carter also stated that a third challenge to supporting students was the volume of students with high needs attending Mountain High School. These challenges are supported by Flannery et al. (2013) and Flannery et al. (2014) that noted challenges to the implementation of MTSS at the secondary level included the following: size of school, school's schedule, number of teachers and more departments, and the developmental stage of the students. The Principal at Plains High School said the largest challenges she faced in supporting students included apathy, a lack of motivation on the part of students, behavior incidences, a gap in skills, and issues outside of the school (e.g., poverty). This was more in line with studies by Buckingham et al. (2013) and Reardon et al. (2013) that noted literacy achievement and reading skill gaps were a concern for students living in poverty. Morgan et al. (2009) discussed that students living in poverty have higher incidences of behavior problems, which is consistent with the feedback by the Plains High School Principal.

On the other hand, while a member of the Mountain High School administrative team felt that a lack of time and resources was a challenge to implement MTSS, an Assistant Principal at Plains High School felt that while the school administrative team and the high school faculty and staff had a lot of resources and tools at their disposal it was a challenge to know which

interventions were the most effective to use for their students, which is supported by Muñoz et al. (2015) who discussed the implementation of the appropriate interventions and supports contributes to providing students a better opportunity to be academically successful.

Teacher leaders from Mountain High School repeatedly expressed the following inconsistent implementation of procedures, policies, and practices; lack of a clear system, and class size as challenges to supporting students, while teachers from Plains High School offered the following challenges to supporting students: time to provide the appropriate support to students, issues outside of the school that impacted students (e.g., poverty), more staffing to support the volume of needs that students have, and the growing gap in skills. Their concerns align with Averill and Rinaldi (2011) who found the implementation of MTSS to be a long, slow process that requires a shift in thinking and systems, and that it requires all staff members working together. While the participants in this study all demonstrated a sincere desire to support all students, MTSS in both schools seems to lack structures that would help the system to align. Additionally, both staffs also noted concerns similar to their administrators concerning issues of time and support, which was consistent with Flannery et al. (2013) and Flannery et al. (2014) that noted challenges to the implementation of MTSS at the secondary level included the following resources: size of school, school's schedule, number of teachers and more departments, and the developmental stage of the students.

A study conducted by the National High School Center et al. (2010) reported that academic supports at the secondary level tended to focus on remediation, supplemental support, and credit recovery with the goal of passing classes and assessments necessary for graduation (National High School Center et al., 2010). The responses from both Mountain High School and Plains High School participants aligned with the literature in terms of a focus on remediation of

skills and a need to provide supplemental support (National High School Center et al., 2010). Participants from neither school in this study discussed credit recovery or passing classes or assessments necessary for graduation, which diverged from the literature.

The literature supported the use of MTSS models to support marginalized populations. For example, MTSS could present a less biased approach to determining whether the root cause of students' struggles stemmed from a disability or limited English language proficiency (Healy et al., 2005; Linan-Thompson et al., 2006). Because academic challenges for students can be exacerbated by language barriers (Hernandez & Cervantes, 2011), Dearing (2014) also noted that sometimes interventions may take years of implementation with fidelity to demonstrate strong positive results. Additionally, Klinger and Edwards (2006) said that MTSS provided a beneficial framework for supporting ELLs when structured and implemented effectively. The findings for this study were unclear as to whether they aligned with the literature in this instance. The student population at Plains High School and Mountain High School both had less than the national average number of students with disabilities identified enrolled in their schools for the 2017-2018 school year. Both Mountain High School and Plains High School responded to supporting students with disabilities and ELLs through supports provided universally to students such as double English language arts and math classes, targeted supports like co-taught English language arts and math courses, and individual supports for those students with the greatest need or for those students' whose IEP or EL plan requires it.

Multi-Tiered System of Supports in Colorado

Colorado previously adopted an MTSS approach that included the academic component of RTI and behavioral supports like those from PBIS (CDE, n.d.b). The CDE model of MTSS was defined as a "whole-school, prevention-based framework for improving learning outcomes

for every student through a layered continuum of evidence-based practices and systems” (CDE, n.d.f, para.1). On one hand, both Mountain High School and Plains High School provided universal support to all students, supports that targeted groups of students, and individualized support to a few students. However, participants from Mountain High School indicated they did not have what they understood MTSS to be in place at their respective school. Participants at Plains High School said their MTSS system was new this school year and that they had a designated MTSS coordinator, and some participants were able to describe the current procedures of the newly formed MTSS team.

Colorado’s MTSS model included five essential components: team-driven shared leadership, data-based problem solving and shared decision making, a layered continuum of supports, evidence-based practices, and family, school, and community partnering (CDE, n.d.f). Components of most of the elements from the Colorado MTSS model were found at Mountain High School and Plains High School. For example, Mountain High School and Plains High School demonstrated team-driven shared leadership in their grade-level teams and department leads. Both Mountain High School and Plains High School engaged in data-based problem solving through the practice tests that were given three times during the school year. Both schools had teachers review assessment data in groups to determine how classroom instruction should be planned and implemented moving forward based upon the data collected and analyzed. Both Mountain High School and Plains High School had a layered continuum of supports as evidenced by the supports each school provided to all students, targeted groups of students and individual students. As previously discussed, both Mountain High School and Plains High School had implemented evidence-based practices, and family, school, and community partnering took place in both Mountain High School and Plains High School through parent

teacher conferences and opportunities to meet with the principal periodically throughout the year. One element that appeared absent was shared decision making. Participants from neither school discussed this being present at their respective high schools, although participants described different teams within their buildings (e.g., administrative team, content area team, grade level teams) that were all formed to support students.

Implications of Findings

The research question guiding this two-site case study sought to understand how two performing Colorado high schools with a significant percentage of impoverished students supported all students. The findings of this study are of interest to building administrators of other high-poverty high schools with a similar context since building administrators have a key role in determining the academic, behavior, and social-emotional supports provided to students. In addition, it was hoped that completing this study would help bridge the research gap on student supports and MTSS in high-poverty, performing high schools, and that the findings from this study could be used to inform the MTSS structure in other high-poverty high schools, which could result in increased college and career readiness performance scores.

Based upon the findings of this study and given the challenges that students living in poverty face, school administrators may want to provide several supports to all students. The findings also suggest that it is recommended to academically support students by utilizing a double block English language arts class, after-school office hours when students could access teacher support for classes, data-driven instruction, and evidence-based practices. Additionally, the findings of this study suggest that high-poverty Colorado high schools utilize restorative practices, demonstrate value in building relationships with students to support students with

behaviors, and implement an advisory program to provide academic and social-emotional support to students.

Based upon the findings of this study, school administrators may also want to provide both targeted and individualized support to groups of students. For example, both high schools in this study have supports in place to support ELLs, students with disabilities, students identified as gifted and talented, and students who were struggling academically or emotionally. Teachers at both high schools engage in professional development for culturally and linguistically diverse practices to provide targeted support to ELLs. Both high schools have co-taught English language arts and math classes to provide targeted support to ELLs and students with disabilities, and both high schools also provided individualized support to ELLs, students with disabilities as appropriate based upon an established plan. School administrators may want to also provide targeted supports to ELLs, students with disabilities, students identified as gifted and talented, and students who were struggling academically or emotionally in the form of professional development for all teachers, co-taught English language arts and math classes, and by establishing a plan designed to support individual students.

Based upon the findings of this study, school administrators may also want to embrace and utilize the Colorado MTSS model. Language used by the participants was not often consistent with the same terminology used in MTSS or the Colorado MTSS model, but practices were described that were in line with the Colorado MTSS model at the time of the study. Both high schools in this study demonstrated evidence of the Colorado's MTSS model's components within the building support model: team-driven shared leadership, data-based problem solving and shared decision making, a layered continuum of supports, evidence-based practices, and family, school, and community partnering (CDE, n.d.f.). They also included elements of the

Colorado MTSS model, so building administrators in a similar context may want to implement the strategies to inform the MTSS structure in other high-poverty high schools, which could result in increased college and career readiness performance scores in a way like the high schools in this study. Language used by the participants was not often consistent with the same terminology used in MTSS or the Colorado MTSS model, but practices were described that were in line with the Colorado MTSS model at the time of the study.

Limitations of Study

One of the limitations of this study was the limited number of participating schools. Given the parameters of the study, there were only seven high schools that fit the study's criteria. Only two of those high schools agreed to participate. The findings would be strengthened if more schools chose to be included. It would be beneficial to see how other high-poverty, performing high schools support students. While the context of each school is important to consider when creating high school support systems, it is possible that by continuing to explore other high-poverty performing high schools a framework might emerge that provides guidance and best practices for schools to support economically disadvantaged students.

Another limitation of the study is that both schools in this study were tuition-free public charter 9-12 high schools that were part of two different networks of charter schools within a school district in Colorado. It would have been beneficial to have public 9-12 high schools that were a part of the study as well. However, neither high school in the study provided supports that could not be implemented in a public-school setting. Also, both high schools had several supports that were supported across the entire school district in addition to the implementation of supports specific to each charter network.

Another limitation to the study was that while several people at each school volunteered to participate, it may have been more beneficial to have some uniformity in the participants' roles and a greater variety of roles. For example, it might have been helpful to have participants whose primary role in the building was to support students with disabilities, ELLs, or gifted and talented students and to include mental health professionals. This may have provided a more enriched understanding of the phenomenon.

Another limitation to the study was that Mountain High School had a leadership change less than one year before the study. While the study was designed to explore how two performing Colorado high schools with a significant percentage of impoverished students supported all students, some of those supports had changed with the difference in building leadership. Therefore, it was difficult to know how the changes in support might impact students. For example, Mountain High School was exploring a behavior support that was new to the building (e.g., restorative practices), and it had not been fully implemented at the time of the study. Therefore, the success and effectiveness of these practices were unclear to the participants.

Additionally, another limitation of the study was that it focused only on the perspectives of building leaders on the administration team and those teacher leaders who volunteered, the documents I reviewed, and my own memos. Gaining the perspectives of parents and students would have allowed me to better understand the phenomenon and to see how parents and students saw the support available and provided to them.

Another limitation was that while both schools reported collecting data and utilizing the data to support instruction, neither school was collecting data to determine the effectiveness of the supports or how often supports were accessed. Both schools reported collecting data for

benchmark testing for reading and math, and Plains High School reported using formative assessments within courses as a part of their instructional coaching model between building admin, department leaders, and teachers; however, when questioned during the semi-structured interviews participants from both Mountain High School and Plains High School were asked: Which supports are most frequently accessed? Which supports do you think are most effective and why? How do you know? The participants' responses all expressed that their answers were anecdotal, and that data were not collected that could answer those questions.

Finally, the onset of the COVID 19 pandemic might have impacted the participation and responses of the participants. I was unable to conduct all interviews in person because I was not allowed into the building part way through the data collection process. Additionally, I was unable to complete observations at each participating school, which would have added to the richness of the data, due to COVID-19 pandemic safety precautions.

Implications for Future Research

There is room for future research based upon the learnings and limitations from this study. This study demonstrated that two high-poverty, performing high schools in the state of Colorado provided several supports to all students and provided targeted and individual supports to some students. It would be beneficial to expand the number of schools to see whether the findings of this study are consistent across a larger number of schools. If this is the case, a framework might be developed to share with other high-poverty high schools to support all students.

It would also be beneficial to have a more diverse sampling of participating schools that would include non-charter public schools as well. This would help provide understanding as to whether there is a difference in the support these participating charter schools provided or

whether the schools in this study were able to help students overcome barriers to achievement due to different factors.

This two-site case study focused on the perceptions of supports provided by building leaders on the administration team and those teacher leaders who volunteered. To better understand how students and/or parents perceive the academic, behavior, and social-emotional supports in place to support students at high-poverty performing high schools, future studies could explore their perceptions through interviews, focus groups, and/or survey methods.

Additionally, while the purpose of this qualitative case study was to explore how two performing Colorado high schools with a significant percentage of impoverished students supported all students, future research could explore how to determine the effectiveness of student supports in the high school setting. This may include a longitudinal study. It might be helpful to follow an entire class of students or to conduct a case study that focuses on an individual student experiencing poverty through four years of high school to observe any academic, behavior, and emotional support they may access at the high school level along with their response to each support. This would allow the research to record which supports the students' access and the impact of those supports on each student.

Future research on this topic should include exploring how schools are determining what supports are effective. This would help schools make more informed decisions concerning the support they provide to students to address academic, behavioral, and social-emotional needs.

Conclusion

The purpose of this qualitative case study was to explore how two performing Colorado high schools with a significant percentage of impoverished students supported all students. Despite the efforts to support students living in poverty that have been addressed through

legislation, students living in poverty still face barriers. Additionally, while research existed surrounding RTI, PBIS, and social-emotional learning, at the time of this study there was a gap in research that addressed how high-poverty, performing high schools supported all students and how MTSS was structured in high-poverty, performing high schools. This two-site qualitative case study used purposive sampling, document review, semi-structured interviews, coding methods, written memos, and constant comparative analysis to identify themes as to how two high-poverty, high performing Colorado high support students. This study helped to bridge the research gap on student supports and MTSS in high-poverty, performing high schools, which could result in increased college and career readiness performance scores.

The findings from both Mountain High School and Plains High School revealed that both high schools provided a variety of structural, academic, and supports that promoted a sense of belonging and safety. Additionally, the second theme revealed that both Mountain High School and Plains High School provided both targeted and individualized support to groups of students.

The findings from this study were consistent with several aspects of the literature regarding how to support students, and the findings of this study would be of the most interest to building leaders at other high-poverty high schools of a similar context. For example, both high schools developed supports available to all students, targeted groups of students, and individual students to address barriers described by Buckingham et al. (2013) like literacy achievement and skill gaps for students. Educators at both Mountain High School and Plains High School utilized some of the recommendations from the Bureau of Legislative Research (2014) and the WEA (n.d.) to support students which included: professional development to provide effective instruction and school leadership, professional learning communities in the form of content area teams and grade level teams, identifying what works for struggling readers, after-school

programs in the form of an extended school day and after-school office hours, developing communication with parents, and using data to drive instruction.

Additionally, both high schools demonstrated evidence of the components of MTSS and Colorado MTSS that include varying levels of support, screening, progress monitoring, team-driven shared leadership, data driven decision making, evidence-based practices and family, school, and community partnering (CDE, n.d.f; National Association of School Psychologists [NASP], 2016).

While the study still had limitations, it was able to begin bridging the literature gap surrounding MTSS in high-poverty, performing high schools. The study has implications for building administrators of other high-poverty high schools with a similar context. School administrators may want to provide several supports to all students such as those described in this study. They may also want to provide both targeted and individualized supports. School administrators may want to utilize the Colorado MTSS model to create a system of support.

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APPENDIX A
INSTITUTIONAL REVIEW BOARD APPROVAL

APPENDIX A

*Institutional
Review Board*

DATE: September 18, 2019

TO: Rebecca Albert Vollrath

FROM: University of Northern Colorado (UNCO) IRB

PROJECT TITLE: [1436088-2] UTILIZING MULTI-TIERED SYSTEM OF SUPPORTS TO SUPPORT ALL STUDENTS: AN EXAMINATION OF SUPPORT PROVIDED TO STUDENTS ATTENDING HIGH-POVERTY, PERFORMING COLORADO HIGH SCHOOLS

SUBMISSION TYPE: Amendment/Modification

ACTION: APPROVAL/VERIFICATION OF EXEMPT STATUS

DECISION DATE: September 18, 2019

EXPIRATION DATE: September 18, 2023

Thank you for your submission of Amendment/Modification materials for this project. The University of Northern Colorado (UNCO) IRB approves this project and verifies its status as EXEMPT according to federal IRB regulations.

We will retain a copy of this correspondence within our records for a duration of 4 years.

If you have any questions, please contact Nicole Morse at 970-351-1910 or nicole.morse@unco.edu. Please include your project title and reference number in all correspondence with this committee.

This letter has been electronically signed in accordance with all applicable regulations, and a copy is retained within University of Northern Colorado (UNCO) IRB's records.

APPENDIX B
INTERVIEW PROTOCOL AND SAMPLE
INTERVIEW QUESTION

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INTERVIEW QUESTIONS

Interview Protocol

1. Prior to the start of the interview, the interviewer will go over the consent form and briefly discuss the risks-benefits portion of the consent form and the confidentiality guidelines. Once consent is secured, the interviewer will ask permission to record the interview.
2. The interviewer will remind the interviewee that all information in the interview will be treated as sensitive information and all names including the interviewee's, student's, school's and district's will be changed to pseudonyms.
3. The interviewer will ask open-ended questions, adding follow-up questions for clarity.
4. The interviewer will present the participant a transcript of the interview within one week, and the interviewee will have the opportunity to review the transcript for content accuracy and provide corrections and clarification. Review of the transcript will be voluntary.

Interview Questions

1. Opening Question 1- Please introduce yourself with your first name only explain your professional experience in education (including the number of years you have taught, the positions you have held- including your current position and job responsibilities).
2. Transition Question 1- How would you describe the teaching staff at your school?
3. Transition Questions 2- How would you describe the student population at your school?
4. Transition Question 3- Please describe your school's climate and culture.

5. Transition Question 4- Please describe your school- include what you perceive to be any strengths or areas for growth.
6. Key Question 1- Please describe any academic supports in place at your school.
7. Key Question 2- Please describe any behavioral supports in place at your school.
8. Key Question 3- Please describe any socio-emotional supports in place at your school.
9. Key Question 4- Which supports are most frequently accessed?
10. Key Question 5- Which supports do you think are most effective and why?
11. Key Question 6- How does your school determined which students have access to the supports you mentioned?
12. Summary Question- Please describe your school's multi-tiered system of supports- include what you perceive to be any strengths or areas for growth.
13. Summary Question- How does your school's context influence your multi-tiered system of supports?
14. Summary Question- What is your role within your school's multi-tiered system of supports?
15. Summary Question- Does your school provide any professional development opportunities surrounding a multi-tiered system of supports? (One-time training or ongoing.)
16. Final Question: Is there anything else about student supports and/or MTSS that we should have talked about and did not?
17. Closing Remarks: The interviewer will explain the review and confirmation process and will confirm participant interest in receiving a summary of the research findings.