10-2022

# A Study of the Perceptions of Relationships Between Teachers and Students and Possible Effect on Standardized Test Scores

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by

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October

A Dissertation submitted to the Education Faculty of Lindenwood University in partial fulfillment of the requirements for the degree of

Doctor of Education

College of Education and Human Services

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This dissertation has been approved in partial fulfillment of the requirements for the degree of

Doctor of Education

at Lindenwood University by the College of Education and Human Services

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Declaration of Originality

I do hereby declare and attest to the fact that this is an original study based solely upon my own scholarly work here at Lindenwood University and that I have not submitted it for any other college or university course or degree here or elsewhere.

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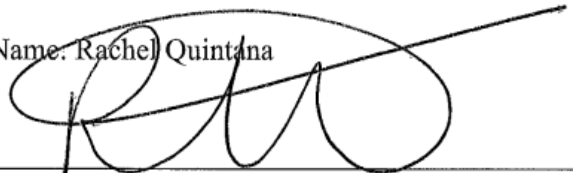
Signature:  Date: 10/11/22

**Acknowledgements**

Firstly, I want to thank my mom and dad for constantly pushing me to be the best version of myself. Ever since I was a little girl, my dad has always told me, "You can be anything under the sun," and to this day, he continues to tell me that. I am the first in my family to have gone this far in education and probably would not have done so if it was not for my Dad, Paul. From the bottom of my heart, I am genuinely thankful for my husband and two boys. They have always understood when I needed to sit down and work for a few hours each day during the weekend. This paper has been a four-year work in progress, and they always pushed me to continue and never give up. This process has taught me many lessons about perseverance and determination. It has also helped me to build my confidence and belief in myself.

Next, I want to thank everyone who has influenced my growth, education, and development as a person. Many teachers and educators have significantly impacted my development and who I wanted to become as an educator. Many of my teachers were role models, and I aspired to be like them for other kids. Not everyone has a champion rooting them on at home.

I especially want to thank Dr. Mitch Nasser for introducing me to the entire dissertation process in my first Capstone class. He provided a ton of insight and clarification on the whole process. Next, I want to thank Dr. Ramey for her hard work in helping me get through writing my Prospectus, getting IRB approval, writing solid Chapters One and Three, and helping me set up all of the statistical tests. Dr. Jackie Ramey is a tremendously hard worker and always went the extra mile. I first met Dr. Kevin Winslow when he was my Statistics teacher. He was one of my best "math"

college professors. He ensured the class understood and always found ways to make sure things made sense to my classmates and me. I could not have done the statistics portion of my dissertation without him. And finally, Dr. Robyne Elder. I do not have the words to tell you how truly grateful I am for her. She pulled me along through a difficult part of the process and made sure I felt encouraged every step of the way. She is truly amazing. Thank you to everyone who has been a part of this journey with me every step.

## Abstract

This research study sought to determine correlations between the perceptions of teacher and student relationships and personality traits with academic achievement as measured by End-of-Course (EOC) summative exams in a rural midwestern high school. As a firm believer in the importance of relationships in the classroom, the researcher created a survey instrument and provided it to teachers and students who enrolled in courses that took End-of-Course (EOC) exams in the Spring of 2021. The researcher-designed instrument categorized teachers and students based on their perceptions of relationships and four common personality traits to determine if correlations to EOC scores existed.

The results from the quantitative data showed that there was no significant difference when examining the four hypotheses. The data revealed a few outliers in the data, but nothing substantial. Meanwhile, the results from the qualitative data suggested that teachers and students needed better lines of communication to understand each other's needs. Students wanted to learn different strategies and tools to help them be more successful in school, while teachers thought that students already knew the strategies and tools they needed. Additionally, teachers and students wanted to respect and from each other, and both teachers and students wanted the other to care about them and build a relationship. Students wanted to feel valued by their teachers and did not want to feel embarrassed when they had trouble learning something. Through building and fostering relationships with students, teachers could open lines of communication, meet the needs of students, and make every student feel valued and that they belong at school.

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# Chapter One: Introduction

## Study Background

Student-teacher relationships at the high school level are critical to student success and engagement (Connell & Wellborn, 1991). Student success at the secondary level is dependent on the relationships and sense of belonging those students feel when they are at school. In an article on student engagement and teacher support, the authors attested, “Studies show students with caring and supportive interpersonal relationships in school report more positive academic attitudes and values, and more satisfaction with school” (Klem & Connell, 2004, p. 262). Student-teacher relationships impact whether students show up at school, how much effort they put forth, and their general beliefs about school. Consequently, the number of high school students dropping out is rising, and academic achievement in the United States has declined in the 21st century.

Researchers from Harvard University attested that "many drop out because they struggle academically. But large numbers say they dropped out because they felt their classes were not interesting, and that high school was unrelentingly boring" (Symonds et al., 2011, p. 10). To reach these students and decrease the number of student dropouts, educators need to rely on additional strategies to engage learners and keep them in school. Davis and Dupper (2004) argued, "One of the most overlooked school factors is the quality of the relationship between teachers and students, especially at-risk students and the powerful impact of teacher attitudes and beliefs on student success" (p. 179).

In a 2013 study on personality types and academic achievement, Saadu and Adesokan determined if students with certain personality types had difficulty overcoming academic challenges. The researchers attested:

> Many factors have been responsible for poor academic achievement of students at various level of our educational system. Some of the factors identified are poor environment, lack of enthusiasm on the part of teachers among students and others. Similarly, previous researchers have established that certain personality types have ability to cope with the academic stress than others and this make them to achieve better academically. (Saadu & Adesokan, 2013, p. 19)

Personality types are a factor that plays a role in every classroom dynamic. Each student and teacher bring different personality types and traits into a classroom; therefore, there is a need to examine different student and teacher perceptions of personality types and traits within the classroom.

In a 2011 study by JilardiDamavandi et al., the researchers found that learning styles could influence student achievement. In addition, JilardiDamavandi et al. (2011) found that learning styles vary from student to student and across countries; consequently, teachers should be aware of the types of learners they have in their classroom to deliver material in multiple ways to reach the various learning styles. In an article on the impact of learning styles, the author argued, “In order to help students learn, teachers need to teach as many of these preferences as possible. Teachers can incorporate these learning styles in their curriculum activities so that students are able to succeed in their classes” (Gilakjani, 2012, p. 104). In addition, the researchers suggested that teachers could learn a lot about their students at the beginning of the school year by providing students surveys about learning styles and personality traits; teachers could then tailor their instruction to those responses.

At the time of this writing, current research showed extensive research on student-teacher relationships at the elementary level. However, there was limited research at the secondary levels. Therefore, the researcher's study goal was to conduct research on student-teacher relationships at the secondary level and determine if correlations existed between standardized test scores and student-teacher relationships.

The researcher had a unique role in this study as she played a dual role as a researcher and as an Assistant Principal in the study school. Within the assistant principal position, she was the school leader who supervised curriculum and instruction. Within the context of having a dual role as the researcher and curriculum leader, she felt it essential to investigate the impact perceptions of student-teacher relationships had on academic success. Therefore, the study was conducted by examining perceptions of student-teacher relationships, perceptions of student and teacher personality types and traits, and perceptions of students' learning styles across and between content areas at the study school.

**Rationale of the Study**

Previous research on student-teacher relationships has focused on elementary school students and provided an initial understanding of how students' early relationships with their teachers have influenced their development (Hamre & Pianta, 2001, 2005; Jerome et al., 2009). Hamre and Pianta (2001) contended that students in kindergarten that had close relationships with their teachers were likely to show higher academic achievement throughout grade school than their classmates that did not have close student-teacher relationships. Extraordinary quality student-teacher relationships provide a supportive foundation for continuing student learning (Hamre & Pianta, 2001).

Prewitt et al.'s 2019 study on student and teacher perceptions examined student-teacher relationship quality. The researchers found that teachers who were more outgoing and got to know their students were more aware of students' social-emotional well-being. The research suggested that when students feel their teachers like them, they often perform better academically and are more engaged at school (Wang & Eccles, 2013). Furthermore, many studies have found that students with close teacher relationships are more likely to experience academic interest, engagement, achievement, self-efficacy, and motivation compared to students with more distant relationships (Fast et al., 2010; Sakiz et al., 2012; Tosto et al., 2016; Wentzel & Muenks, 2010). This study further examined student and teacher perceptions of student-teacher relationships, personality types and traits, learning styles, and the influence of these perceptions on academic achievement.

The researcher wanted to determine the impact that different personality traits and types had on academic achievement and sought to examine how these different personality types and traits impacted student achievement and the perceptions of student-teacher relationships in the classroom. In addition, the researcher sought to investigate how these different personality traits and types influenced student and teacher perceptions. Specifically, regarding their relationships and how teachers' personality types influenced their student-teacher relationships. Bergin (2018) found that when students sensed that teachers cared about them, this made it possible for positive student-teacher relationships to occur.

There was sufficient research illustrating that student-teacher relationships impacted academic achievement. However, the researcher of this study explicitly wanted to determine if correlations existed between standardized test scores and student-teacher

relationships at a rural midwestern high school. As research indicated, Roorda et al. (2011) attested that there was insufficient research to determine the effects of students' perceptions of their relationships and level of closeness with their teachers at the secondary level.

The study's researcher suggested that the outcome could contribute to the field by informing teachers of professional development program leaders to guide teachers in developing better relationships. Furthermore, district leaders could create professional development with the new knowledge of how students' and teachers' perceptions of student-teacher relationships, personality types, traits, and learning styles impacted achievement.

About 50% of students in public schools have experienced traumatic experiences. To meet the needs of these students, teachers need to understand how traumatic experiences can affect a student's growth. Traumatic experiences can affect students' social, emotional, and academic development. According to Terrasi and DeGalarce (2017):

> Teachers who are unaware of the dynamics of complex trauma can easily mistake its manifestations as willful disobedience, defiance, or inattention, leading them to respond to it as though it were mere “misbehavior.” When students struggle to focus on tasks or complete assignments, teachers might interpret it as laziness or lack of motivation. Or, when students isolate themselves, teachers may interpret this as a rejection of their efforts to reach out, leading them to respond punitively, which only pushes them further into isolation. (p. 36)

Additionally, according to Terrasi and Galarce (2017), students who face outside traumas, also known as *Adverse Childhood Experiences* (ACEs), may have less ability to focus on school and learn. These students often struggled to form relationships, trust people and places, and understand the opinions of others. Teachers need ongoing professional development to teach and reach all students in their classrooms appropriately. Today's students in classrooms need to know that their teachers care about them and trust them. These students also need to understand that school is a safe environment (Terrasi & De Galarce, 2017).

While much research existed on student-teacher relationships and their effects on academic achievement, this study investigated teacher and student perceptions of their relationships with each other. Additionally, the study determined if differences in achievement and correlations to academic achievement existed according to students' and teachers' perceptions. Furthermore, this study contributed to research in secondary education by identifying traits and perceptions that teachers and students had regarding their perceptions of relationships, learning styles, and End-of-Course (EOC) scores and how those perceptions impacted their scores at a rural Midwestern high school. Additionally, this study’s research outcomes contributed to research in secondary education and the research site by informing the teacher professional development teams of possible correlations between academic achievement on EOC scores according to student-teacher relationships, personality traits, and personality types. These correlations were based on students' and teachers' perceptions and could guide decision-making regarding future professional development opportunities that may improve practices at the secondary school.

**Purpose of Study**

The purpose of this mixed-methods study was to compare how teachers' and students' perceptions of relationships impacted student achievement at a rural mid-western high school in Warren County, Missouri. The researcher created two research questions and five hypotheses to complete a mixed-methods investigation. The qualitative portion of the inquiry explored how students' and teachers' perceptions of student-teacher personality types, relationships, and learning styles differed between content areas. Research Question 1 examined how students' perceptions of student-teacher personality types and traits, relationships, and learning styles differed across and between content areas. Research Question 2 explored teachers' perceptions of student-teacher personality types and traits, relationships, and learning styles that differed across and between content areas.

The quantitative portion of the study explored the impact of students' perceptions of student-teacher relationships and personality types on academic achievement. Hypothesis 1 investigated whether there were differences in EOC scores based on students' perceptions of their teachers' most effective personality types. Hypothesis 2 investigated whether there were differences in EOC scores based on students' perceptions of their teachers' least effective personality types. Hypothesis 3 investigated whether there were differences in EOC scores based on whether students perceived their personality type to match those of their teachers. Hypothesis 4 investigated whether there were differences between students' EOC scores based on their perceptions of student-teacher relationships. Finally, Hypothesis 5 investigated whether students' perceptions of teachers' personality types depended on student-teacher relationships.

The researcher hoped to instill an understanding of the power of relationships to provide potential professional development opportunities that might allow teachers and other staff to make decisions about their past, present, and future relationship-building practices in the Warren County R-III School District.

## Research Questions and Hypotheses

The researcher created a mixed-methods study that included five hypotheses and two research questions. Previous research suggested that collecting qualitative and quantitative data allows researchers to complete data analysis triangulation, enabling analysis of multiple data perspectives and providing a deeper understanding of the research outcome (Lauri, 2011, p. 13).

### *Hypotheses*

***Hypothesis 1****:* There is a difference between students' EOC scores based on their perceptions of the most effective personality types of teachers.

***Hypothesis 2***: There is a difference between students' EOC scores based on their perceptions of the least effective personality types of teachers.

***Hypothesis 3***: There is a difference between students' EOC scores based on whether students perceive their personality type to match those of their teachers.

***Hypothesis 4***: There is a difference between students' EOC scores based on their perceptions of student-teacher relationships.

***Hypothesis 5***: Students' perceptions of teachers' personality types are dependent on students' perceptions of student-teacher relationships.

### *Research Question*

For the qualitative analysis, the researcher created two research questions. One research question focused on teachers' perceptions of student-teacher relationships, personality types and traits, and learning styles. The second research question focused on students' perception of student-teacher relationships, personality types and traits, and learning styles. The researcher organized the research questions' data by content areas to illustrate themes that emerged from student and teacher responses. The researcher compared themes within the same content area and across content areas.

***Research Question 1***: How do students' perceptions of student-teacher personality types and traits, relationships, and learning styles differ between and across content areas?

***Research Question 2***: How do teachers' perceptions of student-teacher personality types and traits, relationships, and learning styles differ between and across content areas?

### Study School Background and Population

Table 1 displays the study school population by gender and ethnicity at Study High School at the end of the 2020-21 school year.

**Table 1**
*Study High School Population Demographics*

| Study HS | Males | Females | Totals |
|---|---|---|---|
| Asian | 0 | 1 | 1 |
| Black | 14 | 14 | 28 |
| Hispanic | 38 | 23 | 61 |
| American Indian | 2 | 2 | 4 |
| Multi-racial | 14 | 19 | 33 |
| White | 382 | 385 | 767 |
| Totals | 450 | 444 | 894 |

## Assumptions and Limitations

The following assumptions were present in this study:

1. Survey participants were not deceptive with their answers and answered questions honestly and to the best of their ability.
2. The researcher provided participants with consent forms explaining the process of de-identifying collected data to maintain confidentiality and anonymity before participating in the study.
3. The researcher chose survey participants from a large sample population to demonstrate different perspectives regarding student-teacher relationships, learning styles, grades, and personality traits.
4. The researcher invited all students who enrolled in virtual and in-person EOC courses to participate in the stud.
5. The researcher asked students who enrolled in regular education and honor EOC classes to participate in the study.

## Definition of Terms

***Adverse Childhood Experiences (ACEs):*** *"*Adverse Childhood Experiences (ACEs) are stressful events in a child or adolescent's life. They are very common, and most Americans have at least one. ACEs can happen to anyone and may have lasting effects on health" ("What are ACEs and Why Do They Matter?", 2018, p. 1).

***Advanced:*** This performance level has cut scores that vary between content areas; for Algebra I, Students performing at the Advanced level on the Missouri Algebra I End-of-Course Assessment demonstrate advanced proficiency in the knowledge and skills

identified in the Missouri Learning Standards" ("End-of-Course Guide to Interpreting Results 2020-2021", 2021, p. 6).

***Attribution theory***: "Attribution theory provides the framework necessary to understand how individuals explain why events in their environment happened" (Martinko & Mackey, 2019, p. 523).

***Basic****:* This performance level has cut scores that vary between content areas; for Algebra I, "Students performing at the Basic level on the Missouri Algebra I End-of-Course Assessment demonstrate partial proficiency in the knowledge and skills identified in the Missouri Learning Standards" ("End-of-Course Guide to Interpreting Results 2020-2021", 2021, p. 6).

***Below Basic****:* This performance level has cut scores that vary between content areas; for Algebra I, *"*Below Basic: Students performing at the Below Basic level on the Missouri Algebra I End-of-Course Assessment do not yet demonstrate proficiency in the knowledge and skills identified in the Missouri Learning Standards" ("End-of-Course Guide to Interpreting Results 2020-2021", 2021, p. 7).

***End-of-Course (EOC)****:* In Missouri, "The Missouri Assessment Program assesses students' progress toward the Missouri Learning Standards, which are Missouri's content standards. End-of-Course assessments are taken when a student has received instruction on the Missouri Learning Standards for an assessment, regardless of grade level" ("End-of-Course," 2021, para. 1)

***Perception****:* A person's perception describes "a) the way you think about something and your idea of what it is like; b) the way that you notice things with your

senses of sight, hearing, etc.; c) the natural ability to understand or notice things quickly" (Qiong, 2017, p. 18).

***Personality Traits**:* "Personality traits are typically defined as descriptions of people in terms of relatively stable patterns of behavior, thoughts, and emotions" (Parks-Leduc et al., 2015, p. 3).

***Professional development**:* Professional development is time set aside in which teachers "can also occur in informal contexts such as discussions among work colleagues, independent reading and research, observations of a colleague's work, or other learning from a peer" (Mizell, 2010, p. 5).

***Proficient**:* This performance level has cut scores that vary between content areas; for Algebra I, "Students performing at the Proficient level on the Missouri Algebra I End-of-Course Assessment demonstrate proficiency in the knowledge and skills identified in the Missouri Learning Standards" ("End-of Course Guide to Interpreting Results 2020-2021", 2021, p. 6).

***Standardized achievement test**:* "Standardized *achievement*-test scores are what citizens and school board members rely on when they evaluate a school's effectiveness" (Popham, 1999, para. 6).

***Standardized test**:* "A standardized test is any examination that's administered and scored in a predetermined, standard manner. There are two major kinds of standardized tests: aptitude tests and achievement tests" (Popham, 1999, para. 4).

***Type A Personality**:* "Type A individuals are often regarded as "workaholics" as they take over multi-tasks and are strongly motivated to do extra work and to achieve success" (Kanten et al., 2017, p. 30).

***Type B Personality****: "*Type B individuals are considered easygoing and moderate thanks to their personality characteristics" (Kanten et al., 2017, p. 30).

***Type C Personality****: "*Type C personality is regarded as a part of negative personality traits based on the individuals' some characteristics like incapability, non-assertiveness, and passiveness" (Kanten et al., 2017, p. 31).

***Type D Personality****:* "Type D or distressed personality examined in the extent of other negative personality traits due to the characteristics of negative and pessimistic view in all field of life, feeling of anxious, unsatisfying and always experience negative emotions" (Kanten et al., 2017, p. 31)

**Summary**

Chapter One reviewed the study background discussing how there appears to be a lack of research on this topic at the high school level. The study's rationale included a brief explanation of how current researchers indicate how student-teacher relationships ranked 12 on a list of 150 influences on students' achievement (Hattie, 2017). The study's purpose denoted three specific areas of student-teacher relationships and their possible impact on student achievement. Next, the researcher discussed the study questions and hypotheses, the study schools' population, assumptions and limitations, and the defined terms of the study. Chapter Two addresses many of these factors in reviewing current literature on this topic.

## Chapter Two: Review of Literature

In Chapter One, key concepts and background information were provided to understand the importance of student-teacher relationships and how the researcher developed this study. In the previous chapter, the researcher discussed the purpose and rationale for the study and defined key terms. Additionally, Chapter One included the research questions and hypotheses, along with assumptions and limitations regarding the study.

Chapter Two reviews the current and previous literature surrounding student-teacher relationships and the different factors that can impact student-teacher relationships. The purpose of this chapter is to provide a background of literature that currently exists and can be added to the data analysis outcomes of this study. Additionally, in Chapter Two the researcher discusses existing literature on teachers and relationship building, students and relationship building, barriers to relationship building, classroom and learning environments, and EOC and standardized testing.

### Teachers and Relationship Building

Various factors impacted teachers' abilities to foster relationships with students and improve student achievement. These factors included teacher quality, teacher tenure, management style, personality traits/types, and instructional style (Adeyemo, 2003; Adnot et al., 2016; Atma et al., 2021; De Jong et al., 2014; Garrett 2009; Goldhaber & Anthony, 2003; JilardiDamavandi et al., 2011; Kahlenberg, 2016; Kim et al. 2018; Laut's, 1999; Lavy & Bocker, 2018; Marzano & Marzano, 2003; Oliver & Reschley, 2007; Parkay et al., 2010; Reschley, 2007; Schlichte et al., 2006; Stuart & Rosenfeld,

1994; Shaari et al., 2014; Zirkel, 2010). Teachers have remained in the field of education for several reasons, but have also left the field for several reasons, including teacher burnout. Researchers attested teachers were less likely to experience teacher burnout when they had positive relationships with students (Lavy & Bocker, 2018).

### *Teacher Quality*

Teacher quality is essential because teachers can become considered permanent in the school district after earning tenure. According to Kahlenberg (2016), an author for the *Phi Delta Kappan Journal* for educators:

> American public school teachers are typically awarded tenure after a probationary period of about three years. Once a teacher has earned tenure, also known as due process, he or she has a right to know why the employer is seeking a discharge and a right to have the issue decided by an impartial body. The practice recognizes that there will be some poor performers among tenured teachers. Tenure does not prevent their termination, but it does require that employers show "just cause" (a reasonable ground for action) for termination. (para. 8)

For example, in an article on teacher quality and student achievement, the researchers discussed the importance of teacher quality, what teacher quality means, why teacher quality matters, and how to address the existing teacher quality issue (Goldhaber & Anthony, 2003). According to Goldhaber and Anthony (2003), teacher quality is a highly discussed topic, but little research exists on improving teacher quality. Goldhaber and Anthony (2003) attested that "new research has demonstrated the dramatic effect that teachers can have on the outcomes of students from all academic and social backgrounds.

Studies have shown that teacher quality is the most important educational input predicting student achievement" (p. 1).

Teachers have been less skilled than graduates who go into other professions, which is why there has been a lot of concern regarding teacher quality. Teacher quality has been a common topic in various forums over the past two decades. These concerns raised the question of why teachers go into the field of education in the first place. For example, in an article on becoming an educator, Washington University professor Forrest Parkay et al. (2010) argued, "Teaching is the world's most important profession" (p. 435). These writers believed that teachers make a difference in students' lives and that becoming a quality teacher can be challenging and requires a great deal of professionalism.

Teaching is both an art and a science and takes a particular person to reach today's learners. As a result of these conversations surrounding teacher quality, some states will only hire highly qualified teachers, but the demand for teachers has become harder and harder to meet. Goldhaber and Anthony (2003) argued, "The current demand for better teachers coincides with policy and demographic shifts in this country that have made the job of being a teacher arguably more difficult" (p. 2). Education leaders can measure the quality of a teacher differently depending on the setting and type of class. A teacher of an honors class may have specific criteria that make them high-quality, while different criteria measure a teacher who teaches a Physical Education class and whether they are a high-quality educator. Goldhaber and Anthony (2003) attested, "teacher quality has historically been synonymous with personality traits such as a high moral character and intellectual curiosity" (p. 5). Therefore, a high-quality teacher would typically have had a

desire to learn and conduct themselves with integrity, which does not suggest that they would have the personality traits that allowed them to form meaningful relationships with students.

### *Teacher Tenure*

Teacher tenure, the length of time a teacher is in education, varies from educator to educator. Educators that have felt meaningful in their roles have been the ones who remained in education and were able to foster relationships with their students. Teachers who had experienced happiness in their positions could foster better relationships with their students (Zirkel, 2010).

Some states required three successful years of teaching to get tenure, while others required five years of teaching. Teacher quality matters because it is more challenging to get rid of a teacher once they have received tenure (Zirkel, 2010). Therefore, school leaders wanted to ensure that quality teachers were the teachers receiving tenure. A Lehigh University professor, Perry Zirkel (2010), argued that teacher tenure was not the cause of low-quality teachers. He contended, “A lack of will, not tenure laws, is what really prevents administrators from removing poor performers from the classroom” (Zirkel, 2010, p. 76). Zirkel argued that administrators would score teachers higher than they deserved, making it more difficult to show evidence when trying to terminate teachers with tenure. He attested that those administrators should have scored teachers with fidelity and evaluated them where they were to show that the teachers were effective in the classroom. He argued that teacher tenure laws were not why there were ineffective teachers in classrooms. Consequently, he contended that it was not as difficult as educators perceived to terminate a teacher based on performance, but the documentation

and evidence had to be present. Education leaders could not remove a teacher based on performance when that teacher had received high-performance scores (Zirkel, 2010, pp. 76-77).

In a study on teacher happiness, researchers Lavy and Bocker (2018) argued a connection between an educator's sense of meaning and job satisfaction based on relationships with students in a study on teacher happiness. The researchers conducted two studies to examine this connection. In one study, more than 300 teachers quantified their sense of purpose at work, perceived relationships with students, and job satisfaction. In the second study, over 100 teachers took daily measurements regarding their sense of purpose, relationships with students, and job satisfaction. The researchers wanted to examine if teachers' sense of purpose positively impacted student-teacher relationships and if perceptions of relationships with students impacted their sense of job satisfaction. The study results suggested that student-teacher relationships and having purpose at work affected a sense of meaning and job satisfaction (Lavy & Bocker, 2018).

In a study by Adnot et al. (2016) on teacher turnover, teacher quality, and student achievement, the researchers examined the effect of teacher turnover and teacher quality on student achievement. The researchers believed that if there was a difference in teacher quality among teachers leaving the field of education, these would have different impacts on student achievement. In addition, the researchers argued that the turnover of low-quality teachers would not affect student achievement; while, conversely, the turnover of high-quality teachers would affect student achievement. To examine this, the researchers created an instrument that compared students’ grade changes following the turnover of that high quality teacher. The purpose of the instrument was to determine if student

achievement was higher or lower, due to teacher turnover (Adnot et al., 2016). The study results "indicate that, under a robust system of performance assessment, the turnover of teachers can generate meaningful gains in student outcomes, particularly for the most disadvantaged students" (Adnot et al., 2016, p.73). Therefore, the turnover of low-quality teachers can be advantageous to students.

### *Classroom Management Style*

Many teachers believed that classroom management merely meant managing students' different classroom behaviors and providing students rules and expectations. The term classroom management was more than just that, as classroom management entailed a variety of factors that contributed to a positive classroom environment that was conducive to learning (Adeyemo, 2003; De Jong et al., 2014; Marzano & Marzano, 2003; Stuart & Rosenfeld, 1994).

Classroom management was a course taught in college and university teacher preparation programs. According to Oliver and Reschley (2007), in an article on effective classroom management for teacher preparation and professional development:

> The ability of teachers to organize classrooms and manage the behavior of their students is critical to achieving positive educational outcomes. Although sound behavior management does not guarantee effective instruction, it establishes the environmental context that makes good instruction possible. Reciprocally, highly effective instruction reduces, but does not eliminate, classroom behavior problems. (p. 1)

Classroom management was a critical component within classrooms as it allowed teachers to instruct and present the material while keeping behavioral interruptions and

distractions at a minimum. As the world continued to evolve, the behaviors teachers witnessed in their classrooms also evolved. In a study on classroom management, Laut (1999) discussed previous literature on classroom management, describing a disconnection between classroom management in teacher preparation programs and classroom management in the actual classroom. Teachers who had better classroom management preparation and better classroom management were more likely to remain in education. Classroom management was crucial to a teacher's success in the classroom. Teachers who were able to manage their classrooms experienced a sense of satisfaction in their jobs and were effective teachers. Some teachers have learned how to better manage their classrooms over time, but many teachers who never learned these skills have left the classroom (Oliver & Reschley, 2007).

In Laut's (1999) study on classroom management, the participants stated that they did not feel that their classroom management courses had adequately prepared them for the classroom. Although the participants learned that solid classroom management positively impacted student achievement, they did not feel their classroom management courses adequately prepared them for the classroom. The purpose of the study was to investigate the different schools of thought amongst student teachers and seasoned teachers regarding classroom management. The researcher wanted to determine if there was a difference in classroom management between student teachers and existing teachers, specifically, if one type of teacher was more or less responsive to behavior problems that arose in the classroom. The researcher provided a survey to both student teachers and their host teachers to conduct the study. The survey examined whether educators were non-interventionist, interactionist, or interventionist in their approaches to

classroom management. The researcher believed there would be a significant difference in the classroom management styles and that seasoned teachers would be more likely to intervene in classroom disruptions than student teachers. There were 87 student teachers and 87 host teachers who took the survey on classroom management. The results showed that seasoned teachers were interventionist in their responses while student teachers were non-interventionist. These results showed that neither student teachers nor host teachers were comfortable using interactionist management and did not communicate with students regarding their expectations. Therefore, the researcher determined that additional studies could further examine the different impacts of classroom management. An additional study could examine teachers who solely intervene and refer to the rules and teachers who discuss the implications of harmful behavior in the classroom (Laut, 1999).

Researchers Marzano and Marzano (2003) attested that those teachers should have managed their classrooms, "By using research-based strategies combining appropriate levels of dominance and cooperation and an awareness of student needs, teachers can build positive classroom dynamics" (p. 6). A properly managed classroom was a positive environment for students. For teachers to develop this environment, Marzano and Marzano (2003) recommended that teachers follow steps to achieve this environment that would support behavior and support student achievement and success. Marzano and Marzano (2003) attested, "Research has shown us that teachers' actions in their classrooms have twice the impact on student achievement as do school policies regarding curriculum, assessment, staff collegiality, and community involvement" (p. 6). Therefore, teachers played a major role on the successes of students in their classroom.

Additionally, in a meta-analysis study of more than 100 studies, Marzano and Marzano (2003) determined that:

> the quality of teacher-student relationships is the keystone for all other aspects of classroom management. In fact, our meta-analysis indicates that on average, teachers who had high-quality relationships with their students had 31 percent fewer discipline problems, rule violations, and related problems over a year's time than did teachers who did not have high-quality relationships with their students. (p. 6)

The results indicated that teachers should form relationships with students to have better results managing their classrooms. Finally, Marzano and Marzano (2003) recommended that teachers include the following critical factors in classroom management to create positive classroom environments. The researchers suggested that teachers display appropriate levels of control, create clear classroom expectations and consequences, implement clear and flexible learning goals, use strong language and body language, show interest and get to know students. In addition, they suggested displaying equitable and positive interactions with all students, being aware of students with high needs, and most importantly, being intentional in fostering relationships with students (Marzano & Marzano, 2003).

In a study on classroom management and academic achievement conducted by University of Lagos' Professor Adeyemo (2012), the researcher wanted to determine if effective classroom management impacted student achievement. Similar to Marzano and Marzano (2003), the researcher contended that classroom management impacted student achievement. Adeyemo (2003) tested four hypotheses to determine if there was an

impact. Adeyemo (2003) examined if there was a difference in classroom management among different schools, if there was a gender difference in the performance of students in physics classes, if there was a difference between students' performance and classroom management, and lastly if there was a difference in teacher perception of classroom management. The researcher created a survey instrument that contained various Likert-type questions. The researcher surveyed 80 secondary students and 20 secondary teachers from different states. Adeyemo (2003) only found a significant difference in classroom management among different schools. The other hypotheses did not show a significant difference. Adeyemo (2003) contended that these results implied that there are many factors at play in classroom management and that teachers, students, and society all have roles in shaping classroom management and behaviors within the classroom (Adeyemo, 2003).

***Personality Types***

Personality traits impact relationships (DeJong et al., 2014; Garrett, 2009; Kim et al., 2018; Stuart & Rosenfeld, 1994). A 2014 study on personality traits, self-efficacy, and management styles, by researchers De Jong et al. examined the impact of these factors on student-teacher relationships. Previous research surrounding this topic examined in-service teachers. Therefore, the researchers wanted to examine pre-service teachers. The researchers believed that they would find that if teachers were friendly and confident in their classroom management, there would be a positive impact on student-teacher relationships. To determine if this were true, the researchers had a sample of 120 participants in the study. Study participants were members of secondary teacher education programs. The data was collected by surveying teachers and students. Teachers

answered questions regarding personalities, and students answered questions regarding classroom management. De Jong et al. (2014) concluded that personality traits did not influence student-teacher relationships, but classroom management and discipline strategies enormously impacted student-teacher relationships. The results helped inform the researchers that, “according to students, it is not crucial whether but how the teacher imposes discipline” (De Jong et al., 2014, p. 13). Additionally, the researchers contended that examining responses based on gender in classroom management could further enhance the study to determine if there was a difference between males and females and classroom management and discipline influence (De Jong et al., 2014).

Early research (1994) suggested that personalities that elude a humorous sense of humor have different implications in the classroom (Stuart & Rosenfeld). This study on teacher sense of human and classroom climate, researchers Stuart and Rosenfeld (1994) examined the influence of a teacher's sense of humor on the climate in the classroom and stated that a person's sense of humor can be social, psychological, or both. Some use humor for self-affirmation, and some use humor to reduce stress. Stuart and Rosenfeld (1994) examined students' perceptions of classroom climate depending on the type of humor used. The researchers examined the effects of no humor, hostile humor, non-hostile humor, and hostile and non-hostile humor. The participants were randomly selected across content areas and provided three different instruments. One instrument assessed student perceptions of a teacher's use of humor, and the other two instruments assessed student perceptions of classroom climate. After analyzing the results, the researchers concluded, "From these results, it appears as if both amount and type of humor are important considerations to make regarding the effect of humor on classroom

climate" (Stuart & Rosenfeld, 1994, p. 87). The use of humor within the classroom can positively and negatively affect the classroom climate. Therefore, the researchers recommended that when teachers use humor, they decrease their use of hostile humor and increase their non-hostile humor (Stuart & Rosenfeld, 1994).

Additional research exists on teacher personality and teacher effectiveness at the secondary level. The researchers Kim et al. (2018) argued that a teacher's personality would predict their level of teacher support and student efficacy. The researchers contended that teacher personality would not impact student achievement. Their study examined teacher personality traits, such as "conscientiousness (being hard-working and detail minded), agreeableness (being sympathetic and kind), and emotional stability (having fewer negative emotions such as anxiety)" (Kim et al., 2018, p. 4). The instrument for this study was a survey. The researcher gave the survey to students in grades seven through nine in 14 different schools. The survey contained 50 questions regarding demographics, students' personality, Math teachers' personality and effectiveness, and English teachers' personality and effectiveness. The study results showed that students felt more supported by teachers that were conscientious and felt more emotional support from highly agreeable teachers. Additionally, students believed that teachers who were more emotionally stable had higher performance expectations. The finding did not show any relation between students' academic achievement and teacher personality. Kim et al. (2018) attested that, "teacher personality may be more important for student socio-emotional outcomes than academic outcomes" (Kim et al., 2018, p. 4). Teacher personality is vital to helping support students in social and emotional outcomes (Kim et al., 2018).

In another study on teacher personality and its influence on the effectiveness and student achievement, the researcher Garrett (2009) wanted to examine how teacher personality impacted teacher efficacy and academic achievement at the elementary level. The researcher argued that students with more outgoing teachers would have higher reading and math grades than students with more reserved teachers and that the outgoing teachers would score themselves as more effective than more reserved teachers. The researcher invited Kindergarten through fourth grade regular and special education teachers across three districts to participate in the study. The class sizes of the invited teachers ranged from 15 to 25 students. Although the researcher invited 68 teachers to participate in the study, only 18 teachers participated. All 18 participants were female, ranging from 24 to 60 years old. The researcher also collected students' Math and English grades in each participant's class. The researcher provided a packet to each participant that included a demographics survey, a mock report card, the Eysenck Personality Inventory, a teacher effectiveness self-evaluation, and a manipulation check. After analysis, and similarly to Kim et al. (2018), Garrett (2009) also concluded that there was no significant difference between teacher personality and its influence on the effectiveness and student achievement. Garrett (2009) revealed that more participants identified themselves as extroverts than introverts and attested that, "it is possible that extraverts are drawn to teaching as a profession, making them become teachers more often than introverts" (Garrett, 2009, p. 36). Finally, Garrett (2009) suggested that researchers could add to his study by exploring why the majority of the participants in the study were extroverts and exploring this finding further. Garrett (2009) believed it would

benefit educators to learn more about why these candidates seem more interested in teaching and the effect that it could have on the educational system (Garrett, 2009).

### *Instructional Style*

Instructional styles affect motivation and student achievement in the classroom (Atma et al.; Schlichte et al., 2006). Researchers Atma et al. (2021) attested, "The use of varied teaching styles, besides being able to prevent students from boredom in learning and can generate motivation and improve their achievement" (p. 24). In a study surrounding these factors, the researchers Atma et al. (2021) wanted to determine if there was a significant positive relationship between teaching style, motivation, and student achievement. There were 141 fifth-grade student participants involved in the study. The researchers provided survey questionnaires for teachers to give to their students. The quantitative data were collected using the data from questions that included scaled answer choices. After the researchers analyzed the data, they concluded that, "it can be seen that teaching style and learning motivation have a positive and significant relationship to learning achievement" (Atma et al., 2021, p. 29). Therefore, all three factors present in this study are relative to each other, and a teachers' style and how well they teach can positively impact student motivation, thus impacting student achievement (Atma et al., 2021).

Earlier research agreed that relationship-driven styles improved learning (Schlichte et al., 2006). In a study on "relationship-based culture" (Schlichte et al., 2006), the researchers wanted to explore the impact of relationship-driven teachers on academic performance. There were 44 eighth-grade student participants involved in this study who were considered lower achievers, due to low reading scores, low social and

emotional skills, and learning disabilities. These students were reading anywhere from first-grade to third-grade reading levels. The researchers collected qualitative and quantitative for this study. The research collected qualitative data through interviews and surveys and quantitative data by averaging exams taken over the semester by all 44 students. The researchers concluded that relationship-driven teachers positively impacted academic achievement and attested those students, "who were additionally exposed to a class that was primarily built on establishing relationships in a cultural community performed in a way that was superior academically to the mean score performances of their peers" (Schlichte et al., 2006, p. 74). Therefore, these researchers believed that a teacher who had a relationship-driven teacher style and focused on relationship building first was more likely to have better student performance than teachers who did not focus their teacher styles on building relationships with students.

Educators have a variety of teaching styles and strategies used in their classrooms. In a study on the relationship between college professors' teaching styles and student achievement, the researchers Shaari et al. (2014) wanted to examine the teaching styles used and the impact on student achievement. The study involved 266 student participants. Of these 266 students, they took the survey regarding five professors. The researchers provided the participants with a survey study and examined the percentage, mean, and standard deviation. The researchers used a survey instrument that contained three sections with Likert-scale questions. One section contained demographics questions, the second section contained questions regarding professors' teaching styles, and the third section asked questions about students' engagement in the content. After analyzing the results, the researchers argued, “There is a significant but modest relationship between lecturer’s

teaching style with student's academic engagement. The results show no significant differences between lecturers' teaching style in academic programs" (Shaari et al., 2014, p. 18). Therefore, similarly to previous research, a teachers' style is essential at all levels of education.

Furthermore, educators' teaching styles can have a different effect on each student, depending on each student's learning style. Researcher JilardiDamavandi et al. (2011) wanted to examine students' academic achievement with different learning styles and determine if the student's learning style and the educator's teaching style correlated with one another. In the study, the researchers examined the grades of 285 10th-grade students. They examined the average of each student's test scores in five different areas. The areas included English, math, science, history, and geography. The researchers contended that, "Individual differences play an important role in academic achievement of students. There have been many attempts to address the problem of low academic achievement and some factors have been identified in explaining academic achievement" (JilardiDamavandi et al., 2011, p. 186). The researchers wanted to study how secondary students think and learn and examine the impact on academic achievement. In order to perform the study, the researchers used an Analysis of Variance (ANOVA) to compare learning styles. After analysis of the results, the researchers found a significant difference in students' academic achievement with different learning styles. JilardiDamavandi et al. (2011) concluded that students' learning environments should match their learning styles, meaning that students will perform better when placed with teachers whose teaching style is similar to their learning style. Additionally, they attested that instruction and assessments should match students' learning types (JilardiDamavandi et al., 2011).

Similarly, to Sharri et al. (2014), who discovered that students are more engaged academically when their professors have certain teaching styles that match their learning styles, this researcher, JilardiDamavandi et al. (2011), discovered that students are more likely to perform better when their teachers' styles match their learning styles.

## Students and Relationship Building

Many outside factors in a student's life can impact their ability to perform well at school and form relationships at school that include motivation, care and encouragement, teachers' students liking teachers, and teachers connecting with students (Maxwell Leadership, 2018; Montalvo et al., 2007; Sethi & Scales, 2006; Stipek 2006). Consequently, relationships at school are the foundation and building block for everything else that follows. John Maxwell said, "Students don't care how much you know until they know how much you care" (Maxwell Leadership, 2018, para. 1).

### *Motivation*

Previous research suggested that students' relationships with their teachers affect motivation and achievement (Montalvo et al., 2007; Stipek 2006). In a study on motivation, engagement, and achievement, Montalvo et al. (2007) wanted to examine how a student's sense of liking or disliking a teacher would impact these three areas. The researchers identified characteristics of liking teachers and reviewed the impact of liking or not liking a teacher on learning and motivation. The researchers examined data related to motivation from 125 students. The study participants took two different surveys. The findings suggested that when students like a teacher, they experienced motivation and academic success. In addition, Montalvo et al. (2007) wanted to determine what caused a

student to put forth more effort for one teacher instead of another. Their study helped reveal the possible impact of different teachers on motivation and achievement.

In another article on student relationships and motivation, researcher Stipek (2006) discussed how she had studied student relationships for over 30 years. Stipek (2006) attested, "To promote high academic standards, teachers need to create supportive social contexts and develop positive relationships with students" (p. 46). She conferred that in 30 years, she had interviewed students from preschool to high school to determine what types of classrooms caused students to put forth effort in their work. She found a plethora of research that showed that students work harder and produce better quality work when they feel "respected and valued and function poorly when they feel disrespected" (Stipek, 2006, p. 46). Additionally, through her years of extensive research, Stipek (2006) argued:

> When students have a secure relationship with their teachers, they are more comfortable taking risks that enhance learning—tackling challenging tasks, persisting when they run into difficulty, or asking questions when they are confused. Urban students claim that when a teacher shows genuine concern for them, they feel that they owe the teacher something in return. (p. 46)

In addition, students who formed relationships with their teachers did not want to let them down; they did not want to disappoint them. Research has allowed us to examine student relationships and determine the behaviors and school environments that create a sense of belongingness amongst students (Stipek, 2006). Furthermore, Stipek (2006) contended that young students shared information about themselves and their feelings with educators who showed them affection and were nurturing. The students who formed relationships with

teachers showed higher engagement and student achievement levels. "Specific behaviors that promote positive relationships with young children include listening to their concerns, responding to transgressions gently and with explanations rather than sharply and with punishment, and showing positive emotions" (Stipek, 2006, p. 46).

### *Care and Encouragement*

Younger students, even teenagers, expressed that they put forth more effort for teachers who cared about them, spent time to build rapport, treated them as individuals, and showed an interest in their lives outside the classroom (Montalvo et al., 2007; Stipek, 2006). Stipek (2006) argued that caring about students and building relationships with them did not mean that educators had to "coddle" (p. 47) them; instead, educators had to be supportive of students while holding them accountable to achieve academic success. These same educators did not give up on students when they did not understand something or did complete their homework. Instead, these teachers made sure they helped students figure out the challenging work and had them complete their homework tasks during lunch or even after school. "When researchers ask youths who have dropped out of high school why they left school, the young people frequently say it was because no one cared" (Stipek, 2006, p. 47). The students who experienced the most success were the ones educators pushed, not pressured, to be their best. Stipek (2006) attested:

> Teachers press students to learn by encouraging them, paying attention to their work and giving constructive feedback, refusing to accept halfhearted efforts, providing assistance when students need it, and refusing to give up on students. Holding students accountable without this support and encouragement is likely to discourage and alienate them rather than motivate them. (p. 48)

Administrators must ensure plenty of time allotted for the contact between teachers and students. Stipek believed that for the high school level, block scheduling or homeroom classes allowed teachers and students to have extended time to foster these relationships. Stipek (2006) recommended that schools promote good relationships with all students and teachers, especially for academically at-risk students. "Unfortunately, teachers often favor and develop more personal, supportive relationships with high-achieving students than with low-achieving students" (Stipek, 2006, p. 48). Therefore, educators need to be in tune with students' academic and non-academic needs to help students experience success and meet high expectations (Stipek, 2006).

### *Students Liking Teachers*

Students who like their teachers achieve better for their teachers (Montalvo et al., 2007; Sethi & Scales, 2006). Montalvo et al. (2007) found that students perceived higher learning goals and abilities in classes teachers taught that they liked. In contrast, students perceived fewer learning goals for themselves and more minor skills in courses taught by teachers that they did not like. In addition, the students earned better grades in classes with liked teachers. Although this study was different from the study by Stipek (2006), the results showed similar themes. Students perform better and have more confidence in themselves when in a class with a teacher they like. Building relationships with a teacher that a student did not like would be much more complicated than building a relationship with a teacher that the student liked. Therefore, for students to build relationships with their teachers, they must have more of a liking for their teachers than dislike them. Montalvo et al. (2007) and Stipek (2006) contended that liking teachers and building

relationships caused students to be more motivated in these classes and experience more academic success.

### *Teachers Connecting with Students*

Researchers Sethi and Scales (2020) studied teachers' impact on students' educational outcomes of and what teachers' actions mattered most to students. The researchers conducted a mixed-methods study with students from one middle school and one high school in the Midwest. A total of over 1200 students took surveys using their Chromebooks. Many qualitative findings showed what students wanted from their teachers. Sethi and Scales (2020) attested that students "were more inclined to respect teachers who had a positive light-hearted attitude, because when they became serious, students knew it was important and their change in demeanor had more impact" (p. 23). The students wanted teachers to show them they cared about them, be positive, not always take everything seriously, and get to know their students.

Additionally, students wanted teachers to share their own stories with them from outside the classroom and start fresh every day. Students did not want teachers to hold grudges from previous days and wanted "to wipe the slate clean each day" (Sethi & Scales, 2020, p. 24). In addition, students wanted the teacher to push and challenge them, demonstrate high expectations, and provide opportunities to learn from mistakes by providing support and responding to students' needs.

Sethi and Scales (2020) attested that once students had relationships formed with their teachers, learning and achievement could occur. Before any of

this could happen, the connections needed to be formed, and students needed to be able to have teachers do what mattered most before they wanted to learn from them. Once teachers had these connections with their students, the learning and growth that could have occurred was unbounded. The results that Sethi and Scales (2020) discovered were similar to researchers Montalvo et al. (2007) and Stipek (2006); therefore, relationships and connections with students was the basis for all other foundations at school. Prior to learning and achievement, students need to have a connection to their teacher through relationships and a sense of belonging.

## Barriers to Relationship Building and Student Achievement

Student success at school differed from child to child. Every student came from a different home environment that could have affected their success in school. There were many factors that held students back and created barriers from fostering relationships with teachers at school and from experiencing success at school, such as classroom conflict, the environment, such as home and the community, Social Economic Status (SES), Adverse Childhood Experiences and school attendance, and students' views of their relationships with their teachers and the way their teachers made them feel (Lareau, 1987; McBride et al., 2005; McHugh et al., 2013; Railsback , 2004; Rimm-Kaufman & Sandilos, 2010; Stempel et al., 2017).

### *Classroom Conflict*

In an article on improving student relationships with teachers, the researchers Rimm-Kaufman and Sandilos (2010) discussed characteristics of students that may be more disposed to have complicated time-building relationships with their teachers. They found that boys had more conflicts at school and were not as close with their teachers as

girls were. Next, they found that conflict between teachers and students could have affected girls and boys differently. A teacher-student conflict in one subject could impact achievement more for girls than boys. Additionally, students facing mental illnesses depended more on their teachers than those without (Rimm-Kaufman & Sandilos, 2010).

In contrast, students with aggressive behavior problems have more trouble getting along with teachers than their peers. Likewise, intellectually disabled or emotionally disturbed students had poorer relationships with their teachers than their peers. In addition, students who experienced behavior problems at home and school had a more difficult time developing relationships with their teachers. Younger preschool students with loud personalities and poorly developed language had more difficulty building relationships, while shyer preschool students with more language skills had better relationships with teachers. Rimm-Kaufman and Sandilos (2010) contended, "For students at risk for problematic teacher-student relationships, teachers needed to make extra efforts to offer the social and emotional support likely to help them meet the challenges they face in school" (para. 12). Regardless of a student's home life, personality traits, language development, and motivation, students need to know that their teacher cares about them. Relationships were the key to creating a sense of belonging and leading students to success.

### *Environment (Home and Neighborhood)*

Previous research investigated specific environmental barriers that affected building relationships and student achievement (McBride et al., 2005). In a study on

fathers and student achievement, the researchers McBride et al. (2005) examined the role of fathers' involvement and its influence on student learning and also investigated the relationship that schools, neighborhoods, and family resources had on student achievement. McBride et al. (2005) conducted their study on 1,334 families with children aged 5 to 12. The researchers "focused on children who were identified as living with a secondary caregiver who is the child's biological or adoptive father, stepfather, or father-figure" (McBride et al., 2005, p. 205). McBride et al. (2005) distributed surveys to caregivers, teachers, and school administrators of the children asking questions regarding school resources, neighborhood resources, family resources, parent involvement in school, and student achievement. After analyzing the results, McBride et al. (2005) concluded that:

> these findings suggest that the relationships among some aspects of school-level and family-level resources and child achievement are partially mediated by fathers becoming involved at a personal level in their children's schooling. Further, although there were no direct relationships between neighborhood-level resources and student achievement, such resources were indirectly related via their relationship with father and mother involvement. These exploratory findings highlight the important roles fathers can play in their children's education and underscore the need to continue this line of inquiry. (p. 212)

The researchers attested to a shocking finding when they investigated relationships between family resources, parent involvement, and student achievement. Teacher survey responses showed that perceptions of family barriers to school involvement were negatively related to achievement. Consequently, these barriers were negatively

associated with all participation measures for both mothers and fathers. "Research has consistently shown that, when children experience many of these problems in their homes, they are at a much greater risk for problems in school" (McBride et al., 2005, p. 213). McBride et al. (2005) suggested that schools find ways to address the parent involvement issue and inspire parents to get involved to help their children. Lastly, the researchers concurred that schools need to recognize the importance of the involvement of both mothers and fathers at school and encourage the participation of mothers and fathers (McBride et al., 2005).

***Social Economic Status***

A Southern Illinois University researcher, Lareau (1987), wanted to investigate the connection between social class and family and school relationships. Lareau (1987) conducted a qualitative study and examined families of white working-class and middle-class families. The researcher contended that families from higher levels of social status would have more access to resources that would help with school than families with lower social status. According to Lareau (1987), previous researchers had argued that families with a lower social position did not value education the same way as families with a higher social status. Lareau (1987) conferred that "class-related cultural factors shape parents' compliance with teachers' requests for parental participation in schooling" (p. 74). To test her hypothesis, Lareau (1987) studied two first-grade classrooms that were in different areas. She observed the students in these classrooms and conducted interviews with parents, teachers, and principals of the children she observed. One community was white-working class, while the other was a middle-class community. To choose her sample, Lareau (1987):

> sought a working-class community in which a majority of the parents were high school graduates or dropouts, employed in skilled or semiskilled occupations, paid an hourly wage, and periodically unemployed. For the professional middle-class school, I sought a community in which a majority of the parents were college graduates and professionals who had strong career opportunities and who were less vulnerable to changes in the economy. The two communities described here met these criteria. (p. 75)

After analyzing the results, Lareau (1987) concluded that parents in both communities wanted their children to do well. None of the parents from either community responded that their intentions were for their children to not do well at school. Many parents from the white working class stated that they were dropouts and regretted not graduating from high school. Lareau (1987) attested, "Although the educational values of the two groups of parents did not differ, the ways in which they promoted educational success did" (p. 81). The working-class parents relied on their child's teacher to help with their education, similar to how they looked to doctors to help their children. The middle-class parents saw education in a different light. These parents also shared the responsibilities of educating their children between the school and the parents. These parents noted that they read to their children more often and contacted teachers more often than working-class parents.

Therefore, Lareau (1987) determined that all parents wanted their students to do well. Still, families from different social classes took different approaches. The middle-class parents believed they had enough education to help their children at school. At the same time, the working class thought they had not received enough to help their children. Additionally, even attendance at school events differed by type. The middle-class

families had more access to resources for transportation. They worked fewer afternoon and night shifts, while the working-class families did not have the same access and often performed the night shift (Lareau, 1987).

### *Adverse Childhood Experiences and School Attendance*

Researchers from the University of Colorado, Stempel et al. (2017), investigated excessive school absences and the role of traumatic experiences. "Chronic school absenteeism is common among school age children who witness neighborhood violence, live with family members using substances, or have multiple adverse childhood experiences (ACEs)" (Stempel et al., 2017, p. 837). The researchers specifically wanted to examine "the association between chronic school absenteeism and adverse childhood experiences (ACEs) among school-age children" (Stempel et al., 2017, p. 837). The researchers studied absenteeism of children aged 6 to 17 from a national survey. The study sample consisted of 58,765 children; of these, about 4% were chronically absent from school. Chronic absenteeism, for this study, was defined as missing 15 or more days per school year.

Stempel et al. (2017) found that having one or more ACEs correlated to being chronically absent from school. The researchers suggested that improving attendance rates would also improve graduation rates as well as health. They argued for "the need for an interdisciplinary approach to address child adversity that involves pediatricians, mental health providers, schools, and public health partners" (Stempel et al., 2017, p. 837). Additionally, these findings contributed to existing research connecting ACEs to poor development and difficulty in schools (Stempel et al., 2017).

In an article on increasing student achievement, Railsback (2004) discussed how student absenteeism affects academics and hinders relationship building. Similarly, to Stempel et al. (2017), Railsback (2004) investigated the different reasons for student absenteeism and found that the following contributed to student attendance:

> 1. Students' school perceptions: Absentees are less likely to perceive school favorably 2. Perception of parental discipline: Absentees perceive discipline as lax or inconsistent 3. Parents' control: Absentees believe parents are attempting to exert more control over them 4. Students' academic self-concept: Absentees feel inferior academically 5. Perceived family conflict: Absentees experience family conflict 6. Social competence in class: Absentees are less likely to feel socially competent in class. (p. 7)

Although Railsback did not define any of these variables specifically as ACEs, family conflict could be similar to the ACEs described in the study by Stempel et al. (2017). Railsback (2004) argued that the most effective cure for student attendance and preventing dropouts was schools where students had people that cared about them. Schools with educators that create a trusting, caring, and supportive environment have higher attendance rates, increased student achievement, and less discipline. "A caring and supportive school in which a student's culture is respected, and where children can identify and make connections with their heritage is vitally important for students of diverse cultures" (Railsback, 2004, p. 27). These findings were similar to those of McHugh et al. (2013) based on the importance of relationships and the importance of overcoming barriers to student-teacher relationships. McHugh et al. (2013) and Railsback

(2003) agreed on the importance of relationships at schools and that educators must create trusting, caring environments for students to feel welcome and excel.

### *Students' View of Student-Teacher Relationship*

Researchers from the University of Pittsburgh, McHugh et al. (2013), wanted to examine the way students viewed their relationships with teachers in an urban environment. The researchers wanted to determine how students formed these relationships with teachers, how teachers helped them develop relationships, and the barriers that held them back from forming relationships with students. "In urban secondary schools where underpreparation [under preparation] and dropping out are real world concerns, students understand that their relationships with teachers affect their learning" (McHugh et al., 2013, p. 1).

Their study aimed to identify processes that help and hinder student-teacher relationship building. The researchers referred to those processes that aided in relationship building as "bridges" (McHugh et al., 2013, p. 1) and the processes that hindered relationship building as "barriers" (McHugh et al., 2013, p. 1). The researchers collected data from 13 different schools in the United States using multiple open-ended questions with participants aged 14 to 20 (McHugh et al., 2013).

The researchers found that "The most commonly discussed bridge was effortful engagement, an instance in which one person actively and deliberately engages another on an interpersonal level" (McHugh et al., 2013, p. 11). Student survey participants responded that there were several ways that teachers could do this. One example is when students struggle socially, and teachers notice and reach out to check in with students.

Students also responded that they appreciated it when teachers connected with them, even if it took multiple attempts (McHugh et al., 2013).

In contrast, the researchers found common themes in the barriers to relationship building. The researchers defined barriers “as processes that prevent the two persons in a relationship from becoming interpersonally closer. Most often, these processes function to both undermine connections between students and teachers, and to prevent those connections from growing stronger" (McHugh et al., 2013, p. 15). A common theme in the student responses was not receiving attention from their teacher. The researchers contended that students felt teachers did not care about them when they ignored them. Students perceived those teachers that ignored them did not really care about teaching and only wanted a paycheck. They also felt that teachers would not even give them attention if they did not understand the work. Students also believed that teachers did not want to get to know their students and that teachers judged them by their different hairstyles. "Students advocated that their teachers should give them the benefit of the doubt and expressed appreciation when teachers did evidence a nonjudgmental attitude toward students" (McHugh et al., 2013, p. 18). In conclusion, McHugh et al. (2013) concurred that educators must consider bridges and barriers to improve student-teacher relationships.

**Classroom Environment**

In schools, it was rare to find similar classrooms. Classroom environments differed by teacher, as well as the teachers' style. Classroom environments have played a role in student achievement and relationship building within the classroom. There were many factors that contributed to classroom environment and this included student

engagement, classroom support, classroom climate, and classroom belongingness. Simply because one classroom worked well for one student did not suggest that this type of classroom environment was conducive to learning for all students (Barksdale et al., 2021; Booker, 2021; Shindler et al., 2004; Shernoff et al., 2017).

### *Student Engagement*

Researchers from Rutgers University and the University of Virginia, Shernoff et al. (2017) wanted to examine the influence of a high school classroom environment and learning. To explore this, the researchers wanted to examine student engagement specifically. Shernoff et al. (2017) attested, "Classroom learning environments are frequently assumed to exert their influence on learning indirectly, via student engagement" (p. 201). The study consisted of participants from seven different classrooms and six different subject areas from high schools across the United States. The researchers argued, "Teachers cannot control students' engagement directly, but they may influence it indirectly by creating conditions in the learning environment facilitating it" (Shernoff et al., 2017, p. 204). The researchers used both observations and a sampling method to collect their data. For the sampling method, a researcher collected responses from students every 25 minutes after each instruction segment (Shernoff et al., 2017).

After collecting the data and analyzing the results, the researchers found that classroom support influenced learning and positive relationships in the classroom, and motivational support also positively influenced learning. Shernoff et al. (2017) contended, "Results suggest that motivationally supportive communications and a collaborative classroom climate are vitally important factors in high school students' ability to engage with learning" (p. 210). The researchers argued that the more complex

the educational task, the more important it was for students to receive support from teachers. In conclusion, Shernoff et al. (2017) attested:

> This study shows that support for student motivation and positive relationships in the classroom have an impact on student engagement, which in turn impacts perceived learning. Thus, it is crucial to design high school classrooms as learning environments to scaffold students' engagement in learning. This can be achieved by a) honoring the interests and needs of individual students, b) allowing students to participate in the co-creation of learning activities, and c) structuring the learning environment for authentic collaborations in which each student has an essential role and intellectual input is valued. (p. 213)

***Classroom Support***

Researchers Barksdale et al. (2021) wanted to investigate perceptions of classroom climate and its relation to academic achievement. The researchers focused on middle school students from a school in Texas. There were over 400 student participants. The researchers gave participants a learning inventory survey. Also, they collected achievement scores from the State of Texas Assessment of Academic Readiness test. After analyzing the data, Barksdale et al. (2021) attested, "Although the quantitative data did not indicate that there was a connection between classroom climate and achievement, the data obtained from the student focus groups tells a different story" (p. 12). Three themes of social, physical, and emotional factors emerged when students answered questions about their perceptions regarding how their classroom environment helped them learn (Barksdale et al., 2021).

Regarding the social factors, students noted that their teachers allowed them time to get to know other students in the classroom. Additionally, students had time to get to know each other when they were given group work and had to collaborate. The students also enjoyed getting to know their teachers and learning more about them. "These students' experiences demonstrate how the social environment of the classroom assisted their learning by being afforded opportunities to build relationships and have established classroom rules" (Barksdale et al., 2021, p. 13).

Regarding the physical factors, the students responded that their classrooms had many resources to aid them in their learning and work. Other students said that there were learning aids hung around the room that they could reference during class that was helpful to them. In addition, students expressed their classroom environment made them feel safe and happy. Barksdale et al. (2021) attested,

> These students' experiences demonstrate how the physical environment of the classroom not only makes them want to learn, but their teachers provide the necessary resources to assist them in their learning. Posters, Chromebooks, and a safe environment all contributed to students' desire to learn. (p. 14)

Lastly, the students responded that emotional factors helped improve their experiences in the classroom. Students said that they felt safe and cared about by their teachers. They also noted that teachers care about them as students and profoundly about their learning. Lastly, students said that they liked learning in a respectful environment. "These students' experiences demonstrate how the emotional environment of the classroom contributes to their motivation to learn by feeling safe, respected and cared about" (Barksdale et al., 2021, p. 15).

In conclusion and like Shernoff et al. (2017), the researchers believed that classroom climate significantly impacts learning environments and student achievement. Barksdale et al. (2021) suggested that educators seek better to understand the relationship between class climate and achievement. Classroom experiences are considered one of the most influential contributors to student achievement (Barksdale et al., 2021).

### *Classroom Climate*

Researchers from California State University, Shindler et al. (2004) wanted to examine if a better classroom environment would lead to more student achievement and progress in teaching. The study included data collection from teacher observations, interviews with teachers, surveys of the Facing History and Ourselves curriculum for teachers and students, student surveys about classroom climate, and student interviews with students. There were two different groups of participants. There were two classes whose teachers had attended the Facing History and Ourselves training and two classes whose teachers had not participated in the training (Shindler et al., 2004).

After analyzing the results, Shindler et al. (2004) argued "that the Facing History and Ourselves (FHAO) teacher participants showed a significantly better performance across all measures on both classroom climate and FHAO/Social Studies outcomes" (p. 30). The researchers believed that the teachers who had attended the training had intentionally created their class climates. In contrast, the teacher who did not participate in the training had climates that occurred accidentally. Shindler et al. (2004) attested:

> Within these intentional climates, a sense of community, academic rigor and relational maturity were better able to take root. It appears that the intentionality of the climates, the quality of the relationships and use of highly effective

> pedagogy were all critical to promoting a receptivity, depth of processing and a seriousness of treatment with the FHAO content. In this climate, the FHAO curriculum flourished. It is not clear what would happen if a teacher attempted to incorporate the challenging FHAO curriculum in an unintentional/accidental climate, where there were not the relational or pedagogical requisite conditions present. (p. 34)

In conclusion, Shindler et al. (2004) asserted that the current demands of the education curriculum today make educators inclined to choose between a focus on academic achievement and a focus on student social and emotional development. They strongly suggested that educators do not need to choose between the two and determine which is more critical, but somewhat bridge these two schools of thought together. The researchers attested that developing high standards and emotionally and socially supported students was possible. To do this, teachers needed to create rigorous classroom climates that supported students in all aspects (Shindler, et al., 2004). Like Shernoff et al. (2017), Shindler et al. (2004) discovered the crucial role that a classroom climate played in a student's life.

### *Classroom belonginess*

In an article on rules and rebellion, researcher Booker (2021) conducted a study on secondary teachers and school belonging. Booker argued, "Teacher–student relationships are the cornerstone of school belonging and can predict student success in the secondary grades" (p. 65). In her qualitative study, Booker (2021) interviewed nine secondary teachers to gain insight into how they viewed themselves in creating a classroom environment and long-lasting connections with students. Booker (2021)

asserted that teachers were the ones who set the mood in their classrooms. They did this "through the values they express, instructional techniques they employ, and overall approach to relationship building" (p. 66). Booker (2021) was intrigued to see how these high school teachers created and sustained "a sense of belonging with their adolescent students, many of whom are grappling with the competing demands of their peer, home, and social media worlds" (p. 66). To examine this, Booker (2021) collected qualitative data through teacher interviews and found that different themes emerged from the teacher responses.

The themes that emerged were caring, consistency, contracts, and challenges. The teacher participants noted the importance of caring within the classroom. They said everything started with rapport in the classroom and getting students out of their comfort zones. Teachers also emphasized the need to be culturally sensitive and responsive to students from different backgrounds. Booker (2021) said, "Responsive secondary teachers know that the peer group is king in adolescence, and students will try to save face in front of their classmates" (p. 72). Responsive teaching meant the need to respond similarly and not critically to students who were correct or incorrect in sensitive manners. "Teachers bonded with students by being present, engaged, and trustworthy in word and deed. They did this by showing up with a positive attitude, engaging in rapport-building activities regularly, and maintaining high expectations for students' behavior (Booker, 2021, p. 73). When teachers expect students to come into their rooms with a good attitude and ready to work, they need to model the behavior that they were seeking (Booker, 2021).

The next theme that emerged from the qualitative data was consistency. Booker (2021) conferred, "These teachers relayed that the quickest way to lose trust from their students was to be inconsistent in their actions. Some students struggle with feelings of mistrust and disappointment from adults in both the home and school environments" (p. 73). The teachers understood that they needed to be there every day, be honest, tell the truth, and be dependable to help students establish a sense of belonging. Teachers needed to model and maintain consistency to help students belong and know what was expected of them daily (Booker, 2021).

Additionally, teachers noted that it was critical to establish a routine in the classroom. A teacher could be both consistent and caring simultaneously if the teacher used consequences and classroom management within the classroom rather than getting the administration involved. Teachers who cared about their students and were consistent did not refrain from issuing consequences but instead used corrective actions and clear rules and expectations. They also helped students to see how their behaviors and outcomes were related (Booker, 2021).

The third theme that emerged was contracts. To develop rules and procedures in the classroom, many teachers collaborated with their students to build a classroom set of rules. "Co-constructing rules and using social contracts in the classroom were ways teachers supported school belongingness" (Booker, 2021, p. 75). The use of social contracts within the classroom provided standard guidelines for all students. The development of these social contracts would typically happen at the beginning of the school year, and conversations regarding this would continue throughout the school year.

The contract went for teachers as well, and they had to be able to follow the rules as well (Booker, 2021).

The fourth and final theme that emerged was challenges. The teachers noted that social media, mental health, and home environments were challenges that made it more difficult to help students feel a sense of belonging at school. Teachers noted that "even if social media is not necessarily activated or used with the classroom setting, the fallout from it influences peer interactions and can disrupt the learning process" (p. 77). In addition to social media, students were struggling with their mental health. Some students struggled with their sexuality or how they wanted to express themselves. Furthermore, teachers said bonding with students with complicated home lives was more difficult. These students needed teachers to be consistent at bonding with them, not give up easily and allow these students to see them for who they were and gain their trust (Booker, 2021).

Teachers who cared about their students were consistent with their classroom management and strongly bonded with them. Teachers who recognized this were quality teachers. Booker (2021) attested "that teachers are gatekeepers of belongingness" (p. 81). Every teacher can make a student feel a sense of belonging at school, and every teacher must realize this importance. Understanding whether a student belongs at school or not can make or break a student's school experience, and teachers need to fully understand the power and impact they have in the classroom (Booker, 2021).

**EOC Testing/Standardized Testing**

Educators have given standardized tests to assess a particular group of students. The purpose of standardized tests was for educators to examine the results and analyze

differences amongst a group of students. The questions on standardized tests were typically multiple-choice or true or false questions. These question types allowed the results to be objective and not be open to bias. Educators have used standardized test scores to analyze and help meet student needs. Both educators and politicians have debated over the controversy with standardized testing, the advantages of standard testing, whether or not standardized tests actually assess achievement and the implications of these tests (“EXPLAINED: What Are Standardized Tests and Why Do We Need Them?”, 2021; Geiser & Santelices, 2007; Goldhaber & Ozek, 2019; Herman & Golan, 1993; Marion, 2018).

### *Controversy with Standardized Testing*

These tests span the nation in many different forms. These tests range from kindergarten readiness tests to elementary school state tests to high school state tests and college readiness exams (“EXPLAINED: What Are Standardized Tests and Why Do We Need Them?”, 2021). In addition, the federal government has been involved in standardized testing for a long time because the country has struggled to improve achievement. For a long time, the United States has been far less advanced than surrounding countries. Students in other countries have surpassed American students in academic achievement. Researchers from Ed Post argued that "America’s lagging status behind other first-world countries prompted the federal government to start mandating standardized tests in order to improve teaching and learning" (“EXPLAINED: What Are Standardized Tests and Why Do We Need Them?”, 2021, para. 10).

Before the federal government became involved in standardized testing, there was less disagreement and controversy over the topic. Once the federal government became

involved, the controversy regarding standardized testing increased. The focus on standardized testing had quickly shifted from assessing a student's progress to college and career readiness. As a result of this shift, "those test results quickly showed enormous gaps in proficiency between students of color and their white peers" (“EXPLAINED: What Are Standardized Tests and Why Do We Need Them”, 2021, para. 12). Consequently, educators and education leaders talked about the achievement gaps between students of color and Caucasian students. Through these conversations, more conversations regarding the difference in achievement among students from all demographics, and then states began to use standardized test results to assess school districts, states, and even educators (“EXPLAINED: What Are Standardized Tests and Why Do We Need Them?”, 2021). Educators administered statewide exams across the United States in different core subject areas. Some states required students to take Regent’s exams, while others, like Missouri, required End-of-Course (EOC) Exams. The tests were not the same across the country, which created questions amongst educators about the importance and relevance of these tests for student achievement if they were not the same nationwide. According to the executive director of the Center of Assessment, Marion (2018):

> The primary U.S. federal education law—Every Student Succeeds Act (ESSA); the latest instantiation of the Elementary and Secondary Education Act of 1965—requires that states test all students in grades 3-8 and at least once in high school in English language arts (ELA) and mathematics. Additionally, states must test students in science at least once in each grade span. The ELA and mathematics test scores must be used in states’ school accountability systems. (p. 3)

The purpose of state tests was for accountability purposes and accreditation. Significantly few states utilized student assessment results as part of a teacher evaluation. Marion attested that, "a dozen states require students to pass a single or a set of exams in order to be eligible to graduate from high school" (Marion, 2018, p. 3). Marion argued that if states were going to give these assessments to students, there needed to be a clear purpose and specifically designed outcomes. He believed that these needed to be in place to design these assessments properly. He explained that schools utilized two different types of assessment to perform high school testing. There were survey-based tests, as well as end-of-course tests. Educators gave end-of-course (EOC) tests to students at the end of a particular course, and a survey test was given to students in a specific grade level or across grades that covered a variety of content in a subject. College entrance exams that are nationally recognized are examples of survey tests. According to Marion (2018), "End-of-course (EOC) tests are common in approximately one-half of the states. In certain states, the EOC test results are required to be incorporated into course grades, while in other states they are prohibited from counting toward student grades" (p. 5).

### *Advantages of Standardized Tests*

Some advantages of using EOC tests across states were that schools would have shared expectations, and educators could ensure that students would be evaluated similarly by taking the same EOC exam. Conversely, some obstacles to using EOC testing included how school personnel could decide which classes would take EOC exams and how the results would be used and analyzed. The state personnel that created these EOC tests would have a significant role in the content and instruction teachers needed to provide to have their students succeed on these exams. There have been both

pros and cons to using survey tests. The most common way educators administer survey tests to students across the United States is to those who plan to go to college. Some states require students to take the ACT, while others require students to take SATs. Educators use the exams as "the single high school achievement indicator" (Marion, 2018, p. 7). More recently, there has been strong opposition to these tests being a single measure of achievement at the secondary level. Researchers in education have expressed concern over the alignment between the ACT and SAT and state standards. There is the question of whether all states have educators teaching the proper content required to do well on the ACT and SAT (Marion, 2018).

### *Assessing Achievement*

Researchers from the University of California, Geiser and Santelices (2007) studied high school and standardized test scores. The researchers wanted to determine whether high school or standardized test scores would better predict a student's success during their first year of college. Their study "examines the relative contribution of high-school grades and standardized admissions tests in predicting students' long-term performance in college, including cumulative grade-point average and college graduation" (Geiser & Santelices, 2007, p. 2). To conduct the study, the researchers sampled about 80,000 students beginning school as freshman at the University of California. The researchers examined students over a four-year time frame. The students included in the study had all their admissions information filled out in its entirety. The key variables predicting first-year college success were high school GPA (grade point average) and standardized test scores. After concluding the study and analyzing the results, Geiser and Santelices (2007) concluded:

> High-school grades in college-preparatory subjects are consistently the best indicator of how students are likely to perform in college. This is true not only for outcomes such as first-year college grades, the criterion most often employed in predictive-validity studies, but also for long-term college outcomes, including four-year graduation and cumulative college GPA, as shown in this study. (p. 24)

These results showed that standardized tests scores were not simply the best measure or measure of predictability regarding a student's success. Although high school grades may be considered unreliable, the researchers argued that high school grades provide a better, more significant basis for decision making and are the best indicator to predict student success (Geiser & Santelices, 2007).

In an article on measuring student achievement by standardized tests, the researchers Goldhaber and Ozek (2019) argued that over testing students with standardized tests could negatively impact education and student learning. Goldhaber and Ozek (2019) attested that "policy scholars have even begun to question whether we should use test scores as a measure of success at all" (p. 479). Policymakers have questioned test scores, because the scores do not always show correlations with other school outcomes. The researchers argued that if educators use student test scores, they must be able to forecast results later in life. Therefore, if educators do not use test scores to measure achievement, additional reliable measures of success must be needed (Goldhaber & Ozek, 2019).

### *Implications of Standardized Testing*

Researchers from UCLA Graduate School Herman and Golan (1993) wanted to examine the effect of standardized testing on teaching and schools. Similar to Geiser and

Santelices (2007), as well as Goldhaber and Ozek (2019) and Herman and Golan (1993) argued that the significance and value of standardized tests continue to be a topic of debate for educational policymakers. Herman and Golan's (1993) "study looks particularly at the interplay between the effect of testing on teaching and learning processes in schools and the consequent meaning of test scores and test-score gains" (p. 20). The researchers used qualitative methodology to examine research questions. Herman and Golan (1993) provided surveys to participants and conducted interviews from the school of different socioeconomic status levels and compared the responses. The participants were from schools with increasing scores and schools with stable and decreasing scores. The participants were selected from 11 different schools, ranging in size from medium to large, across more than five states. Herman and Golan (1993) concluded that:

> Subject to the caveats of self-report data, survey results suggest that standardized testing has substantial effects on schools and the teaching and learning processes within them. Schools send out messages to their teachers about the importance of test-curriculum alignment, and teachers design their instructional programs with such alignment in mind. Substantial time and attention are devoted to assuring that students are taught tested objectives, are given practice in expected test content, and spend time in special test-preparation activities. Study results indicate that these effects are substantially stronger in schools serving disadvantaged students. (p. 24)

Additionally, the researchers contested that these results could have positive or negative implications depending on how different educators viewed standardized testing.

Herman and Golan (1993) found that some educators concurred that standardized tests are an actual review of student learning and teaching instructions. In contrast, other educators believed that the students' skills assessed on standardized tests lack validity and, therefore, are insignificant. The educators who believed in the validity and reliability of standardized tests focused their time and instruction on teaching these tests. Consequently, the researchers found that other educators who did not believe in the validity of standardized felt that these tests required teachers to teach only the standards on the tests. Educators argued that teaching to a specific test would take away from student and teacher creativity. Therefore, teachers could not be flexible in their teaching to provide additional skills necessary for students in our world (Herman & Golan, 1993, pp. 24-25).

**Summary**

In Chapter Two, the researcher provided a Literature Review on current literature and research surrounding student-teacher relationships and the factors that influence these relationships. The researcher included literature on teachers, students, trauma, classroom environment, barriers to relationship building and achievement, and standardized testing. Chapter Three includes a detailed description of the researcher’s methodology. The researcher discussed how the study was designed, recruited participants, and analyzed the data.

## Chapter Three: Methodology

This mixed-methods study focused on the perceptions of relationships between teachers and students. The researcher was interested in seeing how critical perceptions of student-teacher relationships are in the classroom and if positive, neutral, or negative perceptions affected student achievement scores. To determine if there was a potential impact of students' perceptions of student-teacher relationships and personality types on End-of-Course (EOC) scores, the researcher examined the perceptions of teachers and students regarding their relationships with one another. The researcher claimed that students who had positive perceptions of student-teacher relationships would have higher EOC scores than students who had neutral or negative perceptions of their student-teacher relationships. The researcher collected primary data to determine teachers' and students' perceptions of their relationships through a researcher-created survey. The researcher-created survey instrument was to analyze quantitative and qualitative data. The researcher also collected secondary EOC data to explore differences and correlations between student-teacher relationships and student achievement. Finally, the researcher planned to inform teachers at the study school of the potential correlations between specific perceptions and student-teacher and EOC score outcomes, their relationships, feelings of belonging/caring, similar personality types, and learning styles. The researcher claimed that students need to know their teachers care before learning from them.

Chapter Three includes an overview of the study, including two research questions and five hypotheses. Additionally, this chapter includes a detailed description of the mixed-methods research design, purpose, and rationale. Finally, Chapter Three

describes the researcher-designed survey instrument regarding how each question correlates to a research question or hypothesis given to student and teacher participants who opted to participate in the study.

**Purpose of the Study**

The researcher's purpose for this mixed-methods study was to compare how teachers' and students' perceptions of relationships impact student achievement and EOC scores at a rural, mid-western high school in Warren County, Missouri. The researcher created two research questions and five hypotheses to complete a mixed-methods investigation. The qualitative portion of the investigation explored how students' and teachers' perceptions of student-teacher personality types, relationships, and learning styles differ between content areas. Research Question 1 investigated how students' perceptions of student-teacher personality types and traits, relationships, and learning styles differed between content areas. Research Question 2 examined how teachers' perceptions of student-teacher personality types and traits, relationships, and learning styles differed between content areas.

The quantitative portion of the study explored the impact of students' perceptions of student-teacher relationships and personality types on academic achievement. The first hypothesis investigated whether there were differences in EOC scores, based on students' perceptions of their teachers' most effective personality types. The second hypothesis investigated whether there were differences in EOC scores based on students' perceptions of their teachers' least effective personality types. Hypothesis 3 investigated whether there were differences in EOC scores based on if students perceived their personality type to match their teacher's. Hypothesis 4 investigated whether there were differences

between students' EOC scores based on their perceptions of student-teacher relationships. Lastly, Hypothesis 5 investigated whether students' perceptions of teachers' personality types depended on student-teacher relationships.

The researcher hoped to instill an understanding of the power of relationships to provide potential professional development opportunities that might allow teachers and other staff to make decisions about their past, present, and future relationship-building practices in the Warren County R-III School District.

## Questions and Hypotheses

The researcher created a mixed-methods study that included two research questions and five hypotheses. Research suggests that collecting qualitative and quantitative data allows researchers to complete data analysis triangulation, enabling the researcher to analyze multiple perspectives with the data and provide a deeper understanding of the research outcome (Lauri, 2011, p. 13).

### Research Questions

For the qualitative analysis, two research questions examined the relationship between teachers and students and their perception of their relationships as they apply to perceptions, based on student-teacher relationships, personality types and traits, and learning styles. The data for these research questions were organized by content areas so the researcher could find the themes that emerged from student and teacher responses. The researcher compared these themes within the same content area and across content areas.

***Research Question 1***: How do students' perceptions of student-teacher personality types and traits, relationships, and learning styles differ between and across content areas?

***Research Question 2***: How do teachers' perceptions of student-teacher personality types and traits, relationships, and learning styles differ between and across content areas?

For the quantitative analysis, five hypotheses examined the differences between teachers and students and their perception of personality traits that affect EOC achievement. The researcher used ANOVA tests, *t*-tests, and the Chi-Squared Test of Independence to analyze these hypotheses.

**Null Hypotheses**

***Null Hypothesis 1****:* There is no difference between students' EOC scores based on their perceptions of the most effective personality types of teachers.

***Null Hypothesis 2***: There is no difference between students' EOC scores based on their perceptions of the least effective personality types of teachers.

***Null Hypothesis 3***: There is no difference between students' EOC scores based on whether students perceive their personality type to match those of their teachers.

***Null Hypothesis 4***: There is no difference between students' EOC scores based on their perceptions of student-teacher relationships.

***Null Hypothesis 5***: Students' perceptions of teachers' personality types are independent of students' perceptions of student-teacher relationships.

**Data Analysis**

There were a variety of data analysis methods used to test each of the hypotheses. To test Hypothesis 1 and 2, the researcher ran Analysis of Variance (ANOVA) tests. The researcher tested Hypothesis 3 with a single *t*-Test of independent means. Next, the researcher used an Analysis of Variance (ANOVA) to analyze Hypothesis 4. Finally, the researcher ran a Chi-Squared test of Independence to analyze Hypothesis 5.

**Methodology**

Initially, the researcher received approval from the Institutional Review Board of the study university and gained permission from the study school's district to use their high school as the study site, found in Appendix H. After the researcher received approval to survey students and teachers, the researcher offered high school students and high school teachers at the study school an opportunity to participate in the research study by visiting classrooms and explaining the survey to students and teachers, as well as sending the information via email to teachers, students, parents and guardians. Next, the researcher provided all potential participants with an information form through district email that explained the objectives and details of the study, which included participating in a multi-part survey found in Appendices C thru G. The information included Adult Consent forms within the email for participating teacher volunteers, Consent on Behalf of a Minor forms and Assent forms for any students who volunteered to participate. After the teachers received the consent forms, the researcher met with classes (students and teachers) and sent the survey participants an embedded consent form that requested that the participants give consent by clicking on the survey link. In addition, the email included directions on where to access the survey and how to complete the survey. The

survey was created and administered through the study university-required *Qualtrics* research instrument.

The participants completed the surveys in May of 2020 when teachers gave EOC exams in Study High School. The survey contained five different sections for students and teachers to complete. Each section collected specific information in Sections A thru E. The student and teacher survey included identical sections; however, the questions were phrased differently, depending on which survey. Students took the survey shown in Appendix A, and teachers took the survey in Appendix B.

***Section A- Background Information (Appendix A & B)***

This survey section collected basic EOC course information and background information, including name and EOC course.

***Section B- Short Answer (Appendix A & B)***

Section B of the survey in Appendix A collected qualitative descriptive open-ended data, which the researcher categorized, based on survey outcomes to analyze Research Question 1. Section B; Appendix A asked questions regarding student-teacher relationships and learning styles perceptions. Table 2 displays open-ended questions from Section B of the student survey. Questions 5, 6, 7, and 8 correspond to relationship/caring questions, and questions 9 and 10 correspond to learning style questions.

**Table 2**

*Appendix A - Students' Perceptions (Section B) – Qualitative*

| Survey Question | Student Perception Questions | Question Type |
|---|---|---|
| a | What changes could this teacher make to get along better with students? | Relationships/Caring |
| b | What are two specific things that this teacher does that helps his/her relationship with students? | Relationships/Caring |
| c | What is one thing that your teacher does that makes you feel like s/he understand you? | Relationships/Caring |
| d | If you were the teacher of this class, what is one thing you would do to improve your relationships with your students? | Relationships/Caring |
| e | If this teacher could teach you a strategy to help you improve on anything in school, what would this person teach you a strategy for? | Learning Styles |
| f | Which of the strategies that you use seems to be the most effective for helping you succeed in school? | Learning Styles |

Section B of the survey in Appendix B collected qualitative descriptive open-ended data, which the researcher categorized based on survey outcomes to analyze Research Question 2. Section B; Appendix B asked questions regarding student-teacher relationships and learning styles perceptions. Table 3 displays open-ended questions from Section B of the teacher survey. Questions 6, 7, 8, and 9 correlate to relationship/caring questions, and questions 10 and 11 correlate to learning style questions.

**Table 3**

*Appendix B - Teachers' Perceptions (Section B) – Qualitative*

| Survey Question | Student Perception Questions | Question Type |
|---|---|---|
| A | What changes could teachers make to get along better with their students? | Relationships/Caring |
| B | What are two specific things that you do that helps your relationship with students? | Relationships/Caring |
| C | What is one thing that you do that makes you feel like your students understand you? | Relationships/Caring |
| D | What is one thing you could do to improve your relationships with your students? | Relationships/Caring |
| E | If you could teach students one strategy to help them improve across the board in school, what strategy would you teach and why? | Learning Styles |
| F | Which of the strategies that you use seems to be the most effective for helping your students succeed in school? | Learning Styles |

***Section C- Box-Choice Answer (personality traits)***

Section C of the survey in Appendix A and Appendix B displays descriptive box choices to collect data regarding students' perceived personality type traits and teachers' beliefs about themselves. The researcher looked at four personality types: Type A, Type B, Type C, and Type D, and included one positive and one negative trait that corresponded with each personality type. Each trait listed in Section C displayed two traits corresponding to the appropriate personality type (Kanten et al., 2017).

The researcher created Section C to collect data to analyze the frequency of each personality type chosen, which included at least one positive and one negative trait that corresponded to either Personality Type A, B, C, or D. Additionally, the researcher

aligned students' and teachers' answers in a matrix and compared the four possible self-perceived personality type outcomes with EOC scores, which allowed the researcher to analyze differences in student achievement and answer Hypothesis 5 and Research Questions 1 and 2. The responses from Section C were also analyzed with study participants' responses to personality trait questions in Section E of the survey.

Additionally, Section E included questions to examine three hypotheses based on perceptions of personality types, as discussed in the Quantitative Methodology section. Qualitative data were analyzed to answer the research questions described here, including personality traits, personality types, and EOC scores. The researcher organized the research methodology to triangulate data outcomes. Table 4 displays box choice answers for Appendix A, Section C, which answered Research Questions 1 and 2 by finding qualitative themes that focus on perceptions of personality traits and types. Table 4 was the same for both student and teacher surveys.

**Table 4**

*Appendix B - Teachers' Perceptions (Section C) - Qualitative*

| | Teachers' Perceptions Trait & Personality Type Correlation | | | |
|---|---|---|---|---|
| Trait | Personality Type A | Personality Type B | Personality Type C | Personality Type D |
| □ Passionate | x | | | |
| □ Short-Tempered | x | | | |
| □ Easy-Going | | X | | |
| □ Impulsive | | X | | |
| □ Dependable | | | x | |
| □ Critical of Others | | | x | |
| □ Supportive | | | | x |
| □ Less Assertive | | | | x |

***Section D- Likert Scale***

Section D collected Likert-scale question data regarding learning styles to aid in the data analysis triangulation. The participants' responses to the Likert-scale questions allowed the researcher to analyze Research Questions 1 and 2 by finding qualitative themes focused on relationships/caring, learning styles, and belonging. The researcher examined the questions on relationships/caring and learning styles to find themes among students in the same content areas and across content areas. Data from Section D were triangulated with data from Section B to respond to Research Questions 1 and 2. Additionally, data from Section D were also examined and categorized to answer Hypothesis 4. Data collected from questions in Section D were organized into two separate ANOVAs by question type. One ANOVA analyzed the relationship and caring questions, and a second ANOVA analyzed the belonging questions. In order to run each ANOVA, the researcher took each student's answers to the relationship and caring questions and found the average of their Likert scores on a 1 to 5 scale. Then the researcher placed the average into one of five categories. The researcher created these categories by determining intervals in which each student's average could fall. Each student's EOC score was then placed in the proper category based upon the average of their scores to each question type. Similarly, the researcher found the average of each student's responses for the five belonging questions and placed each student's EOC score into the appropriate category (See Appendix M). Two different Analysis of Variance (ANOVA) tests were conducted for Hypothesis 4. Table 5 displays two question types and question numbers that align student perception questions with relationship and caring or belonging. Data collected from students' answers were combined into the appropriate

category to answer Hypothesis 4 (see Appendix A). Hypothesis 4 examined data from students' relationship/caring questions 13 thru 18 and belonging questions 24 thru 28.

**Table 5**

*Appendix A - Students' Perceptions (Section D) - Qualitative*

| Category | Students' Perceptions Question Number Correlation |
|---|---|
| Relationships/Caring | 13, 14, 15, 16, 17, 18 |
| Belonging | 24, 25, 26, 27, 28 |

Table 6 displays three categories of data collection from teachers' perception answers (see Appendix B). Data collected from teachers' responses were used to respond to the research questions.

**Table 6**

*Appendix B - Teachers' Perceptions (Section D) - Qualitative*

| Category | Teachers' Perceptions Question Number Correlation |
|---|---|
| Relationships/Caring | 14, 15, 16, 17, 18, 19 |
| Belonging | 25, 26, 27, 28, 29 |

***Section E - Personality Trait Attributes and EOC Scores***

Finally, Section E collected qualitative and quantitative data to determine the placement of EOC scores as indicated by students' and teachers' perceptions of personality traits to examine differences in EOC scores according to personality traits. The data from Section E was analyzed in triangulation with data from Section C to compare if students and teachers believed they had the same personality type, based on their answers to questions from both sections.

Additionally, the researcher cross-referenced students' and teachers' trait selections from Section C to see if their responses were aligned with the personality types that they selected for Section E. For example, Section E data were used to analyze

Hypotheses 1, 2, 3, and 5. To analyze data for Hypotheses 1 and 2, data were organized by categories of students' EOC scores, based on the personality type they felt was most and least effective. To test Hypothesis 3, the researcher categorized data based on whether students perceived their personality type to match those of their teachers. Finally, to test Hypothesis 5, the researcher matched the personality type each student chose for their EOC teacher with their student Likert-scale score average on their perceptions of their teachers' relationship/caring questions.

Table 7 displays a correlation of questions from Section E of the student survey. Questions 29, 30, 31, and 32 are Likert-Scale questions regarding personality traits and EOC Scores.

**Table 7**

*Appendix A - Students' Perceptions (Section E) - Qualitative*

| | Students' Perceptions Question Likert Scale Number Correlation |
|---|---|
| Personality Traits and EOC Scores | 29, 30, 31, 32 |

Table 8 displays a correlation of questions from Section E of the teacher survey. Questions 30, 31, and 32 are regarding personality traits and EOC Scores.

**Table 8**

*Appendix B - Teachers' Perceptions (Section E) - Qualitative*

| | Teachers' Perceptions Question Likert Scale Number Correlation |
|---|---|
| Personality Traits and EOC Scores | 30, 31, 32 |

**Analysis Methodology**

For this study, the researcher created a mixed-methods analysis to provide stronger arguments to support the research questions and hypotheses and to triangulate the data from the research questions and the hypotheses. For the qualitative analysis, two

main research questions were used to examine the relationships between teachers and students and their perception of their relationships, as they apply to perceptions of relationship building, learning styles, and personality traits and how those perceptions may affect EOC achievement. The researcher was able to compare themes within the same classroom and within the same content area, as well as across content areas.

Previous research on analyzing qualitative data suggested that data be analyzed and broken up into different steps. According to Renner and Taylor-Powell (2003), the researcher should analyze the data by first reading the data and getting familiar with the data, next by focusing the analysis by questions or group, then categorize the data by looking at themes or topics that emerge from the data, then connect the data from different areas, and finally tie it all together. The researcher should begin with either preset categories that they believe the responses will fall into or emergent categories that they find as they read through the responses. Renner and Taylor-Powell (2003) argued:

> Your initial list of categories may change as you work with the data. This is an iterative process. You may have to adjust the definitions of your categories or identify new categories to accommodate data that do not fit the existing labels. (Renner & Taylor-Powell, 2003, p. 3)

The qualitative data obtained from the teacher and student survey responses encompassed short answer responses for the questions regarding perceptions of relationship building, learning styles, and personality traits and types. In addition, there were Likert-scale questions regarding learning styles that teachers and students responded to that were included in the qualitative analysis. Finally, the researcher also analyzed the responses from Section C of both surveys to see if the personality traits the survey

participants selected aligned with the personality types that they chose in Section E of the survey.

The researcher created the surveys (see Appendix A-B) to encompass Likert-type questions into groups of four or more to create a Likert scale. When Likert-scale questions are completed in the survey development phase, Likert-type questions are categorized to create questions analyzed as a group, and data collection is considered Likert-scale data collection (Boone & Boone, 2012). According to Boone and Boone (2012), a *Likert scale*:

> Is composed of a series of four or more Likert-type items that are combined into a single composite score/variable during the data analysis process. Combined, the items are used to provide a quantitative measure of a character or a personality trait. Typically, the researcher is only interested in the composite score that represents the character/personality trait. (Boone & Boone, 2012, p. 2, para. 2)

Data were collected and analyzed by content area and question type to analyze Hypothesis 4. Next, the responses were broken up by content areas first and then by questions type. Then the researcher examined the responses regarding perceptions of relationships and perceptions of personality traits and types within content areas, and then compared these responses across content areas. Lastly, the responses on perceptions of learning styles were analyzed within content areas and then across content areas to find similar themes that emerged. The researcher looked for similar responses and examined how those connected to the research questions to discover common themes.

For the quantitative portion of the study, there were five hypotheses that the researcher tested utilizing responses from Sections D and E of the survey instrument. To test Hypothesis 1, the researcher categorized data from Section E of the survey instrument into personality types. The students' EOC scores were then placed under the column with the personality type students felt was most effective. Similarly, for Hypothesis 2, the researcher categorized data from Section E of the survey instrument by personality type. The students' EOC scores were then placed under the column with the personality type they felt was least effective. To test Hypothesis 3, the researcher used a *t*-test to analyze the data. There were two categories for the *t*-test and the students' EOC scores, which went under the category that supported their answers in Section E of the student survey. Students responded that they perceived to either have the same or different personality type as their EOC teacher. For Hypothesis 4, the researcher ran an ANOVA test, after categorizing student and teacher responses regarding their perceptions about Likert-scale questions on relationships/caring and belonging. The collection of Likert-type questions allowed the researcher to analyze the data as Likert-scale data, and the mean was used for data analysis (Boone & Boone, 2012). To categorize this information, the researcher found the mean of student and teacher scores for relationship/caring questions and belonging questions and placed their EOC scores in the proper category. Student scores were placed under the column that represented the mean of their scores, and student scores were also placed for each teacher under their mean. For Hypothesis 5, the researcher matched the personality type students chose for their teacher with their mean for the relationship/care questions and ran a Chi-square test of

independence to determine if perceptions of teachers' personality types were independent of students' perceptions of student-teacher relationships.

**Survey Reliability and Validity**

The survey questions for the qualitative portion of this survey were adopted from the Panorama Student Survey (see Appendix I). This survey instrument was released in 2014 as a free survey instrument for school districts to provide to their students. "The research team followed a rigorous survey development process that involved multiple rounds of piloting and refinement, following cognitive interviews with students, an extensive review of survey literature, and feedback from experts around the country" (Panorama Student Survey, 2015, para. 8). For this survey, the researcher adopted a combination of Likert-scale questions and Open-Ended questions from the Panorama Student Survey (see Appendix I). The researcher utilized the student questions as they were, but changed the wording on the teacher survey to address the teacher appropriately.

**The Research Site and Participants**

The research site for this study was Study High School in a rural school district. The county of this high school and district is in a rural area with a population of roughly 36,000 people. Study High School is in Missouri, and houses students who attend grades 9 thru 12. The researcher of this study was an Assistant Principal at Study High School who worked with the students and teachers daily and therefore had access to student grade books, standardized tests scores, and teacher evaluations. Due to the nature of the relationship between the researcher and the study participants, all data were de-identified and kept secure inside a locked room inside a locked desk. To maintain anonymity, the researcher worked with a secretary at her school to de-identify the data. Each teacher was

labeled with a letter and subject area, and each student was labeled with a number and letter corresponding to the teacher and EOC subject area.

A student qualified as a participant for the study if the student was enrolled in a class that took an EOC exam in the Spring of 2021. A teacher qualified as a participant for the study if the teacher taught a class that took an EOC exam in the Spring of 2021. Students and teachers were sent links to take the survey electronically via *Qualtrics*. *Qualtrics* is a web-based survey builder that is password enabled. *Qualtrics* is the survey builder that is web-based and utilized by Lindenwood University. The survey builder required using a username and password to log in. The data obtained from the survey builder was not accessible without the appropriate username and password. Once consent forms were signed, obtained, and collected, the study participants completed the survey at their convenience from an electronic device.

**Ethical Considerations**

Students and teachers were asked to participate voluntarily to ensure that participants did not feel coerced into participating. Potential participants were advised that choosing to participate or not participate would not affect them, and all participants would be anonymous and confidential. Since the researcher was also an Assistant Principal at this high school, all participants were ensured that their choice to participate or not participate would not have an impact on daily school interactions. All participants were informed that they had the right to withdraw from the study at any time and that all information collected would not contain any identifying information. The secretary assisted the researcher in de-identifying the data. All participants were informed before consenting to the study that the data would be de-identified by labeling each student with

a number and each teacher with a letter completed by one of the secretaries at Study High School. The secretary kept the cross-references for students' names, scores, and surveys and also teachers' names and surveys separate from the examined and analyzed data. The de-identified coding forms and documents were in a locked room inside a locked desk. Finally, the study participants were informed that the data would be kept for up to three years in a secured location with a passcode enabled for login until it could be destroyed.

**Summary**

In Chapter Three, the researcher described the design of the study's methodology. The researcher explained how she collected qualitative and quantitative data to create a mixed-methods study. The researcher also presented the creation of her survey instrument, and how she obtained consent from both students and teachers and protected the anonymity of study participants. Finally, in Chapter Three, the researcher discussed the study's reliability. In Chapter Three, the researcher analyzed quantitative data by testing Null Hypotheses One through Five using the appropriate statistical tests and examined all qualitative data looking for common themes. Additionally, the researcher analyzed the data and described the outcomes of the research questions and the hypotheses.

# Chapter Four: Analysis

## Introduction

The researcher's purpose for this mixed-methods study was to compare how teachers' and students' perceptions of relationships impact student achievement at a rural mid-western high school in Warren County, Missouri. The researcher designed a survey for teachers and students to conduct this study. The survey contained a variety of Likert scales and open-ended questions. The questions on the survey assisted the researcher in answering two research questions and five hypotheses to compare how perceptions of relationships impact student achievement.

Teachers and students who opted to participate in this study's student and teacher surveys completed their surveys through an online platform. There were 70 participants; of the participants, 11 were teachers, and 58 were students. In analyzing and interpreting the data, the researcher discovered that one teacher took the survey, but none of the students in the class took the survey. Additionally, some students took the surveys whose teachers did not take the survey.

## Null Hypothesis 1 Results

The student survey responses were analyzed using an Analysis of Variance test to determine if there was a difference between students' End-Of-Course (EOC) scores and their perceptions of the most effective personality type of teachers.

***Null Hypothesis 1****:* There is no difference between students' EOC scores based on their perceptions of the most effective personality types of teachers.

The researcher conducted an Analysis of Variance (ANOVA) to determine if there was a difference between students' EOC scores based on the most effective

personality types of teachers. The analysis revealed no difference between the means of the four groups. The researcher failed to reject the null hypothesis and concluded that there is no difference between students' EOC scores based on teachers' most effective personality types. Table 9 displays the AVOVA table for Null Hypothesis 1 and Table 10 displays the summary information for Null Hypothesis 1.

**Table 9**

*ANOVA Table EOC Scores & Most Effective Personality Types*

| Source of Variation | SS | df | MS | F | P-value | F crit |
|---|---|---|---|---|---|---|
| Between Groups | 463.97 | 3 | 154.66 | 0.942 | 0.427 | 2.78 |
| Within Groups | 8538.59 | 52 | 164.20 | | | |
| Total | 9002.55 | 55 | | | | |

**Table 10**

*Summary Results from EOC Scores & Most Effective Personality Types*

| Groups | Count | Sum | Mean | Variance |
|---|---|---|---|---|
| Type 1 Most Effective | 12 | 4867 | 405.58 | 209.00 |
| Type 2 Most Effective | 17 | 6799 | 399.94 | 195.06 |
| Type 3 Most Effective | 16 | 6488 | 405.50 | 74.27 |
| Type 4 Most Effective | 11 | 4395 | 399.55 | 200.4727 |

**Null Hypothesis 2 Results**

The student survey responses were analyzed using an Analysis of Variance test to determine if there was a difference between students' EOC scores and their perceptions of the least effective personality type of teachers.

***Null Hypothesis 2***: There is no difference between students' EOC scores based on their perceptions of the least effective personality types of teachers.

The researcher conducted an Analysis of Variance (ANOVA) to determine if there was a difference between students' EOC scores based on the least effective

personality types of teachers. The analysis revealed no difference between the means of the four groups. Therefore, the researcher failed to reject the null hypothesis and concluded that there is no difference between students' EOC scores based on the least effective personality types of teachers. Table 11 displays the AVOVA table for Null Hypothesis 2 and Table 12 displays the summary information for Null Hypothesis 2.

**Table 11**

*ANOVA Table EOC Scores & Least Effective Personality Types*

| Source of Variation | SS | df | MS | F | P-value | F crit |
|---|---|---|---|---|---|---|
| Between Groups | 633.79 | 3 | 211.26 | 1.31 | 0.280 | 2.78 |
| Within Groups | 8368.77 | 52 | 160.94 | | | |
| Total | 9002.55 | 55 | | | | |

**Table 12**

*Results Summary from EOC Scores & Least Effective Personality Types*

| Groups | Count | Sum | Mean | Variance |
|---|---|---|---|---|
| Type 1 Least Effective | 18 | 7273 | 404.06 | 180.76 |
| Type 2 Least Effective | 11 | 4489 | 408.09 | 192.69 |
| Type 3 Least Effective | 7 | 2803 | 400.43 | 150.29 |
| Type 4 Least Effective | 20 | 7984 | 399.20 | 129.85 |

**Null Hypothesis 3 Results**

The student survey responses were analyzed using a single *t*-test to determine if there was a difference between students' EOC scores based on whether they perceived their personality type to match those of their teachers. The researcher conducted a *t*-Test of Two Independent Means.

***Null Hypothesis 3***: There is no difference between students' EOC scores based on whether students perceive their personality type to match those of their teachers.

The researcher conducted a *t*-Test of two means to see if there was a difference between students' EOC scores based on whether students perceived their personality type to match those of their teachers. A preliminary test of variances revealed that the variances were not equal. The analysis revealed that the EOC scores of students whose personality types matched those of their teachers (M= 404.20, SD= 8.46) were not significantly higher than those of students whose personality types did not match those of their teachers (M= 402.61, SD=14.51); $t(14)=0.40$, $p=.350$. The researcher failed to reject the null hypothesis and concluded that there was no significant difference between EOC scores of students whose perceived personality types match those of their teachers and students whose perceived personality types did not match those of their teachers.

**Null Hypothesis 4 Results**

The student survey responses were analyzed using two different ANOVAs to determine if there was a difference between students' EOC scores, based on their perceptions of relationship/caring and belonging questions from the student survey.

***Null Hypothesis 4***: There is no difference between students' EOC scores based on students' perceptions of student-teacher relationships.

The researcher conducted Analyses of Variance (ANOVAs) to determine if there was a difference between students' EOC scores, based on students' perceptions of relationship/caring and belonging questions. The results were mixed. For the relationship/caring questions, the analysis revealed no difference between the means of the five categories (See Appendix M). However, for the belonging questions, the ANOVA indicated significant differences. Fisher's Least Significant Difference post hoc analysis revealed that Group 4 had a significantly lower mean than did Groups 2 and 3.

For the relationship/caring questions, the researcher failed to reject the null hypothesis and concluded that there is no difference between students' EOC scores based on students' perceptions of relationship/caring. However, for the belonging questions, the researcher rejected the null hypothesis and concluded that there was a difference between the groups. However, the means for all of the groups were so close and the differences were not consistent, and therefore the researcher concluded the ANOVA returned an anomalous result. Table 13 displays the AVOVA table for Null Hypothesis 4 on relationship/caring questions, and Table 14 displays summary results. Table 15 displays the ANOVA table for Null Hypothesis 4 on belonging questions, and Table 16 displays summary results.

**Table 10**

*ANOVA - EOC Scores and Students' Perceptions of Relationship/Caring*

| Source of Variation | SS | df | MS | F | P-value | F crit |
|---|---|---|---|---|---|---|
| Between Groups | 923.80 | 3 | 307.93 | 1.97 | 0.131 | 2.79 |
| Within Groups | 7989.94 | 51 | 156.67 | | | |
| Total | 8913.75 | 54 | | | | |

**Table 14**

*Summary Results from EOC Scores and Students' Perceptions of Relationship/Caring*

| Groups | Count | Sum | Mean | Variance |
|---|---|---|---|---|
| 1-1.4 | 0 | | | |
| 1.5-2.4 | 9 | 3644 | 404.89 | 92.86 |
| 2.5-3.4 | 14 | 5719 | 408.50 | 241.81 |
| 3.5-4.4 | 19 | 7573 | 398.58 | 141.04 |
| 4.5-5 | 13 | 5201 | 400.07 | 130.41 |

**Table 15**

*ANOVA - EOC Scores and Students' Perceptions of Belonging*

| Source of Variation | SS | df | MS | F | P-value | F crit |
|---|---|---|---|---|---|---|
| Between Groups | 1589.53 | 4 | 397.38 | 2.73 | 0.0398 | 2.55 |
| Within Groups | 7413.03 | 51 | 145.35 | | | |
| Total | 9002.55 | 55 | | | | |

**Table 16**

*Summary Results from EOC Scores and Students' Perceptions of Belonging*

| Groups | Count | Sum | Mean | Variance |
|---|---|---|---|---|
| 1-1.4 | 4 | 1585 | 396.25 | 78.92 |
| 1.5-2.4 | 7 | 2860 | 408.57 | 70.62 |
| 2.5-3.4 | 23 | 9368 | 407.30 | 160.59 |
| 3.5-4.4 | 18 | 7145 | 396.94 | 143.82 |
| 4.5-5 | 4 | 1591 | 397.75 | 258.25 |

**Null Hypothesis 5 Results**

The student survey responses were analyzed using a Chi-Square Test of Independence to determine if students' perceptions of teachers' personality types were independent of students' perceptions of student-teacher relationships/caring.

***Null Hypothesis 5***: Students' perceptions of teachers' personality types are independent of students' perceptions of student-teacher relationships.

The researcher ran a Chi-square test of independence to determine if students' perceptions of teachers' personality types were independent of students' perceptions of student-teacher relationships/caring. The analysis revealed that students' perceptions of teachers' personality types were independent of students' perceptions of student-teacher relationships/caring $\chi 2(12, n = 52) = 10.10$, $p = 0.608$. The researcher failed to reject the null hypothesis. Table 17 displays students' perceptions of personality types and relationships.

**Table 17**

*Students' Perceptions of Personality Types and Relationships*

| | | Personality Types | | | | | |
|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 | Total |
| Relationships | 1 | 1 | 0 | 0 | 0 | 0 | 1 |
| | 2 | 4 | 2 | 2 | 1 | 0 | 9 |
| | 3 | 4 | 3 | 3 | 3 | 0 | 13 |
| | 4 | 4 | 4 | 4 | 6 | 0 | 18 |
| | 5 | 1 | 5 | 4 | 1 | 0 | 11 |
| | | 14 | 14 | 13 | 11 | 0 | 52 |

## Quantitative Results Summary

The researcher examined each of the null hypotheses using a variety of different statistical tests. To test each of the hypotheses the researcher ran ANOVA tests, *t*-tests, and a Chi-Square test of Independence. After analyzing each of the results, the researcher failed to reject each of the null hypotheses and was therefore able to conclude that none of the tests resulted in a significant difference.

## Research Question 1 Results

***Research Question 1***: How do students' perceptions of student-teacher personality types and traits, relationships, and learning styles differ between and across content areas?

There were 20 Math students, 12 Biology students, 21 English students, and five Government students that participated in the survey. Most students completed the survey in its entirety, while some students did not answer every question.

## Perceptions of Personality Types and Traits

The math students who answered the questions on personality types and traits mainly selected several personality traits that did not always align with their chosen personality type from Section E. One math student selected precisely one personality trait from section C that aligned with their personality type selected from Section E. Another

math student selected only one personality trait that did not match their chosen personality type. A third math student believed that they were Type A, but did not select any of the corresponding traits from type A. A few math students picked one personality trait from section C that aligned with their personality type, but they chose other personality traits.

All the government students picked at least one personality trait corresponding to their chosen personality type, but they all chose other personality traits. Each government student chose at least four to five personality traits that they believed they had from Section C. their chosen personality type, but they all chose other personality traits.

One biology student selected personality traits, but did not select a personality type. One student chose personality type A, but did not select any corresponding personality traits. The biology students chose at least one personality trait that matched their personality type. These students selected three to five personality traits.

Three English students did not select personality traits that matched their chosen personality traits. The rest of the English students chose at least one personality trait that matched their selected personality type. These students all selected anywhere from two to six personality traits that they felt they had.

The researcher found that students felt similarly within and across content areas. A few students in each content area did not choose a specific personality trait that matched their personality type. Most students picked personality traits from different personality types. The perceptions of students' personality traits and types seem similar across and within content areas. Table 18 displays the personality types chosen by students in each content area.

**Table 18**

*Personality Types - Students' Perception of Their Personality Type*

| Content Area | Type A | Type B | Type C | Type D |
|---|---|---|---|---|
| | # of students | # of students | # of students | # of students |
| Math | 8 | 6 | 1 | 5 |
| Government | 2 | 1 | 0 | 2 |
| Biology | 4 | 5 | 1 | 1 |
| English | 4 | 8 | 1 | 8 |

**Perceptions of Relationships**

Students answered four open-ended questions regarding their relationships with their EOC teacher. The questions were as follows:

1. What changes could students make to get along better with this teacher?

   The common themes that emerged were classroom rules and expectations, engagement, and respect.

2. What are two specific things that this teacher does that help his/her relationship with students?

   The common themes that emerged were assistance, relationships, and communication.

3. What is one thing that your teacher does that makes you feel like she/he understands you?

   The common themes that emerged were respect, relationships, and assistance.

4. If you were the teacher of this class, what is one thing you would do to improve your relationships with students?

   The common themes that emerged were communication, relationships, and time management.

In response to question one, the math students believed that students could make some changes to get along better with their teacher. The students said that some of the changes they felt teachers could make included "they could be interactive and have a drive to finish the work," "stay off phones and do not use earbuds during instruction," "participate more in class," "pay more attention," and "work harder and stay off phones." Additionally, some students said, "ask questions and try to get to know the teacher through interests and jokes," "turn in work," and "engage with teachers by asking them more questions." Finally, one student responded that "everyone gets along well with the teacher because the teacher does a good job and jokes around." The common themes that emerged from the math student were engagement and effort.

The government students felt that students in their class could "listen to what the teacher is saying," "be quiet when the teacher is talking," "listen," "follow directions," and" pay attention" to make changes to get along better with their teacher. The common themes that emerged from the government student responses were engagement and respect. If students were engaged in the class, they would be quiet and listen when the teacher was teaching. If students were respectful of the rules in the classroom, they could get along better with their teachers.

The biology students answered question one by responding that students could "pay attention, do the work, and ask questions" and "share more about themselves in order to connect with the teacher." In addition, other students said that students could "be patient and kind because the teacher is a great teacher," and "students would get along better with the teacher if the workload were less, especially if the work is not going to be graded." Other students responded that students could “just stop hating her," turn in work

on time," and "be less judgmental" to improve relationships with teachers. Furthermore, two students responded that there was "nothing" students could do to get along better with their teachers. Lastly, some students said that "students should talk more about work," "talk less" and "stay more involved in class by studying, taking notes and not talking when the teacher is talking." The common themes that emerged from these answers were following directions, engagement, and respect.

The English students responded that students could "focus on schoolwork" to get along better with their teacher. In addition, students thought their peers "could be more agreeable," be respectful," "concentrate in class," "think before they speak," "listen," and "do the assignments and turn them in on time." A handful of students said that students could get along better with their teacher if they were "more open-minded," "cooperative," and "understand that the teacher is doing their job." One student said that "students should hate the curriculum and not the teacher as a person." Another student said that students could get along better with their teacher if they just "talk to the teacher more to understand the teacher better as a person." The common themes that emerged from these responses were respect, following directions, and engagement.

The math students responded that their teachers "give us second chances" and "provide students with one-on-one help" to improve their relationships with their students. For example, "one of the math teachers recorded notes for students to reference when needed and provided students with fill-in-the-blank notes." These strategies were things that students believed their teachers did to help their relationship with students. Students also found that their math teachers "talk to us individually" and "try to learn how each student in their class learns best." Many students responded that their teacher

"stays after school to assist with assignments or extra help." Some teachers "ask students if they needed help rather than waiting for students to ask for help." A student commented that their teacher "extends deadlines and allows for quiz retakes." Another student said, "my teacher asks us about our lives outside of school and has us share our hills and valleys from our weekends and break." A student shared that one teacher even "answers homework line emails until 9 or 10 at night." The common themes that emerged were time, assistance, and building relationships.

The government students responded that their teachers were "chill and never appeared stressed or upset" and “pays attention to students when they answer questions out loud." Other students said that the teacher "makes the class fun" and "offers help whenever needed." The students also felt that teachers “offers extensive communication and explanation during instruction." The teachers also were "caring because the teacher listens to students and tries to understand everyone in the room." According to the government students, these were some of the specific things that government teachers did to improve their relationships with students. The common themes that emerged were assistance, communication, and relationship building.

Many biology students found that their teacher "talks to us about their outside lives" and "attempts to have good conversations with our class" to help their relationship with their students. The students also said that their teachers "take the time to get to know us," "asks how our day was," and "jokes with us." Additionally, teachers “keep up to date on trends," "has inside jokes with the class," and "cares about students to help their relationships." Two biology students said that "there is nothing that my teacher does to try and help their relationships with students." Most of the students said that their biology

teacher "communicates with us" and "expresses interest in our lives outside of the classroom" to improve relationships with students. The common themes that emerged were communication and relationship building.

The English students said that their teachers "gives us advice," "listens to our problems," and "relates their life events and lessons to us." The English teachers "do not just talk about English lesson content" to help relationships with students. The students also responded that teachers were "considerate of the workload" and "understand that students had schoolwork, jobs, sports, and clubs that occupy our time outside the classroom." The teachers who did specific things to help their relationships with their English students "re-explains confusing topics," "offers help before school," and had "realistic conversations with students." One student said, "my teacher is active in coaching and activities so they can have better relationships with students." The common themes that emerged were assistance, relationship building, time management, and relevance.

The math students responded that their teacher showed them they understood them by "helps students with work" and "responds to questions." One student said, "my teacher does not get noticeably mad when students struggle to understand something; they reassure students." Students said that the math teachers also showed they understood them by "paying attention to the actual questions students are asking," "realizing that life happens," and "letting us have a break when needed." Other students responded that their teacher "asks how the tests made students feel" and "how they could be better prepared." The students also said that their teacher understands them "by not purposely calling on students who are not paying attention," "the teacher expresses interest in students' lives,"

and "slows down the teaching when necessary." Two students responded that their math teacher "does nothing that makes me feel understood." The common themes from the responses were pacing, respect, and reading the room.

The government students said their teachers "relates to us and gets on our level" to show they understand their students. Other students said that "the teacher lets us ask questions differently until the teacher knows what we are asking." Another student responded that their "teacher allows them to do their best" to make students feel that they understand them. A different student said, "my teacher gets along well with students and bonds with us to make us feel like they know and understand us." Finally, one student said that the government teacher "lets me do the work my way" and "allows me to ask questions until I understand without making me feel stupid." The themes that emerged were communication, learning styles, and relationship building.

The biology students said that "the teacher talks to us one-on-one" and "provides us with help and feedback" to show students that they understand them. The students said that their "teacher listens and is genuinely concerned about all students in their room." Other students said that their teacher "treats all students like grown-ups" and "makes sure to talk to every student and not just give the lesson" to help show their students' understanding. One student said that "my biology teacher does nothing to make students feel like they understand them." The responses showed common themes of assistance and relationship building.

Most English students said that their teacher “treats us like adults,” “listens to us," and "talks to us about various topics." Students also noted that teachers "discusses real-world problems" and "respectfully listens to students' opinions" to make students feel like

they understood them. Other students said teachers "comments on my work and essays to understand me." The teachers made students feel understood when they "extends deadlines" and "does not overwhelm us with work." Another student said they knew their teacher showed them they understood them by "giving positive praise" and "being open to help with the work." Two English students noted that there was "the teacher does nothing to make me feel like they understand me." The English student responses showed common themes of respect, time management, assistance, and praise.

The math students said that if they were the class teacher, they would "interact more with students" and "make the room more comfortable and livelier" to help improve their relationship with students. Other students said they would "talk to students more" and “ask questions about their lives." One student said they would "attend student events to strengthen relationships." The students also said they would "make sure the content they delivered was explicit" and "assign more minor homework problems." Some students said they would want to "make sure the material was easy to understand" and "everyone always knew the weekly and daily classroom expectations." One student said they "would not call on students they knew were not paying attention because this would improve relationships." One of the students said they "would do nothing if they were the teacher to enhance student relationships." The responses showed common themes of communication, relationship building, and clarity.

The government students responded that they would "not pester the students for not doing the work" to improve student relationships. Another student said they would "remain calm to enhance relationships with students." Additionally, a student answered that they would "talk to the class and individual students about questions they had

regarding the assignment." A different student responded that they would "go to more events and be more involved outside of the classroom to improve student relationships." One student said that there was "nothing I would do to strengthen relationships with students." The responses showed themes of communication, demeanor, and visibility.

Many of the biology students said they would "ask students questions to assure that they understand" and "ask students precisely what they are learning" to improve relationships with their students. Another student said they would "make sure everyone was behaving in class." Other students agreed that they would "add more fun activities to make students more engaged" and "make the class more fun" to improve their relationships with students. One student said they would "take suggested assignments from students" to enhance relationships. Additionally, students said they would "not try to be so controlling of high school students" and "be understanding of outside commitments and workload." One biology student said they would "do nothing to improve their relationships with students." The responses showed themes of assistance, engagement, and time management.

The English students responded that they would "stay on topic while being more relaxed" and “not give huge workloads." In addition, students said they would "teach and explain more." Students noted that "they would provide a better balance of teaching and talking to students about non-school-related content" and "be more organized" to improve student relationships. Other students responded that they "would not argue with students." Students would also "assign less work and be able to grade it promptly" and "talk to students less about personal issues to get their assignments done and focus on the classwork" to improve relationships with students. Other students answered that they

would "have more class discussions and share their opinions." They would also "have good relationships with all students in the class, even those who did not do the work" and "provide students with more materials and instructional strategies." One student said they would "teach more, be more respectful to students, and listen to students" to improve relationships. Another student said they would "keep their private life outside the classroom while being stern but reasonable with students." Lastly, one student said they "would do nothing to improve their relationships with students and want to be like their current teacher." The responses from students showed themes of time management, relationship building, and instructional time.

Common themes emerged when students responded to the open-ended relationship questions across content areas. The common themes focused on relationship building, time management, assisting students, instruction, communication, engagement, and respect. Many of the students said they wanted teachers to "get to know them" and "show interest in their lives outside of school," which were responses that focused on relationship building. Other common responses focused on time and instruction. Students wanted teachers to be aware of time management and help them even if "students did not ask questions independently." Students preferred when teachers "understood they had one more than one important class" and " had things going on in addition to academics." In each content area, at least one student said they would "do nothing to improve relationships" and that their teacher "did not help relationships or show students that they understood them." Across content areas, students said that their peers could make changes in class engagement and respect their teachers to get along better with their teachers.

Additionally, across content areas, the students noted that teachers intentionally built relationships with students by "talking with students about their lives outside of the classroom" and “sharing information from their own lives." Furthermore, teachers built relationships by taking an interest in students and were visible at school events outside of the classroom to help their relationships with students. Additionally, in all four content areas, the students noted that teachers that communicate by "explaining," "listening," and "seeking to understand when students got confused" made students feel understood.

**Perceptions of Learning Styles**

Students answered two open-ended questions and five Likert-scale questions regarding perceptions of learning styles. The two open-ended questions were:

1. If this teacher could teach you a strategy to help you improve on anything in school, what would this person teach you as a strategy?

   The common themes that emerged were study skills, time management, and engagement.

2. Which of the strategies do you use that seem to be the most effective for helping you succeed in school?

   The common themes that emerged were communication, organization, and study skills.

In response to question one, the math students said they would want to "learn more life skills" and "why math was important." Students also noted that they wanted to learn how to "get their work done quickly and correctly," "organization skills," and "finish what they start to the best of their abilities." Other math students said that they wanted to learn "study skills such as note-taking skills," "staying focused in class," and

"time management skills." Other students wanted to learn how to improve their memory and prioritize their work in all classes. Lastly, one math student said there was "no learning strategy I want to learn from my teacher." The common themes from the math student responses were soft skills, relevance, organization, time management, and engagement. Organization and time management can also be considered soft skills.

In response to question two, the math students said that "coping strategies" and “taking notes" were the most effective strategies for helping them succeed at school. Other math students felt that "utilizing time outside of class," "problem-solving," and "to-do lists" were the most effective strategies for helping them succeed in school. Other students noted that "good relationships with teachers," "communication and understanding," and "staying focused in a class by putting my phones away" were different strategies that helped them be successful. Lastly, some students thought it helped them be more successful when "talking through the notes" and "persevering when getting their work done." The math students' responses showed common themes of communication, relationship building, engagement, organization, and study skills and habits.

The biology students wanted to learn strategies to help them "have better study habits" and "increase their memories." Other students wanted to "take better notes," "manage their time better," and "not procrastinate." Additional biology students said they wanted to "do more labs and hands-on activities" and "there should be less off-topic talking." One student noted that they wanted "to learn how to use the Canvas learning management systems." Another student said there was "no strategy that I want to know to

help me be more successful." The themes that emerged from the biology students' responses were study skills, time management, and engagement.

The biology students said that "money management" and "taking notes" were the most effective strategies in helping them succeed at school. Other biology students noted that "doing nightly homework," "study skills," "note-taking," and "asking the right questions" were strategies they used that were most effective in helping them succeed at school. Some of these students also noted "learning how to use Canvas," "memorization," "utilizing study guides," and "doing the best quality work." "People skills" was also one of the most effective strategies in helping biology students succeed at school. One student said, "I do not have any process that was effective at helping me be successful. The biology students' responses showed themes of communication, study skills and habits, effort, and life skills.

The English students were interested in learning strategies to "help them stay organized" and "become better essay writers." Other English students wanted to be able to "identify the author's purpose," "analyze passages," and "write good thesis statements." Other English students wanted to learn "time management" and "motivation strategies." Additional students wanted to "learn how to stay focused," "life lessons," and "memorization strategies." The English students' responses showed common themes of time management, study skills, and life skills.

The strategies that made English students feel the most effective for succeeding at school were "memorization strategies" and "talking to their teachers." The English students said they "asked questions" and " used planners for organization" to help them be most effective in succeeding at school. One student said, "I study for tests," and other

students noted that they "used fidget tools to focus" and " avoid procrastination." Additionally, students said they "always put in effort even if the bare minimum" and "studied" to help them succeed at school. The English student responses showed themes of study skills, communication, and organization themes.

The government students said that they wanted to "learn strategies for turning in work on time," improve the quality of their work," and "what to do when they did not understand" to help them improve at school. Other students noted that they wanted to "learn memorization strategies" and "study strategies to help them improve in school." The common themes shown in the government students' responses were study skills and quality.

The government students noted that some of the most effective strategies for helping them succeed at school included "asking questions," "not getting stressed over difficult work," and "studying." One student said that "memorization and hearing their teacher's voice saying funny phrases" helped them succeed at school and on tests. The government student responses showed themes of study skills and communication.

The common themes that emerged across content areas were to learn study strategies, organization skills, time management skills, and communication to help them improve in school. Students in all content areas agreed that the most effective techniques for assisting them to succeed at school included study strategies, memorization skills, and organization skills. Additionally, students noted that staying focused in class, time management, always putting forth the effort, and doing their best work was also effective at helping them succeed at school.

Figure 1 displays the student learning style Likert-scale questions and responses. The table is organized by color to separate student responses based on content area. The yellow answers are math student responses, the red responses are biology student responses, the pink responses are English student responses, and the green responses are government student responses. The answers to these questions are by abbreviation and can be identified as follows: EL- extremely likely, QL- quite likely, SWL- somewhat likely, SL- slightly likely, EC- extremely confident, QC- quite confident, SWC- somewhat confident, SC- slightly confident, F-frequently, AA- almost always, S- sometimes, AN- almost never, OIAW- once in a while, EW- extremely well, QW- quite well, SWW- somewhat well, SW- slightly well, NW- not well, AE- almost every day, STAW- several times a week, AOAW- about once a week, OEFW- once every few weeks, AN- almost never.

**Figure 1**

*Student Survey Learning Style Likert Questions*

| When you get stuck while learning something new in this class, how likely are you to try a different strategy? | How confident are you that you can choose an effective strategy to get your work for this class done well? | Before you start on a challenging project in this class, how often do you think about the best ways to approach the project? | Overall, how well do your learning strategies help you learn in this EOC class more effectively? | In this EOC class, how often do you use strategies to learn more effectively? | |
|---|---|---|---|---|---|
| EL | SWC | F | QW | AOAW | |
| EL | QC | F | QW | AOAW | |
| QL | QC | F | SWW | AOAW | |
| QL | QC | ST | QW | AE | MATH |
| QL | QC | F | QW | STAW | |
| EL | QC | AA | QW | STAW | |
| EL | SWC | ST | QW | AE | |
| QL | SLC | ST | EW | AOAW | |
| SL | QC | AA | EW | AE | |
| EL | QC | F | SWW | OEFW | |

| | | | | | |
|---|---|---|---|---|---|
| SL | QC | F | QW | STAW | |
| EL | EC | AN | SWW | AOAW | |
| QL | EC | F | EW | AE | |
| SL | SWC | ST | SWW | AOAW | |
| SL | EC | AA | SWW | AOAW | |
| SL | SWC | ST | SWW | OEFW | |
| SWL | QC | F | QW | STAW | |
| EL | SWC | AA | SWW | STAW | |
| SL | NAAC | OIAW | NW | AN | |
| QL | QC | ST | SWW | STAW | |
| EL | QC | ST | QW | AOAW | |
| EL | QC | ST | QW | AOAW | |
| QL | EC | F | QW | AE | |
| QL | QC | F | QW | STAW | |
| SL | SWC | F | SWW | STAW | BIOLOGY |
| NA | NA | N/A | NA | NA | |
| QL | QC | AA | SWW | OEFW | |
| QL | SWC | F | QW | AOAW | |
| QL | QC | F | QW | STAW | |
| SL | SLC | ST | SW | AN | |
| QL | EC | AA | QW | AE | |
| SL | SWC | ST | SWW | AOAW | |
| SL | SWC | ST | SWW | AOAW | |
| SL | SLC | AA | SW | OEFW | |
| SL | SWC | F | SWW | OEFW | |
| QL | EC | ST | SW | OEFW | |
| QL | QC | F | QW | AE | |
| SL | QC | ST | SW | OEFW | ENGLISH |
| SL | EC | F | SWW | STAW | |
| SL | SWC | F | QW | AE | |
| EL | EC | AA | EW | AE | |
| QL | SWC | F | SWW | OEFW | |
| SL | EC | OIAW | SWW | AOAW | |

| | | | | | |
|---|---|---|---|---|---|
| QL | QC | AN | SW | OEFW | |
| SL | SWC | F | QW | STAW | |
| QL | QC | F | QW | AE | |
| SL | SWC | OIAW | QW | OEFW | |
| QL | SWC | ST | SWW | AOAW | |
| EL | QC | F | SWW | OEFW | |
| QL | SC | F | SW | AOAW | |
| QL | QC | F | QW | STAW | |
| QL | QC | F | SWW | OEFW | |
| NAAL | QC | ST | SWW | OEFW | |
| QL | QC | F | QW | AOAW | |
| EL | EC | AA | EW | STAW | GOVERNMENT |
| SL | QC | ST | SWW | AOAW | |
| SWL | QC | ST | QW | AOAW | |
| QL | EC | F | QW | AOAW | |

The math students responded that they are both extremely likely and quite likely to try a different strategy when they get stuck on something new. Most of the math students said that they were extremely confident and quite confident that they could choose an effective strategy to get their work done well for math class. The students answered that they frequently and sometimes thought about the best way to approach a project before getting started on it. They also believed that their learning strategies helped them quite well and somewhat well learn more effectively. Lastly, the math students also said they use learning strategies several times a week or about once a week to learn more effectively.

The biology students responded that they were both slightly likely and quite likely to try a different strategy when they get stuck on something new. Most of the biology students said they were quite confident and somewhat confident that they could choose

an effective strategy to get their work done well for biology class. The students answered that they frequently and sometimes thought about the best way to approach a project before getting started on it. They also believed that their learning strategies helped them quite well and somewhat well learn more effectively. Lastly, the biology students also said they use learning strategies several times a week or about once a week to learn more effectively.

The English students responded that they are both quite likely and slightly likely to try a different strategy when they get stuck on something new. Most of the English students said that they were quite confident and somewhat confident that they could choose an effective strategy to get their work done well for English class. The students answered that they frequently and sometimes thought about the best way to approach a project before getting started on it. They also believed that their learning strategies helped them quite well and somewhat well learn more effectively. Lastly, the English students also said they use learning strategies about once a week or every few weeks to learn more effectively.

The government students responded that they were quite likely to try a different strategy when they got stuck on something new. Most government students said they were extremely confident and confident that they could choose an effective strategy to get their work done well for government class. The students answered that they frequently and sometimes thought about the best way to approach a project before getting started on it. They also believed that their learning strategies helped them quite well to learn more effectively. Lastly, the government students also said they use learning strategies about once a week to learn more effectively.

Similar themes regarding perceptions of learning styles emerged across content areas. The math, biology, English, and government students were all quite likely to try a new strategy when they got stuck. Both biology and English students were slightly likely to try a new strategy when they got stuck. Some of the students in all four content areas were quite confident that they could choose an effective learning strategy to get their work done for class. Some math and government students were extremely confident that they could select effective methods to get their work done. In addition, some of the biology and English students were somewhat confident that they could choose effective strategies to complete their work. Some students from all content areas agreed that they frequently and sometimes thought about approaching a project before getting started on it. Most of the students in all four areas responded that their learning strategies helped Them quite well. In addition, other math, biology, and English students agreed that their learning strategies helped them somewhat well in their class. Lastly, students in all four subject areas said they used learning strategies to learn more effectively several times a week, about one a week, and once every few weeks.

**Results Research Question 2**

*Research Question 2*: How do teachers' perceptions of student-teacher personality types and traits, relationships, and learning styles differ between and across content areas?

There were four Math teachers, two Government teachers, three English teachers, and two Biology teachers who took the survey.

**Perceptions of Personality Types and Traits**

The four math teachers who took the survey did not select the same traits from Section C that matched their selected personality types from Section E. One teacher whose selected personality type did not match their selected personality traits. The other three teachers picked traits from their personalities and traits from different personality types. The two government teachers who took the survey liked traits that matched their personality types. One of the government teachers selected traits from two personality types. The two biology teachers who took the survey both selected traits that matched their chosen personality type, but they also chose traits from other personality types. The three English teachers who took the survey each selected traits that matched their personality type, but they also decided on traits from different personality types. After analyzing the results of the teacher surveys, it was evident that the 11 teachers who took the survey felt they had more dominant traits of one personality type but had traits that fell into different personality type categories. Figure 2 displays the teacher-selected personality type from Section E and the teachers' personality traits from Section C. The purpose of this table was to determine if the personality type that a teacher selected for themselves aligned with the personality traits that they selected for themselves. For example, the first teacher listed below selected Type D as their personality type, but then selected trait descriptors from Type B, Type C, and Type D. As shown below, there is only one teacher that chose one personality trait that aligned exactly with their chosen personality trait.

**Figure 2**

*Teacher Personality Type and Selected Traits*

| Teacher Personality Type Selected from Section E | Passionate Short Tempered (Type A descriptors Section C) | Easy going Impulsive (Type B descriptors Section C) | Dependable Critical of others (Type C descriptors Section C) | Supportive Less assertive (Type D descriptors Section C) |
|---|---|---|---|---|
| Type D | | X | x | X |
| Type A | | X | | |
| Type A | x | X | x | x |
| Type A | x | | xx | X |
| Type B | | Xx | | Xx |
| Type B | | X | | |
| Type A | x | Xx | | Xx |
| Type A | x | X | | X |
| Type A | x | X | | Xx |
| Type D | x | X | xx | Xx |
| Type D | | Xx | | Xx |

**Perceptions of Relationships**

Teachers answered four open-ended questions regarding their relationships with their EOC students. The questions were as follows:

1. What changes could students make to get along better with you as their EOC teacher?

   The common themes were effort and engagement, and importance.

2. What are two specific things you do that help your relationships with students?

   The common themes were availability to help with work, respect, and relationships.

3. What do you do that makes students feel like you understand them?

   The common themes were interest in students, listening, and relationship building.

4. If your students could be the teacher of this class, what is one thing they would say they could do to improve their relationship with the students? The common themes that emerged were respect, relevance and interest to topics that were taught and flexibility with the amount of work and deadlines.

The math teachers responded by saying that students could "take the class more seriously", "show the teacher that they cared about the class", "use less sarcasm", "be respectful", and "ask for help when struggling with the content instead of shutting down or calling the work stupid". The common theme that emerged in the math teacher responses regarding perceptions of relationships with students was that the math teachers wanted their class to be important to students and they wanted students to care about their class. The math teacher responses showed many similar themes. Some of the math teachers said that they, "make themselves available outside of school hours to help students", "showed students respect", and "take an interest in students and their lives" to not only help relationships with students, but also to make students feel understood. The math teachers said that if students were the teachers of their classes, they would say that they would "be more flexible with due dates", and "give less homework" to improve relationships with students.

Additionally, the common themes that emerged were time and interest. Most of the math teachers offered outside class time to help students and tried to take an interest in their students' lives. In addition, the math teachers believed that students would all want to give less homework and be flexible with due dates if they were the teachers of the classes as they believed that this would improve relationships. The math teachers

agreed that giving less work might improve relationships but would not benefit students educationally.

The government teachers said that students could get along better with them if they "did the work when asked" and if students could "be engaged." The government teachers believed that if students focused on engagement and doing the work they asked for, they would have more positive relationships with their teachers. The government teachers said that they specifically "treat students like adults," "show an interest in students," and "seek to understand them" to help their relationships with students. One teacher said, "I treat them like adults and speak to them like adults. It has allowed our conversations to be more productive when meeting with them 1:1 as they feel I respect their opinions/positions". The government teacher said that they "cared about students and their interests" and "took an interest in students' lives" to make sure students felt like they understood them.

Additionally, the government teachers believed that students would want to "survey the class on topics of interest to determine areas to focus on for instruction" and "show understanding and kindness" if they were the teachers of the class. Common themes that emerged from their responses were interest, respect, and listening regarding things they did to improve relationships and make students feel understood. Additionally, themes of respect and interest emerged from their responses regarding changes students would make if they were the teacher of the class.

The biology teachers believed that students could get along better with them if students "put forth effort and asked questions," as well as "showing enthusiasm about learning." The biology teachers' "talk to students on a daily basis" and "checked in on my

student by asking about the hills and valley of their weekend" to specifically help their relationships with students. Furthermore, the biology teachers would "give students examples from my own life to show students I am human too" and "greet students at the door daily and listen to them" to make students feel understood. The biology teachers believed that if students were the class teacher, they would "slow down" and "make sure to answer questions without making students feel dumb." Common themes emerged from the responses of the biology teachers regarding the effort and engagement of students to improve relationships with teachers. Additionally, pacing and respect were some changes students would make if they were the teacher of the class.

The English teachers felt that their relationships with students would improve if students "took their time on the work," "were more involved and motivated in class," and "took care of what was going on in their lives outside of school and with mental health first." These teachers said that to improve relationships with students, they "listen and address student needs" and "talk with students about their lives and share about mine as well." The English teachers said they also did these things to make students feel they understood them. Finally, the English teachers said that if students were the class teacher, they would "give students more time to go over the work and get work done" and "incorporate more student interest in the content of the class." Common themes emerged from the English teachers' responses: effort and engagement, listening and addressing student needs, and student interest and time. These teachers felt students could get along better with them if they showed more effort and engagement in work. Additionally, the teachers listened to students and addressed their needs to make them feel understood.

Furthermore, they believed that students would give more time to complete assignments and center assignments around student interests if they were the teacher of the class.

The common themes that emerged across the four content areas were effort and engagement, respect, interest in students, interest in the topic, and time. Only the math teachers believed that the changes students would make to the class if they were the teacher were to give no work and no deadlines. The teachers from the other three content areas all said that students would make changes to make students more engaged by utilizing topics that interested students, providing students more time to get through the content, and limiting rushing. Students could have better relationships with teachers if they took their classes seriously and valued the work and feedback in their classes. Teachers wanted their classes to matter to students.

Additionally, teachers found it vital to speak to students about their lives outside of school in all four content areas to improve relationships with students. Both math and biology teachers had similar perceptions that it was essential to relationships to treat students with respect by responding respectfully to incorrect answers and finding the positive when students offered wrong answers. Both government and English teachers believed it was critical to talk to students as equals, treat them like adults, and make the content as authentic and relevant to students' lives as possible. Lastly, both English and biology teachers believed their relationships with their students were enhanced when they shared their personal stories and showed students their human side outside of classroom teaching. Most of the teachers believed that if students were the teacher of their class, they would want to give less work, provide more time for work completion, and make the content more meaningful and connected to students' interests.

**Perceptions of Learning Styles**

There were two open-ended questions and five Likert-scale questions teachers answered regarding learning styles. The open-ended questions were as follows:

1. If EOC teachers could teach the students a strategy to help them improve on anything in school, what would they teach them a strategy for?
2. Which of the strategies that the students use seems to be the most effective for helping them succeed in school?

To improve at school, the math teachers said they would teach students various strategies. These strategies included "teach students how to study for math," "teach students time management skills," "how to complete assignments using common sense" and "make sure the work matched the problem." In addition, the math teachers believed that students already utilized strategies that helped them be effective for helping them succeed at school. These strategies included "completing their homework daily," "utilizing class time to do homework," "ask questions regarding the assignment," "use a planner for organization" and "utilizing the feedback given to them by their teacher." Common themes that emerged from strategies math teachers wanted to teach students were time management and checking work. Additionally, common themes that emerged from strategies students already used to help them be successful were completion and feedback.

The government teachers said they would teach students "study tips" and "perseverance " to improve at school. In addition, the government teachers believed that some students already utilized strategies that helped them be effective for helping them

succeed at school. These strategies included "use of discourse" and "participating in meaningful conversations about content topics."

The biology teachers believed that "teaching students critical thinking skills," "organizational skills," and "time management" were learning strategies that they would want to teach their students to help them be successful. They found that students who had "time management," "good work ethic," and "students who are responsible for their education" were the most successful in their classes.

The English teachers responded that they would want to teach students "time management," "organization," and "to-do lists" to help their students succeed. The English teachers found that students who experienced success in their classes had "growth mindsets" and "did not give up easily." These students also had "notetaking skills" and "emailed their teachers when they had questions, especially when they did not want to speak up in class and ask questions in person."

Common themes that emerged between content areas regarding what strategies teachers wanted them to have to help them be successful at school were time management skills and organizational skills. These teachers believed that students who were already successful had perseverance and took responsibility. In addition to these common themes, teachers noted the importance of students completing work and using the feedback provided to them to help students succeed in school.

Figure 3 displays the teacher Likert-scale questions regarding learning styles. The table is organized by color to separate teacher responses based on content area. The yellow answers are math teacher responses, the red responses are biology teacher responses, the pink responses are English teacher responses, and the green responses are

government teacher responses. The answers to these questions are by abbreviation and can be identified as follows: EL- extremely likely, QL- quite likely, SWL- somewhat likely, SL- slightly likely, EC- extremely confident, QC- quite confident, SWC- somewhat confident, SC- slightly confident, F-frequently, AA- almost always, S- sometimes, AN- almost never, OIAW- once in a while, EW- extremely well, QW- quite well, SWW- somewhat well, SW- slightly well, NW- not well, AE- almost every day, STAW- several times a week, AOAW- about once a week, OEFW- once every few weeks, AN- almost never.

**Figure 3**

*Teacher Survey Learning Style Likert Questions*

| When a student gets stuck learning something new in your class, how likely are they to try a different strategy? | How confident are you that students can choose an effective strategy to get their work for your class done well? | Before students start a challenging project in your class, how often do they think about the best ways to approach the project? | Overall, how well do your students' learning strategies help them learn more effectively? | In your class, how often do your students use strategies to learn effectively? |
|---|---|---|---|---|
| SL | QC | ST | SWW | F |
| SL | SW | OIAW | SW | F |
| EL | QC | AA | QW | F |
| SL | QC | ST | SW | F |
| QL | E | F | QW | F |
| SL | SW | ST | QW | ST |
| QL | QC | ST | SWW | ST |
| QL | QC | F | SW | F |
| SL | SW | OIAW | SWW | ST |
| SL | SW | OIAW | SWW | ST |
| SL | QC | OIAW | SWW | ST |

More than half of the teachers agreed that students were ~~somewhat~~ slightly likely and quite likely to try something new strategy when they got stuck learning something new. Teachers were not confident that students would try something new when they got stuck. Most teachers were quite confident and slightly confident that students could

choose an effective strategy to get their work done well for class. One teacher said they were highly optimistic that students could select an effective strategy. Some teachers believed that students often thought about the best ways to approach a challenging project.

In contrast, others thought they sometimes thought about it or only thought about it occasionally. Teachers perceived that students' learning strategies helped them learn effectively, sometimes well, somewhat well, and quite well. Most teachers believed that students frequently used learning strategies to learn effectively. A common theme from the teachers' responses was unclear because some teachers felt students could select an effective strategy. Still, other teachers did not think students were able to do this. Suppose students cannot do this; in that case, teachers should notice this and help students find various learning strategies.

**Summary**

Chapter Four included an overview of the study outcomes and results. The researcher tested five different hypotheses by running various statistical tests and failed to reject all five hypotheses. Furthermore, this showed the researcher that EOC scores alone did not impact perceptions of relationships and personality traits and types in the classroom. There were many similarities in response to the research questions for both teachers and students. Many of the teachers across content areas spoke to students and tried to show students they cared about them and understood them to improve the quality of their relationships with students. The students similarly responded that they knew their teacher understood them when they expressed interest in them by talking about them and caring about their lives outside of the classroom. Both teachers and students answered

that students needed to learn how to focus, do the assignments and adequately know how to study to succeed in school. Chapter Five will include a discussion of the results of the study including what does this mean for school, implication for further research, and recommendations using the results from Chapter Four.

# Chapter Five: Discussion

Chapter Five includes an overview of each research question and hypothesis and the findings and an explanation for the reason for the specific results. This chapter also explains the implications and limitations that arose due to the way the study was designed and implemented. In addition, the chapter includes recommendations for modifying this research study, if it were to be conducted again in the future, and a discussion of the researcher's thoughts and conclusion regarding the overall analysis.

## Introduction

As a former math teacher for nine years, the researcher's experiences had shown her how critical relationships were within the classroom. The researcher's relationship-building experiences played an essential role in relationships in her classroom as a teacher. Therefore, she wanted to create a study to see if relationships affected achievement at the high school level. It was challenging to find a measurement instrument across grade levels and subject areas, because teachers do not give common assessments at Study High School. Merely looking at grades in each class created a great deal of disparity, since some teachers counted participation and homework, and others relied more heavily on assessment grades. As a result, the researcher examined End-Of-Course (EOC) scores differently from the traditional below basic, basic, proficient, and advanced criteria. The results of this study provided insight for furthering professional development for teachers within the Warren County School District, included in this chapter.

The chapter begins with an analysis and summary of findings for the research questions and hypotheses and leads to the triangulation of results from the qualitative and

quantitative data results. Following that are limitations, recommendations, and a discussion regarding the study.

## Questions and Hypotheses

The research questions and hypotheses in this study examined the effect of perceptions regarding student-teacher relationship, personality types and traits, and learning styles on academic achievement, specifically EOC scores. The triangulation of results included two research questions and five hypotheses.

## Research Questions

***Research Question 1***: How do students' perceptions of student-teacher personality traits, relationships, and learning styles differ between and across content areas?

***Research Question 2***: How do teachers' perceptions of student-teacher personality traits, relationships, and learning styles differ between and across content areas?

## Research Questions Analysis and Summary of Findings

In examining the qualitative data from Research Question 1, the researcher discovered that students' perceptions of student-teacher personality traits, relationships, and learning styles did not differ much between content areas. Some students believed they had a couple of traits like their teachers, but there was not much of a correlation. Students between and across content areas felt that students should "have more respect" for their teachers, and teachers should have more respect for them. They also said that there needed to be more "communication" between students and teachers so that both could have a better understanding of each other. Students expressed that they wanted to learn how to "better manage time" but also wanted teachers to "understand my commitments outside of the classroom." Most students in all content areas expressed that

they wished to better relationships with teachers and improved communication. Still, they also wanted to feel that teachers would help them and teach and show them learning strategies for school and life.

In examining the qualitative data from Research Question 2, the researcher found that teachers' perceptions of student-teacher personality traits, relationships, and learning styles did not differ much between content areas. The teachers stated that they were "intentional about getting to know my students," "I always talk with their students," and "I share my own stories with students to foster relationships." Additionally, teachers believed that students that already did well at school showed "perseverance" and "responsibility." These students took the initiative to complete their work and respond to feedback. Additionally, the teachers said that students could work on their "management" and "organization" skills.

**Hypotheses**

***Hypothesis 1:*** There is a difference between students' EOC scores based on their perceptions of the most effective personality types of teachers.

The researcher failed to reject Null Hypothesis 1, concluding that there was no significant difference between students' EOC scores based on their perceptions of the most effective teacher personality types. The results indicated no correlation between students' EOC scores and which personality type was most effective in a teacher. The EOC scores that students obtained had nothing to do with the personality type of their teacher. The researcher was anticipating finding that students who had teachers with a personality type that matched their selection of most effective teachers would perform better and have higher EOC scores. These results meant that students and teachers with

different personality types and traits could work with each other as long as they had built relationships. Based on the answers to the research questions, as well as the Literature Review, student achievement depended on relationship building, effort, and engagement, and having the proper learning strategies to be successful.

***Hypothesis 2***: There is a difference between students' EOC scores based on their perceptions of the least effective personality types of teachers.

The researcher failed to reject Null Hypothesis 2, concluding that there was no significant difference between students' EOC scores based on their perceptions of the least effective teacher personality type. The results indicated no correlation between students' EOC scores and which personality type was least effective in a teacher. The EOC scores that those students obtained had nothing to do with the personality type of their teacher. The researcher was anticipating finding that students who had teachers with a personality type that matched their selection of least effective teachers would not perform well and would have lower EOC scores. These results meant that students performing well on standardized tests was not based on their teacher's personality type, but rather on the relationships they built with teachers and the strategies they had to do well in each class. A student's achievement on an EOC test also had to do with how much their class mattered to them and how engaged they were in class. Students and teachers both believed that the importance of a course and effort and engagement was essential. Montalvo (2007) attested that the relationship and students liking their teacher were necessary before students would care about a particular class and become engaged and put forth effort in that class.

***Hypothesis 3***: There is a difference between students' EOC scores based on whether they perceive their personality type to match those of their teachers.

The researcher failed to reject Null Hypothesis 3, concluding that there was no significant difference between students' EOC scores, based on whether they perceived their personality type to match those of their teachers. The results indicated no correlation between students' EOC scores if they have the same or different personality types as their teachers. The researcher was anticipating finding a correlation between EOC scores and whether students perceived their personality types to match those of their teachers. The results meant that it did not matter if students and teachers had similar personality types. What mattered was the relationship piece, student effort and engagement, and their strategies to be successful.

***Hypothesis 4***: There is a difference between students' EOC scores based on their perceptions of student-teacher relationships.

The researcher failed to reject the null hypothesis and concluded that there is no difference between students' EOC scores based on students' perceptions of relationship/caring, however rejected the hypothesis based on the belonging questions. The results indicated no correlation between students' EOC scores based on their perceptions of student-teacher relationships based on relationship/caring questions. The researcher anticipated finding a correlation between students' EOC scores based both question types. The post hoc analysis of the belonging questions revealed that Group 4 had a significantly lower mean than did Groups 2 and 3. These resulted signified that students who felt a sense of belonging and who did not had similar achievement scores. In addition, these results signified that student achievement depended on more than just

relationships between students and teachers. Much literature said developing student-teacher relationships is the first step in a classroom. Then achievement could follow, but not every student with a good relationship with a teacher would be successful. Other barriers may have existed, such as learning disabilities or reading level. Once a relationship was built and established, students still needed the class to matter to them and to put in the effort to succeed. Additionally, teachers needed to provide students with tools and strategies to help them study and prepare for tests and exams.

***Hypothesis 5***: Students' perceptions of teachers' personality types are dependent on students' perceptions of student-teacher relationships.

The researcher failed to reject Null Hypothesis 5, concluding that students' perceptions of teachers' personality types are not dependent on students' perceptions of student-teacher relationships. The results indicated no correlation between students' perceptions of teachers' personality types and student-teacher relationships. The researcher anticipated that students' perceptions of teachers' personality types would be dependent on students' perceptions of student-teacher relationships. These results meant that building relationships between students and teachers did not depend on their personality type or traits. Anyone could build a relationship with someone else if they tried and showed they had an interest in them. Students come to school with many external barriers in their homes. Some students have single-family houses or come from homes of different socioeconomic levels. Regardless of a student's situation and background, students need a caring adult at school, and students need to feel a sense of belonging. Their classroom teachers can create that. McHugh et al. (2013) and Railsback (2003) agreed that regardless of a student's situation, students needed caring, supportive,

and trusting adults at school. However, the data from Hypothesis 4 showed that students in the higher-level honors classes do not necessarily need to feel a sense of belonging in order to excel on standardized tests.

**Triangulation of Results**

The responses collected from survey participants contained both qualitative and quantitative data. The researcher examined the qualitative data to find the themes that emerged from both student and teacher responses and examined the quantitative data to determine if students' EOC scores were affected by perceptions of student-teacher relationships and personality types.

Initially, the researcher believed that she would conclude that students' and teachers' perceptions of their relationships did affect EOC scores, but the results reflected that student and teacher perceptions did not affect EOC scores, except when it came to the belonging questions from Hypothesis 4. After performing the quantitative analyses, the researcher failed to reject all but one of the hypotheses and could not find any significant differences, except for Hypothesis 4. The researcher was not able to conclude that perceptions of relationships and personality types of teachers had any impact on EOC scores. However, although the researcher rejected the null hypothesis for Hypothesis 4, the data did not show an impact on EOC scores between students who felt they belonged and those who did not.

Next, the researcher examined the qualitative responses from both students and teachers to look for common themes that emerged. In analyzing the qualitative data, the researcher found that some students and teachers valued the importance of relationships and believed it was essential to care about one another in the classroom. A handful of

students felt that there was no need for students and teachers to have relationships with one another and that teachers needed to focus on teaching the content and not socializing with students. Some students and teachers felt that there needed to be a good mixture of relationships building and teaching students learning strategies that they could use at school. The literature all pointed to the same thing- relationships. Although students felt they needed additional learning strategies before those mattered to every student, teachers must foster relationship building. Receiving learning strategies from a teacher that a student did not necessarily like would not matter to that student. Teachers needed to make relationships and create the learning environment to set the foundation for all the learning strategies and learning. The data triangulation showed that student and teacher perceptions of each other matter, in all areas except belonging, but not specifically in terms of achievement on standardized tests. These perceptions matter to build the classroom foundation. Students and teachers want relationships with each other and communication; they want there to be a concern for each other. These things are crucial to developing a classroom environment conducive to learning. Once educators build relationships, students may be more engaged and care more about a class when they know the teacher cares about them. From this point, teachers can communicate with students about learning strategies they feel they are missing and where their deficits lie. Next, teachers can work with students to gain new tools and techniques and become better learners, which will ultimately improve achievement.

**Implications**

The researcher was surprised that only one of the hypotheses showed a significant difference. The researcher rejected Null Hypothesis 4 and concluded that there was a

difference between the groups. However, the means for all of the groups were so close and the differences were not consistent and therefore the researcher concluded the ANOVA returned an anomalous result. She believed that perceptions of relationships, personality traits and types, and learning styles would significantly impact EOC scores. Although Hypothesis 4 showed a significant difference, the data did not show that it had an impact on achievement scores. A students' sense of belonging in a class did not impact their academic scores. The quantitative portion of the study did not provide any beneficial results, while the results from the qualitative portion provided a different perspective.

It was unexpected to find that teachers believed that students knew different learning strategies and tools for learning. Many students said they had some learning strategies but not enough and wanted to learn more. If there were more open lines of communication between students and teachers, then teachers would understand that students lacked these tools and strategies. We have been discussing engagement and motivation at school and the fact that we have no instructional model that our teachers expect to use. Many teachers already feel that they are doing all they can to help students but that the students are not doing anything. Maybe part of the answer lies in these results: students do not have enough tools, and teachers are not using different instructional methods to engage students.

**Limitations**

The researcher faced various limitations during the study. The most significant limitation was the limited number of teachers and students who took the survey. Had there been more surveys taken by both teachers and students, there would have been a wider result span. In addition, some teachers took surveys, but their students did not, so

the researcher could not use that data. Likewise, some students took the survey while their teachers did not, which limited the number of data points that the researcher could analyze.

As a result of the limited number of participants, there was not a wide academic range of students that took the survey. Students taking EOCS earn scale scores that range from 325 to 400. These scale scores break down into four proficiency levels; the lowest is below basic, followed by basic, proficient, and advanced. These proficiency levels can differ between content areas ("End-of-Course Guide to Interpreting Results 2020-2021," p. 5, 2021). The researcher intended to survey most of the student population taking EOC tests, varying from students who achieved Below Basic, Basic, Proficient, and Advanced. In looking at the preliminary data, many of the students who took the survey were in multiple EOC classes and numerous honors courses. The researcher believed this was a limitation because there was not a wide range of data from all proficiency levels. Out of fifty-six scores, about 60% fell in the proficient to advanced proficiency levels. There was only about 40% of the below basic and basic proficiency levels to analyze. In addition, the researcher was concerned that survey bias might exist because students in upper-level classes may view school and their teachers positively. In contrast, lower-performing students do not consider school and their teachers equally.

In addition, it is possible that students and teachers were worried about confidentiality. However, the researcher provided all the documentation that the data would be de-identified and that no one would identify participants based on their survey responses. One of the student's parents reached out to the researcher and asked to view the survey questions before permitting their student to participate in the study.-Some of

the EOC teachers approached the researcher and questioned how they would match their survey answers with their students' answers. Some of these same teachers also had concerns regarding the researcher being their evaluating principal at school and were worried that the evaluator would view the responses with their names attached.

In a study on the likely effects of Covid-19 on academic achievement, according to Kuhfeld et al. (2020):

> Virtually all K–12 students in the United States had face-to-face instruction interrupted during the 2019–2020 school year due to the SARS-CoV-2 (COVID-19 [coronavirus disease 2019]) pandemic. The majority of school districts provided some remote instruction during the last months of the school year (Lake & Dusseault, 2020a). But it remains unclear how effective remote learning was, given that most K–12 students and teachers had little experience with online instruction and that large gaps in technology access exist in many parts of the country. Additionally, during the extended school closure, many working parents were struggling to educate and care for their children (Harris, 2020). (p. 549)

Additionally, it is also possible that the Covid-19 pandemic was another limitation because the Warren County School District closed schools in March of 2020. As a result, students could not return to in-person school until August 2021. As a result, students remained at home, attempting to learn remotely while teachers were trying to teach remotely. Missouri also declared that EOC scores would not count, affecting how much effort students put in to take the test. Finally, the last limitation the researcher found was that some students provided detailed responses and spent time on the survey. In contrast,

other students appeared to have rushed through the survey by submitting one-word responses and not answering the survey questions entirely.

**Recommendations**

One component that the researcher would change regarding the methodology is for the qualitative data to come only from open-ended questions. It was challenging for the researcher to interpret qualitative results from Likert-scale questions. The researcher could also enhance this study by ensuring that a larger student body participates, including students who were not in honors or high-level classes. The researcher found that students and teachers both sought to increase communication with each other and build relationships. Additionally, teachers assumed that students had learning strategies and tools to complete their work. Still, many students said they wanted to learn more strategies, such as "study skills," "time management," and "memorization." Much of the literature described the importance of having a relationship as a foundation before any learning could occur. Schlichte et al. (2006) stated that teachers with student-teacher connections had students who showed higher levels of achievement. Lavy and Bocker (2018) also argued that teachers with better student-teacher relationships had higher job satisfaction ratings. To move forward, the researcher would recommend that leaders in the district provide teachers with professional development on the importance of relationship-building first and then learning styles. Not only will relationships help job satisfaction, but they can also increase student achievement.

At Study High school, there is no current blackboard configuration or anything that teachers are required to write on the board. Most teachers do not even write student-centered learning objectives on the board. Having worked in five different districts, this is

the first district that does not have a significant focus on this. Blackboard configuration refers to the board's setup, whether a blackboard, whiteboard, or some smart board. Teachers typically include a student-centered learning objective, agenda, homework, and key vocabulary words on the board. Teachers create the student-centered learning objectives from the Missouri state standards. An example of this for an Algebra I class would be, "I can solve a one-step equation" or "I will be able to solve a one-step equation." In the researcher's experience, the best practice is that students know the objective, can tell anyone walking in the room and the teacher constantly refers to the objective throughout the lesson. The "I can" or "I will" statement is so that the learning becomes more relevant to the student.

**Discussion**

To enhance this study, the researcher would want to ensure that a larger student body participates. She anticipated that about two hundred students would participate in the survey since over five hundred were taking EOC exams. When the researcher introduced the study to teachers, the researcher gave them the option of informing their classes of this opportunity or coming back and talking to each of their classes briefly. Many teachers took the chance to tell their classes on their own about the survey so that the researcher would not have to come back and interrupt their other classes. Unfortunately, she wished she had not offered teachers this option, because there was no way to know how many teachers spoke to all their classes. The researcher would have gained better participation if I had gone to every EOC class myself.

In the survey data, the researcher noticed that most students who took the survey were in upper-level honors classes. Students in the upper-level courses often have the

same teachers, and she believed many of the same students may have taken the same survey for different teachers. When the researcher created the study, the intention was to target students in general education classes that were average to low-performing students. The researcher wanted to examine the power of relationships between students and teachers who did not always excel at school. Students in upper-level classes tend to have better relationships with their teachers because they want to do well in school and want their teachers to like them.

**Final Reflection**

I chose this topic because it is a topic that is heavy on my heart. I taught in urban areas for all nine years of my teaching career and never knew the power of relationships with students until I became a teacher. I went through a partial teacher preparation program in Long Island, New York, at Adelphi University before moving to Missouri and continued participating in a teacher preparation program at Lindenwood University. While I did have classes on classroom management skills and learning styles, I never knew how meaningful relationships were. Even though I had learned about differentiating instruction, I was still naive enough to believe that every student would be like me and that every family would value education as I did. Although none of the hypotheses I tested were significant, the open-ended responses to the research questions provided a plethora of insight.

The biggest takeaway from my research was that students and teachers need to communicate and understand each other before anything else falls into place in a classroom. This research showed that there are students in high-level classes who seek better relationships and want to matter and be important to their teachers. Although it

seems easier for teachers who do not have great relationship-building to have good classroom management, expectations, and a high level of achievement with the upper-level classes, these students still feel the impact of the lack of relationships. Additionally, these students realize there is an absence of mutual respect between teachers and students, even in the higher-level classes.

As I discovered in a great deal of literature in the literature review, the teacher and classroom environment are vital to a student's success. Students need to get to know their teachers, and likewise, teachers need to get to know their students. Students need to feel like they belong and that their teacher will help them no how silly their question is or no matter how long it takes for them to explain something to them. Students want to learn strategies to help them improve at school, but many teachers expect that students already know these. There need to be open lines of communication between students and teachers so teachers can meet students' needs! School is supposed to be a safe place for students, and the adults in the building are the ones in charge of creating and maintaining this environment. Teachers need to be role models for students and model what they expect in their classrooms. As a staff member, I like to feel valued and belong in my job.

Similarly, students want and need to feel the same! It still is so surprising that there is a plethora of information on the importance of relationships, but many teachers still do not understand this. They avoid or do not know how to build relationships and struggle with every aspect of their classroom. They work with classroom management, managing classroom expectations, and achievement. This quote stuck with me from the research, and I will end on this as it gave me the chills. Teachers must understand the

power and impact on students, as "teachers are gatekeepers to belongingness" (Booker, 2021, p. 81).

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# Appendices

## Appendix A

## Survey Instrument for Students

**Section A – BACKGROUND INFORMATION**

What is your Name? (This will be de-identified prior to analysis.)

What is your gender? (check appropriate category)

□ Male □ Female

What EOC classes will you be taking an EOC for in May 2021?_____

Pick one class, if you have more than one EOC class that you will focus on to complete this survey. What is that class?_____

**Section B – SHORT ANSWER – School Learning Strategies and Classroom Teacher-Student Relationships**

a. What changes could this teacher make to get along better with students?
b. What are two specific things that this teacher does that helps his/her relationship with students?
c. What is one thing that your teacher does that makes you feel like s/he understand you?
d. If you were the teacher of this class, what is one thing you would do to improve your relationships with your students?
e. If this teacher could teach you a strategy to help you improve on anything in school, what would this person teach you a strategy for?
f. Which of the strategies that you use seems to be the most effective for helping you succeed in school?

**C - BOX-CHOICE ANSWER**
**Which of the following personality type traits do you believe you have? (Check all that apply.)**

□ Passionate
□ Short-Tempered
□ Easy-Going

□ Impulsive
□ Dependable
□ Critical of Others
□ Supportive
□ Less Assertive

**Section D – LIKERT SCALE**

<table>
<tr><td colspan="5">1. Are there EOC teachers at your school whom students can go to for help if they need it right now?</td></tr>
<tr><td colspan="2">Yes</td><td colspan="3">No</td></tr>
<tr><td colspan="5">2. How connected do you believe students feel to their EOC teachers at your school right now?</td></tr>
<tr><td>Not at all connected</td><td>Slightly connected</td><td>Somewhat connected</td><td>Quite connected</td><td>Extremely connected</td></tr>
<tr><td colspan="5">3. How connected do you feel to this EOC teacher at your school right now?</td></tr>
<tr><td>Not at all connected</td><td>Slightly connected</td><td>Somewhat connected</td><td>Quite connected</td><td>Extremely connected</td></tr>
<tr><td colspan="5">4. How often do students hear from their EOC teachers individually?</td></tr>
<tr><td>Almost never</td><td>Once every few weeks</td><td>About once a week</td><td>Several times a week</td><td>Almost everyday</td></tr>
<tr><td colspan="5">5. How often do you hear from your EOC students individually?</td></tr>
<tr><td>Almost never</td><td>Once every few weeks</td><td>About once a week</td><td>Several times a week</td><td>Almost everyday</td></tr>
<tr><td colspan="5">6. How respectful is your EOC teacher toward you?</td></tr>
<tr><td>Not at all respectful</td><td>Slightly respectful</td><td>Somewhat respectful</td><td>Quite respectful</td><td>Extremely respectful</td></tr>
<tr><td colspan="5">7. If you walked into class upset, how concerned would your EOC teacher be?</td></tr>
<tr><td>Not at all concerned</td><td>Slightly concerned</td><td>Somewhat concerned</td><td>Quite concerned</td><td>Extremely concerned</td></tr>
<tr><td colspan="5">8. If you came back 3 years from now, how excited would you be to see your EOC teacher?</td></tr>
</table>

| | | | | |
|---|---|---|---|---|
| Not at all excited | Slightly excited | Somewhat excited | Quite excited | Extremely excited |
| 9. When your EOC teacher ask you how you are doing, how often are they really interested in your answer? | | | | |
| Almost Never | Once in a while | Sometimes | Frequently | Almost Always |
| 10. How excited would you be able to have your EOC teacher this year again? | | | | |
| Almost Never | Once in a while | Sometimes | Frequently | Almost Always |

| | | | | |
|---|---|---|---|---|
| 11. When you get stuck while learning something new in your EOC class, how likely is your EOC teacher to try a different teaching strategy? | | | | |
| Not at all likely | Slightly likely | Somewhat likely | Quite likely | Extremely likely |
| 12. How confident are you that your EOC teacher can choose an effective strategy to help students get their work for this class done well? | | | | |
| Not at all confident | Slightly confident | Somewhat confident | Quite confident | Extremely confident |
| 13. Before your e start on a challenging project in your class, how often does your EOC teacher discuss the best way to approach the project? | | | | |
| Almost Never | Once in a while | Sometimes | Frequently | Almost Always |
| 14. Overall, how well do your EOC teacher use teaching strategies help you learn effectively? | | | | |
| Not well at all | Slightly well | Somewhat well | Quite well | Extremely well |
| 15. In your class, how often does your EOC teacher use strategies to teach their subject more effectively? | | | | |
| Almost never | Once every few weeks | About once a week | Several times a week | Almost everyday |
| 16. How well does your EOC teacher understand you as a person? | | | | |
| Do not understand at all | Understand a little | Understand somewhat | Understand quite a bit | Completely understand |
| 17. How connected do you feel to the teacher in this class? | | | | |
| Not well at connected | Slightly connected | Somewhat connected | Quite connected | Extremely connected |
| 18. How much respect do the students in this class show you? | | | | |

| | | | | |
|---|---|---|---|---|
| No respect at all | A little bit of respect | Some respect | Quite a bit respect | A tremendous amount of respect |
| 19. How much do you matter to others in this class? | | | | |
| Do not matter at all | Matter a little bit | Matter somewhat | Matter quite a bit | Matter a tremendous amount |
| 20. Overall, how much do you think you belong in this class? | | | | |
| Do not belong at all | Belong a bit | Belong somewhat | Belong quite a bit | Completely Belong |

**Section E – PERSONALITY TRAIT ATTRIBUTES AND EOC SCORES**

Below are four personality types and some adjectives describing their potential strengths and weaknesses:

Type A: Ambitious, competitive, passionate, independent, stubborn, impatient, workaholic, short-tempered

Type B: Accepting, easy-going, relaxed, persuasive, impulsive, procrastinator, easily bored, short attention span

Type C: Dependable, logical, detailed, creative, skeptical, disengaged, lack of personal expectations, critical of others

Type D: Compassionate, sensitive, supportive, consistent, resistant to change, avoids confrontation, shy, less assertive

1. Everything else being equal, which of these personality types do you think is MOST advantageous for a teacher in helping his or her students to perform well academically?

Type A Type B Type C Type D

2. 1. Everything else being equal, which of these personality types do you think is LEAST advantageous for a teacher in helping his or her students to perform well academically?

Type A Type B Type C Type D

3. For each class you are in that has an EOC exam, please indicate which of these personality types best describes the teacher (only answer for classes you are currently in):

| Class | Personality Type | | | |
|---|---|---|---|---|
| Algebra I | Type A | Type B | Type C | Type D |

| | | | | |
|---|---|---|---|---|
| Algebra II | Type A | Type B | Type C | Type D |
| Biology | Type A | Type B | Type C | Type D |
| ELA II | Type A | Type B | Type C | Type D |
| Government | Type A | Type B | Type C | Type D |

4. Which personality type do you feel best describes you?

Type A Type B Type C Type D

THANK YOU FOR PARTICIPATING IN THIS SURVEY

## Appendix B

## Survey Instrument for Teachers

### Section A – BACKGROUND INFORMATION

What is your name? (This will be de-identified prior to analysis.)

What is your gender? (check appropriate category)

□ Male □ Female

What content area do you teach? _____

How many classes do you currently teach that will take an End of Course (EOC) exam in the Spring of 2021 & what EOC exam will they be taking? _____ & _____

If you teach more than one EOC class, which class are you focusing on when answering this survey? _____

### Section B – SHORT ANSWER – Classroom Teacher-Student Relationship and School Learning Strategies

a. What changes could teachers make to get along better with their students?
b. What are two specific things that you do that helps your relationship with students?
c. What is one thing that you do that makes you feel like your students understand you?
d. What is one thing you could do to improve your relationships with your students?
e. If you could teach students one strategy to help them improve across the board in school, what strategy would you teach and why?
f. Which of the strategies that you use seems to be the most effective for helping your students succeed in school?

### C - BOX-CHOICE ANSWER

**Which of the following personality type traits do you believe you have? (Check all that apply.)**

□ Passionate
□ Short-Tempered
□ Easy-Going
□ Impulsive
□ Dependable

□ Critical of Others
□ Supportive
□ Less Assertive

**Section D – LIKERT SCALE – General Student Teacher Relationship – all teachers**

| | | | | |
|---|---|---|---|---|
| 1. Are there EOC teachers at your school whom students can go to for help if they need it right now? | | | | |
| Yes | | No | | |
| 2. How connected do you believe students feel to their EOC teachers at your school right now? | | | | |
| Not at all connected | Slightly connected | Somewhat connected | Quite connected | Extremely connected |
| 3. How connected do you feel to your EOC students at your school right now? | | | | |
| Not at all connected | Slightly connected | Somewhat connected | Quite connected | Extremely connected |
| 4. How often do students hear from their EOC teachers individually? | | | | |
| Almost never | Once every few weeks | About once a week | Several times a week | Almost everyday |
| 5. How often do your EOC students hear from you individually? | | | | |
| Almost never | Once every few weeks | About once a week | Several times a week | Almost everyday |
| 6. How respectful are you toward your EOC students? | | | | |
| Not at all respectful | Slightly respectful | Somewhat respectful | Quite respectful | Extremely respectful |
| 7. If a student walked into class upset, how concerned would you be? | | | | |
| Not at all concerned | Slightly concerned | Somewhat concerned | Quite concerned | Extremely concerned |
| 8. If you came back 3 years from now, how excited would you be to see this year's EOC class again? | | | | |
| Not at all excited | Slightly excited | Somewhat excited | Quite excited | Extremely excited |
| 9. When you ask how your students how they are doing, how often are you really interested in their answer? | | | | |
| Almost Never | Once in a while | Sometimes | Frequently | Almost Always |
| 10. How excited would you be able to have your EOC students this year again? | | | | |
| Almost Never | Once in a while | Sometimes | Frequently | Almost Always |

| | | | | |
|---|---|---|---|---|
| 11. When you get stuck while learning something new in your EOC class, how likely are your to try a different teaching strategy? | | | | |
| Not at all likely | Slightly likely | Somewhat likely | Quite likely | Extremely likely |

| | | | | |
|---|---|---|---|---|
| 12. How confident are you that you can choose an effective strategy to help students get their work for this class done well? | | | | |
| Not at all confident | Slightly confident | Somewhat confident | Quite confident | Extremely confident |
| 13. Before your students start on a challenging project in your class, how often do you discuss the best way to approach the project? | | | | |
| Almost Never | Once in a while | Sometimes | Frequently | Almost Always |
| 14. Overall, how well do EOC teachers at your school use teaching strategies help students learn effectively? | | | | |
| Not well at all | Slightly well | Somewhat well | Quite well | Extremely well |
| 15. In your class, how often do you EOC use strategies to teach your subject more effectively? | | | | |
| Almost never | Once every few weeks | About once a week | Several times a week | Almost everyday |
| 16. How well do your EOC students understand you as a person? | | | | |
| Do not understand at all | Understand a little | Understand somewhat | Understand quite a bit | Completely understand |
| 17. How connected do you feel to the EOC students in this EOC class? | | | | |
| Not well at connected | Slightly connected | Somewhat connected | Quite connected | Extremely connected |
| 18. How much respect do the students in this class show you? | | | | |
| No respect at all | A little bit of respect | Some respect | Quite a bit respect | A tremendous amount of respect |
| 19. How much do think your students matter to others in this class? | | | | |
| Do not matter at all | Matter a little bit | Matter somewhat | Matter quite a bit | Matter a tremendous amount |
| 20. Overall, how much do you think your students feel they belong in this class? | | | | |
| Do not belong at all | Belong a bit | Belong somewhat | Belong quite a bit | Completely Belong |

## Section E – PERSONALITY TRAIT ATTRIBUTES AND EOC SCORES

Below are four personality types and some adjectives describing their potential strengths and weaknesses:

Type A: Ambitious, competitive, passionate, independent, stubborn, impatient, workaholic, short-tempered

Type B: Accepting, easy-going, relaxed, persuasive, impulsive, procrastinator, easily bored, short attention span

Type C: Dependable, logical, detailed, creative, skeptical, disengaged, lack of personal expectations, critical of others

Type D: Compassionate, sensitive, supportive, consistent, resistant to change, avoids confrontation, shy, less assertive

1. Everything else being equal, which of these personality types do you think is MOST advantageous for a student in order to perform well academically?

Type A Type B Type C Type D

2. Everything else being equal, which of these personality types do you think is LEAST advantageous for a student in order to perform well academically?

Type A Type B Type C Type D

3. Which personality type do you feel best describes you?

Type A Type B Type C Type D

THANK YOU FOR PARTICIPATING IN THIS SURVEY!

## Appendix C

## Recruitment Email to Staff

Email Invitation to Participate in Research

Title of Survey: A Mixed Method Study of the Perceptions of Relationships Between Teachers and Students and Its Effect on Academic Achievement in A Midwest Rural High School

Date: _____

Dear_____

You are invited to participate in a study conducted by myself, Rachel Quintana, which will aid me in completing my EdD doctorate degree at Lindenwood University. My faculty advisor is Dr. Jackie Ramey, who is an Education Leadership Professor at Lindenwood University and will oversee my work.

The purpose of this study is to examine teachers' and student' perceptions regarding student and teacher relationships in the classroom and the effects on academic achievement on standardized EOC exams. You are eligible to participate in this study if you are a teacher of Algebra I, Algebra II (and have students taking the EOC), Language Arts 2, Biology, or Government students. I will ask participants to complete a survey, which should take approximately 20 minutes.

This survey contains questions about teachers' perceptions of their relationships with students. Your responses will be ***confidential*** and any ***identifying information*** will be removed and appropriately ***de-identified*** prior to analyzing responses.

Your survey will be provided via a link to Qualtrics which is the required medium used for research studies at Lindenwood University and imbedded on the attached form.

Your participation in this study is completely voluntary. If you choose to participate you may choose to discontinue participation at any time. Your completion of the survey by ***clicking the link below***. Feel free to contact me at 516-589-2088 or my faculty advisor, Dr. Jackie Ramey (636) 236-2126, if you have questions.

NOTE: The survey will open on April 12th and will close on April 26th. Please note the dates provided to ensure you have time to participate! Thank you for helping me with my study!

Sincerely,

Rachel Quintana

## Appendix D

## Survey Information Sheet

LINDENWOOD

### Survey Research Consent Form

A Study of the Perceptions of Relationships Between Teachers and Students and Its Effect on Standardized Test Scores

You are asked to participate in a survey being conducted by Rachel Quintana under the guidance of Dr. Jackie Ramey at Lindenwood University. There are two different purposes for this mixed methods study. The first purpose is to inform educators about the power of relationships in the classroom and the impact that these relationships can have on student achievement; specifically, standardized End-Of-Course (EOC) exam scores. The second purpose is to inform and to help educate teachers on personality traits and learning styles; in terms of which personality trait perceptions correlate with EOC scores. This proposed project is an attempt to instill the power of relationships in teacher professional development programs, while helping educate teachers where their personality traits fall in relation to student achievement and provide them with opportunities to further their professional education and development.
It will take about 20 minutes to complete this survey.

Answering this survey is voluntary. We will be asking about 10 other people to answer these questions.

**What are the risks of this study?**

Some questions in the survey may make you uncomfortable. You do not need to answer any questions that make you uncomfortable or you can stop taking the survey at any time.

We will be collecting data that could identify you, but each survey response will receive a code so that we will not know who answered each survey. The code connecting you and your data will be destroyed as soon as possible. We do not intend to include any information that could identify you in any publication or presentation.

**Will anyone know my identity?**

We will do everything we can to protect your privacy. We do not intend to include information that could identify you in any publication or presentation. Any information we collect will be stored by the researcher in a secure location. The only people who will be

able to see your data are: members of the research team, qualified staff of Lindenwood University, representatives of state or federal agencies.

**What are the benefits of this study?**

Some potential risks could be that not all potential participants choose to participate, and it could affect the amount of data that I obtain. Teachers and students may not be honest about their view of each other through the survey tool and may not be completely honest when taking the surveys.

If you have any questions about your rights as a participant in this research or concerns about the study, or if you feel under any pressure to enroll or to continue to participate in this study, you may contact the Lindenwood University Institutional Review Board Director, Michael Leary, at (636) 949-4730 or mleary@lindenwood.edu. You can contact the researcher, Rachel Quintana directly at 516-589-2088 or rmr344@lindenwood.edu You may also contact Dr. Jackie Ramey jramey@lindenwood.edu.

By clicking the link below, I confirm that I have read this form and decided that I will participate in the project described above. I understand the purpose of the study, what I will be required to do, and the risks involved. I understand that I can discontinue participation at any time by closing the survey browser. My consent also indicates that I am at least 18 years of age.

You can withdraw from this study at any time by simply closing the browser window. Please feel free to print a copy of this consent form.

## Appendix E

## Email to Parent

Email Invitation to Participate in Research

Title of Survey: A Mixed Method Study of the Perceptions of Relationships Between Teachers and Students and Its Effect on Academic Achievement in A Midwest Rural High School

Date: _____

Dear_____

You child has been invited to participate in a study conducted by myself, Rachel Quintana, which will aid me in completing my EdD doctorate degree at Lindenwood University. My faculty advisor is Dr. Jackie Ramey, who is an Education Leadership Professor at Lindenwood University and will oversee my work.

The purpose of this study is to examine teachers' and student' perceptions regarding student and teacher relationships in the classroom and the effects on academic achievement on standardized EOC exams. Students are eligible to participate in this study if they are in Algebra I, Algebra II, Language Arts 2, Biology, or Government and are scheduled to take an End-Of-Course Exam in May. I will ask participants to complete a survey, which should take approximately 20 minutes.

This survey contains questions about students' perceptions of their relationships with teachers. Your responses will be ***confidential*** and any ***identifying information*** will be removed and appropriately ***de-identified*** prior to analyzing responses.

Their survey will be provided via a link to Qualtrics which is the required medium used for research studies at Lindenwood University and will be imbedded on a future email once the attached consent forms have been signed and returned.

Your child's participation in this study is completely voluntary. If they choose to participate, they may choose to discontinue participation at any time. Your completion of the attachments indicates your consent for your child to participate in this study. Feel free to contact me at 516-589-2088 or my faculty advisor, Dr. Jackie Ramey (636) 236-2126, if you have questions.

NOTE: The survey will open on April 12th and will close on April 26th. Please note the dates provided to ensure your child has time to participate! Thank you for allow your child in helping me with my study!

Sincerely,

Rachel Quintana

## Appendix F

## Adult Consent on Behalf of Minor

### Research Study Consent Form

A Study of the Perceptions of Relationships Between Teachers and Students and It's Effect on Standardized Test Scores

You are asked to participate in a research study being conducted by Rachel Quintana] under the guidance of Dr. Jackie Ramey at Lindenwood University. Being in a research study is voluntary, and you are free to stop at any time. Before you choose to participate, you are free to discuss this research study with family, friends, or a physician. Do not feel like you must join this study until all of your questions or concerns are answered. If you decide to participate, you will be asked to sign this form.

**Why is this research being conducted?**
We are doing this study to investigate teacher and student perceptions of their relationships and its effect on End-Of-Course Exam scores. We will be asking about 200 other people to answer these questions.

**What am I being asked to do?**
Participants are being asked to take an online survey with a variety of questions about student and teacher relationships within the classroom.

**How long will I be in this study?**

Total study participation will last between 20 and 30 minutes.

**What are the risks of this study?**

We will be collecting data that could identify you, but each survey response will receive a code so that we will not know who answered each survey. The code connecting you and your data will be destroyed as soon as possible.

We are collecting data that could identify you, such as your student ID number and End-Of-Course teacher name. Every effort will be made to keep your information secure. Only members of the research team will be able to see any data that may identify you.

We will be collecting data from you using the internet. We take every reasonable effort to maintain security. It is always possible that information during this research study may be captured and used by others not associated with this study.

**What are the benefits of this study?**

You will receive no direct benefits for completing this survey. We hope what we learn may benefit other people in the future.

**What if I do not choose to participate in this research?**

It is always your choice to participate in this study. You may withdraw at any time. You may choose not to answer any questions or perform tasks that make you uncomfortable. If you decide to withdraw, you will not receive any penalty or loss of benefits. If you would like to withdraw from a study, please use the contact information found at the end of this form.

**What if new information becomes available about the study?**

During the course of this study, we may find information that could be important to you and your decision to participate in this research. We will notify you as soon as possible if such information becomes available.

**How will you keep my information private?**

We will do everything we can to protect your privacy. We do not intend to include information that could identify you in any publication or presentation. Any information we collect will be stored by the researcher in a secure location. The only people who will be able to see your data are: members of the research team, qualified staff of Lindenwood University, representatives of state or federal agencies.

**How can I withdraw from this study?**

Notify the research team immediately if you would like to withdraw from this research study.

**Who can I contact with questions or concerns?**

If you have any questions about your rights as a participant in this research or concerns about the study, or if you feel under any pressure to enroll or to continue to participate in this study, you may contact the Lindenwood University Institutional Review Board Director, Michael Leary, at (636) 949-4730 or mleary@lindenwood.edu. You can contact the researcher, Rachel Quintana directly at 516-589-2088 or rmr344@lindenwood.edu. You may also contact Dr. Jackie Ramey jramey@lindewnood.edu.

I have read this consent form and have been given the opportunity to ask questions. I will also be given a copy of this consent form for my records. I consent to my participation in the research described above.

You will receive no direct benefits for completing this survey. We hope what we learn may benefit other people in the future.

**What if I do not choose to participate in this research?**

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I have read this consent form and have been given the opportunity to ask questions. I will also be given a copy of this consent form for my records. I consent to my participation in the research described above.

| | |
|---|---|
| _____<br>**Parent or Legally Authorized Representative's Signature** | _____<br>**Date** |
| _____<br>**Parent or Legally Authorized Representative's Printed Name** | |

| | |
|---|---|
| _____<br>**Signature of Principle Investigator or Designee** | _____<br>**Date** |
| _____<br>**Investigator or Designee Printed Name** | |

## Appendix G

## Child Assent

LINDENWOOD

### Research Study Assent Form

**What is research?**

We are going to do a research study. A research study is when a researcher or doctor collects information to learn more about something. During this research study, we are going to learn more about perceptions of relationships between teachers and students and its effect on standardized End-Of-Course Exam scores. After we tell you more about this study, we would like to ask you about being part of it.

We also will be asking about 200 other people to be part of this study.

**What will you ask me to do?**

If you choose to be part of this study, you will take an on online survey that has you answer a variety of questions about student and teacher relationships within the classroom.

This study is going to last between 20-30 minutes, and then it will be over.

**Will I be harmed during this study?**

No, you will not be harmed during this study. All information will be kept confidential, and names will be removed from all survey results. You will only be identified by a number you are coded with and the results with not be shared with anyone.

**Will I benefit from being in this study?**

A potential direct benefit for participants is that teachers and students have a better understanding of each other and both students and teachers understand the importance of relationships with each other within the classroom.

**Do I have to be in this research?**

No, you do not. If you do not want to be in this research study, just tell us. You can also tell us later if you do not want to be part of it anymore. No one will be mad at you and you can talk to us at any time if you are nervous.

**What if I have questions?**

You can ask us questions right now about the research study. You can ask questions later if you want to. You can also talk to someone else about the study if you want to. And you can change your mind at any time. Being in this research study is up to you.

If you want to be in this research study, just tell us. Or, you can sign your name in the blank below. We will give you a copy of this form to keep.

LINDENWOOD

## Research Study Assent Form

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If you want to be in this research study, just tell us. Or, you can sign your name in the blank below. We will give you a copy of this form to keep.

| | |
|---|---|
| **Minor Participant's Signature** | **Date** |
| **Minor Participant's Printed Name** | |
| **Signature of Principle Investigator or Designee** | **Date** |
| **Investigator or Designee Printed Name** | |

# Appendix H

## Permission for Study

Good Afternoon Dr. Klinginsmith,

I am currently in the process of writing my Prospectus for my Doctoral Program and I will be applying for IRB approval within the next few weeks to complete a study within our school district. I am proposing to complete a mixed-method study on the perceptions of relationships between teachers and students and its effect on academic achievement in our midwest rural high school. There are two different purposes for this mixed-methods study. The first purpose is to inform educators about the power of relationships in the classroom and the impact that these relationships can have on student achievement; specifically, standardized End-Of-Course (EOC) exam scores. The second purpose is to inform and to help educate teachers on personality traits and learning styles; in terms of which personality trait perceptions correlate with EOC scores. This proposed project is an attempt to instill the power of relationships in teacher professional development programs, while helping educate teachers where their personality traits fall in relation to student achievement and provide them with opportunities to further their professional education and development.

I am sending this email to ask for permission to complete the study and to have access to student and staff emails to recruit potential participants. The email sent will be sent utilizing Lindenwood's required wording for completing studies, which will include the following forms:

- Survey Consent Form - Identifiable- For teachers
- Minor Assent Form - For students
- Adult Consent on Behalf of Minor Form- for students' parents

Once granted permission I will gain IRB approval through Lindenwood University and then collect email information through my school secretary, Rebecca Toebben. Any personal identifiers will be removed and only student and teacher ID numbers will be used to organize data for analysis. Rebecca Toebben is willing to aid me in de-identifying all data, as she works with this data in her daily work.

The consent forms will contain the actual email link for adult participants which provides the survey link directly to the Lindenwood required Qualtrics platform that provides the survey and collects the data, as it is confidential and secure. Parent and student consent and assent forms will be sent via emails, as well, however, for student participants, I will collect signatures first and then provide an additional email that will provide the link through Qualtrics for participation in the survey.

In order to cross-reference student and teacher perceptions, I am also asking for access to EOC scores when we receive them in the Spring after our testing window closes. I will also have Rebecca Toebben aid me in de-identifying names from EOC score data. All de-identification documents and signed Adult Consent on Behalf of Minor and Minor Assent forms will be kept locked in a secure cabinet in a designated secure room at the research site to protect the anonymity of the participants in the study.

Thank you for allowing me the time to ask for participation in this study and to have access to emails and Spring EOC scores.

Sincerely,

Mrs. Rachel Quintana

**From:** "Klinginsmith, Gregg" <klinginsmithgt@warrencor3.k12.mo.us>
**Date:** March 9, 2021 at 5:10:29 PM CST
**To:** "Quintana, Rachel" <quintanar@warrencor3.k12.mo.us>
**Subject: Re: Permission to Complete My Study**

You are approved. Good luck with your study!

Thanks,

Gregg

Gregg Klinginsmith, Ed.D.
Superintendent of Schools
Warren County R-III School District
(636) 456-6901

## Appendix I

## Survey Validity Brief


PANORAMA EDUCATION

# Validity Brief: Panorama Student Survey

This brief outlines the process used to develop the *Panorama Student Survey* and presents research on the reliability and validity of the scales on the survey. We describe evidence from two large-scale administrations of the survey, as well as smaller, targeted studies.

## Background

In August 2014, Panorama Education released the *Panorama Student Survey*. From the beginning, Panorama Education has offered the *Panorama Student Survey* as a free and open-source survey instrument through the company website (https://www.panoramaed.com/panorama-student-survey). Panorama Education works with schools, districts, and charter networks to administer the *Panorama Student Survey* to their respective student bodies and provides customized analytics through interactive reports.

This Validity Brief outlines the process used to develop the survey and the results of two large-scale administrations of the survey, as well as specific smaller studies conducted on particular survey scales. These studies indicate that the *Panorama Student Survey* scales have high levels of reliability and demonstrate strong evidence of validity.

The brief is structured to provide guidance about what criteria are important in evaluating survey quality (see the references for more extensive reading on key topics). This report also details key characteristics of the *Panorama Student Survey*, its development process, and results from two administrations so that readers can evaluate these characteristics objectively. As we conduct further studies, Panorama Education will update and add to this Validity Brief. Feel free to contact the Panorama Education Research Team (research@panoramaed.com) to see if there is a more up-to-date version.

Gaining insights into classroom settings and facilitating improvements in teaching practices are challenging in our current educational context. On one hand, schools are relying on student perception surveys to make increasingly important decisions (including those about teacher evaluation). On the other, the quality of measures to assess classrooms and teaching varies widely. In response, Panorama developed the *Panorama Student Survey* as the first major survey instrument with the following essential properties:

- Educator-focused design, including survey scales that equip teachers with feedback they can use to improve practice and enable educators to monitor student attitudes, beliefs, and values that are predictive of important outcomes;
- Theoretically-grounded, empirically-based design process that meets or exceeds standards of academic scholarship;
- Adherence to best practices in survey design;
- Allowing schools to customize the survey to their specific needs and teaching frameworks while retaining validity and reliability; and
- Providing the survey instrument to any educator interested in improving pedagogical practice and student outcomes for free.

The *Panorama Student Survey* was developed by a team of researchers at the Harvard Graduate School of Education under the direction of Dr. Hunter Gehlbach.

## Core Attributes of the Panorama Student Survey

We selected the content for the *Panorama Student Survey* to address the multifaceted needs of teachers, schools, and districts. Specifically, teachers need feedback on their areas of strength, so that they might be further leveraged in the classroom. Equally important, teachers need to identify areas that they can target for improvement, so that they can take ownership over their professional development needs. Schools need information to understand which sub-groups of students face multiple risk factors and generate ideas for how to intervene. Districts increasingly seek data to facilitate comparisons between schools within the district and to make resource allocation decisions. The *Panorama Student Survey* was developed deliberately with these uses in mind.

The current version of the *Panorama Student Survey* consists of 10 scales that educational organizations can use to meet their needs for getting feedback on students, teachers, and schools. Organizations may choose any or all 10 scales depending on their needs. For example, a district that faces challenges with absences and truancy might prioritize the *School Belonging* and *Teacher-Student Relationships* scales. Meanwhile, a district that is eager to improve teaching practices might focus on *Rigorous Expectations* and *Pedagogical Effectiveness*. Many users prefer to administer the entire survey because of the important information derived from each scale.

The current scales include students' perceptions of:

- **Classroom Climate** – the overall feel of a class including aspects of the physical, social and psychological environment;
- **Engagement** – their behavioral, cognitive, and affective investment in the subject and classroom;
- **Grit** – their ability to persevere through setbacks to achieve important long-term goals;
- **Learning Strategies** – the extent to which they use metacognition and employ strategic tools to be active participants in their own learning process;
- **Mindset** – the extent to which they believe that they have the potential to change those factors that are central to their performance in a specific class;
- **Pedagogical Effectiveness** – the quality and quantity of their learning from a particular teacher about that teacher's subject area;
- **Rigorous Expectations** – whether they are being challenged by their teachers with high expectations for effort, understanding, persistence, and performance in the class;
- **School Belonging** – the extent to which they feel that they are valued members of their school community;
- **Teacher-Student Relationship** – the overall social and academic relationship between students and their teachers; and
- **Valuing of the Subject** – how interesting, important, and useful a particular school subject seems.

## Survey Development Process: Six Key Steps

The *Panorama Student Survey* was developed through the six-step design process developed by Gehlbach and Brinkworth (2011) (see also Artino, La Rochelle, DeZee, & Gehlbach, 2014). To the best of our knowledge, this process is unsurpassed in terms of its rigor and capacity to minimize survey error. The strengths of this process come from two approaches. First, this process builds evidence of validity – specifically, content validity and substantive validity (Messick, 1995) – into each survey scale from the outset of the design process. The six key steps in the process include literature review, interviews and focus groups, synthesis of indicators, item (question) creation, expert review, and cognitive pre-testing and interviewing. Upon completion of these six steps and a round of revisions to the items, the scales were subjected to large-scale pilot tests.

The second important part of the development process emerges directly from the aforementioned item creation step. The design of each item adheres to the science of best survey design practices (Artino & Gehlbach, 2012; Artino, Gehlbach, & Durning, 2011; Dillman, Smyth, & Christian, 2014; Fowler, 2009; Krosnick & Presser, 2010). Numerous surveys used by educators unfortunately fail to adhere to these well-established survey design practices. For example, designing survey items as statements, particularly ones that require respondents to agree or disagree, are likely to inject additional measurement error into responses. Asking questions with response options that are linked to the underlying concept is the preferred practice (Dillman et al., 2014; Krosnick, 1999b; Saris, Revilla, Krosnick, & Shaeffer, 2010). Failing to label all response options, using numeric rather than verbal labels, and using too few response options, are other commonly violated best practices (Artino et al., 2014; Dillman et al., 2014; Krosnick, 1999a; Weng, 2004). As a survey scale violates increasing numbers of these best practices, the amount of measurement error grows. The items on the *Panorama Student Survey* adhere to these best practices, which was confirmed during the expert review step.

## Statistical Properties and Evidence of Validity

Before describing the psychometric properties, that is, the details of how well these scales measure the psychological attributes they are intended to measure, it is important to be transparent regarding our view of evidence of validity. We view "validation" of a survey scale as an ongoing process (Messick, 1995). In other words, there is no such thing as a "validated" survey despite many survey developers making that claim about their scales or survey. Rather, over the course of multiple studies, more and more data are accumulated that give potential users of a survey increasing amounts of faith that the survey scales measure what they purport to measure, and may be used with confidence for specific purposes, in specific contexts, and for specific populations.

### Pilot Samples

Our main samples are from distinct schools and school districts in the southeastern United States (Sample 1) and from a large diverse high school in the southwestern United States (Sample 2). Overall, the samples include substantial representation across multiple grade levels and racial groups.

The sample also includes significant populations of English language learners as well as native English speakers. See Table 1 below.

**Table 1: Percentages of participants for each sample**

| | *Sample 1* ($N = 4225$) | *Sample 2* ($N = 2994$) |
|---|---|---|
| Female | 49.55 | 51.08 |
| Race/Ethnicity | | |
| American Indian | 4.12 | 2.44 |
| Asian | 4.17 | 13.89 |
| Black | 17.30 | 8.08 |
| Hispanic | 19.12 | 16.73 |
| White | 39.74 | 49.37 |
| Middle Eastern | 1.16 | -- |
| Other | 6.70 | 9.49 |
| Home Language | | |
| English | 77.25 | 82.96 |
| Spanish | 17.26 | 8.17 |
| Other | 5.49 | 8.87 |

Three Main Properties: Reliability, Structural Validity, and Convergent/Discriminant Validity

In the two large-scale pilot administrations, we sought to analyze and measure three main properties of the survey: reliability, structural validity, and convergent/ discriminant validity. Reliability is the property related to whether the item will consistently elicit similar results under similar conditions, so that differences in responses can be attributed to differences in perceptions. Structural validity looks at the extent to which the items of each scale measure one underlying factor or multiple factors. Convergent/ discriminant validity ascertains whether scales designed to measure the same underlying topic correlate highly, while those that measure distinct domains have lower correlations. More technical descriptions of the properties are below.

Reliability

A pre-requisite of validity is that the measure has adequate reliability. Reliability as assessed through coefficient alpha is essentially a measure of "signal-to-noise" (DeVellis, 2003). As shown in the full validity report, the estimates for coefficient alpha for every scale is .70 or greater.

Structural Validity

To address structural validity (Messick, 1995), we show evidence of model fit through results from confirmatory factor analysis results (specifically comparative fit indices and root mean square error of approximation). The choice of confirmatory factor analysis to determine whether a given scale measures a single construct (as opposed to measuring parts of multiple constructs) is important because this technique allows for formal testing of the hypothesis that a single factor is being measured. Thus, it is a more rigorous assessment of whether or not each scale is measuring a single underlying factor (as opposed to measuring more than one factor) than exploratory factor analysis or principal components analysis.

Convergent/Discriminant validity

In the section on validity, we report a number of correlations and statistical tests that provide additional evidence of validity for each scale. In each of the main pilot samples, students were randomly assigned to take one form of the survey or the other. In the first pilot, we randomly assigned students to take Form A or Form B so as to assess how well specific items or different wordings of the same item functioned with the remaining items on the scale. In the second pilot, students were again randomly assigned to one of two survey forms. However, this time within each form students took several scales from the *Panorama Student Survey* and several comparison scales (e.g., Dweck's mindset scale, measures from the MET study, etc.) that addressed identical or similar constructs. Each section reports evidence of convergent and discriminant validity.

Summary:

- Typically, a ratio of .70 or greater is considered adequate reliability for a survey scale (DeVellis, 2003).
- Scales that have undergone confirmatory factor analysis have been subjected to a more rigorous way to analyze factor structure than exploratory factor analysis or principal components analysis (Fabrigar, Wegener, MacCallum, & Strahan, 1999).
- Assessments of convergent and discriminant validity rely on a well-founded a priori predictions about which scales should correlate with a target measure more highly than others.

## Validity Evidence for Pedagogical Effectiveness

In this section, we describe the results from the pilot administration for the Pedagogical Effectiveness items of the *Panorama Student Survey*. Validity evidence is available for each of the 10 scales of the *Panorama Student Survey*. To review the others, please contact the Panorama Research Team (research@panoramaed.com). We present the validity evidence for Pedagogical Effectiveness for two reasons. First, we expect that many or most educators who use the *Panorama Student Survey* will elect to use this scale as it directly focuses on students' perceptions of teaching and learning. Second, the validity evidence for the Pedagogical Effectiveness scale attempts to address the same underlying topic that most teacher observation protocols attempt to assess. Thus, correlating student perceptions and administrator observations provides a particularly valuable test of the validity of this measure.

## Basic Descriptive Statistics

The table on the next page displays basic descriptive statistics for the Pedagogical Effectiveness items of the *Panorama Student Survey* from the pilot administrations. With both Sample 1 and 2 each item shows substantial variability and moderately strong correlations between each of the items. The correlations are in the expected directions given that, with both samples, items 9-13 were worded negatively. (As an important footnote, these items have since been reworded positively to improve measurement properties.)

**Table 2:** Pedagogical effectiveness scale: Item means, standard deviations, and polychoric correlations for Samples 1 & 2.

| | Sample 1 | | Sample 2 | | Polychoric correlations | | | | | | | | | | | | | | | CCSR | Tripod/MET |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Pedagogical Effectiveness Items | *M* | *SD* | *M* | *SD* | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | AP | Dist. | Challenge |
| 1 Overall, how much have you learned from this teacher about <SUBJECT>? | 3.9 | 1.12 | 3.7 | 0.96 | - | .59 | .70 | .61 | .58 | .62 | .62 | .51 | -.10 | -.28 | -.19 | -.27 | -.21 | .74 | .82 | .61 | -.14 | .53 |
| 2 During class, how motivating are the activities that this teacher has you do? | 3.4 | 1.17 | 2.9 | 1.13 | .57 | - | .67 | .59 | .78 | .59 | .57 | .50 | .09 | -.27 | -.17 | -.14 | -.07 | .64 | .66 | .61 | -.09 | .48 |
| 3 How good is this teacher at teaching in the way that you personally learn best? | 3.9 | 1.15 | 3.5 | 1.09 | .65 | .62 | - | .75 | .67 | .66 | .66 | .53 | -.02 | -.38 | -.31 | -.22 | -.19 | .80 | .81 | .67 | -.12 | .54 |
| 4 For this class, how clearly does this teacher present the information that you need to learn? | 3.9 | 1.07 | 3.8 | 1.03 | .65 | .62 | .72 | - | .62 | .68 | .64 | .52 | -.05 | -.45 | -.34 | -.24 | -.28 | .78 | .76 | .61 | -.11 | .55 |
| 5 How interesting does this teacher make what you are learning in class? | 3.5 | 1.23 | 3.1 | 1.2 | .59 | .66 | .69 | .63 | - | .61 | .60 | .50 | .04 | -.29 | -.20 | -.12 | -.07 | .65 | .66 | .62 | -.13 | .49 |
| 6 How often does this teacher give you feedback that helps you learn? | 3.7 | 1.19 | 3.8 | 0.93 | .55 | .53 | .58 | .54 | .50 | - | .66 | .53 | -.11 | -.34 | -.25 | -.25 | -.24 | .69 | .68 | .68 | -.16 | .63 |
| 7 When you need extra help, how good is this teacher at giving you that help? | 4 | 1.13 | 3.9 | 0.97 | .62 | .56 | .73 | .73 | .64 | .60 | - | .60 | -.11 | -.36 | -.28 | -.24 | -.25 | .75 | .71 | .72 | -.15 | .53 |
| 8 How comfortable are you asking this teacher questions about what you are learning in his or her class? | 3.6 | 1.24 | 3.7 | 1.09 | .47 | .45 | .52 | .51 | .44 | .51 | .58 | - | -.02 | -.36 | -.22 | -.18 | -.19 | .58 | .55 | .55 | -.15 | .43 |
| 9 During class, how good is this teacher at making sure students do **not** get out of control? | 2.1 | 1.29 | 1.6 | 0.92 | -.32 | -.17 | -.30 | -.33 | -.18 | -.25 | -.34 | -.11 | - | .26 | .21 | .56 | .37 | -.10 | -.10 | -.11 | .57 | -.24 |
| 10 In a typical class, how clearly do you understand what this teacher expects of you? | 2.6 | 1.28 | 2.4 | 1.06 | -.10 | .05 | -.06 | -.14 | -.01 | -.03 | -.10 | -.14 | .32 | - | .41 | .24 | .41 | -.41 | -.40 | -.34 | .27 | -.29 |
| 11 How well can this teacher tell whether or not you understand a topic? | 2.7 | 1.44 | 2.5 | 1.24 | -.09 | .00 | -.07 | -.11 | -.01 | -.05 | -.08 | -.07 | .37 | .35 | - | .24 | .37 | -.32 | -.28 | -.24 | .21 | -.19 |
| 12 How good is this teacher at making sure time does **not** get wasted in this class? | 2.6 | 1.24 | 2 | 1 | -.22 | -.15 | -.19 | -.21 | -.17 | -.16 | -.23 | -.16 | .52 | .39 | .32 | - | .36 | -.27 | -.26 | -.25 | .45 | -.34 |
| 13 How much does this teacher know about the topic of his or her class? | 2.3 | 1.31 | 1.7 | 1 | -.10 | .04 | -.03 | -.09 | .04 | -.05 | -.09 | -.10 | .45 | .46 | .43 | .41 | - | -.32 | -.26 | -.19 | .28 | -.26 |
| 14 How good is this teacher at helping you learn about <SUBJECT>? | | | 3.9 | 1.02 | | | | | | | | | | | | | | - | .86 | .71 | -.14 | .59 |
| 15 How well has this teacher taught you about <SUBJECT>? | | | 3.8 | 0.98 | | | | | | | | | | | | | | | - | .69 | -.16 | .59 |
| Pre-existing Scales | | | | | | | | | | | | | | | | | | | | | | |
| CCSR: Academic Personalism | | | 3.02 | 0.52 | | | | | | | | | | | | | | | | - | -.16 | .58 |
| CCSR: Distractions | | | 1.87 | 0.6 | | | | | | | | | | | | | | | | | - | -.22 |

Notes: Sample 1 correlations are reported below the diagonal; Sample 2 means are reported above the diagonal. Item texts represent revised wording based on the first two pilots. Most notably, items 9-13 were negatively worded with Samples 1 and 2. For all items, min=1 and max=5, except for Chicago scales, min=1 and max=4.

## Convergent/Discriminant Validity

If our scale is indeed measuring components of pedagogical effectiveness, we would expect responses to correlate with other pre-existing scales designed to measure elements of teaching quality. With Sample 2, in addition to administering our own scale, we administered two scales created by the University of Chicago's Consortium on Chicago School Research (CCSR) and one of the teaching-focused scales administered in the Measures of Effective Teaching (MET) study.

Overall, the scale scores for each of the three pre-existing scales correlated in expected directions with our individual Pedagogical Effectiveness items. For example, the CCSR Academic Personalization scale correlated highly with our item regarding the teacher's ability to teach in the way a student "personally learns best" ($r = .67$).

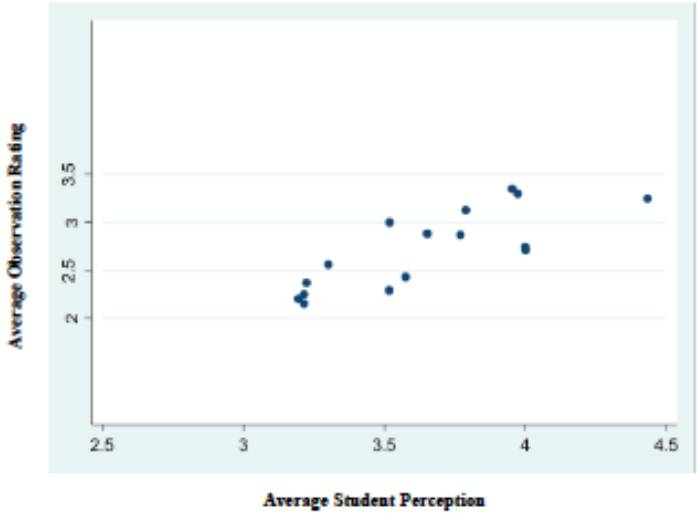
Similarly, the CCSR scale designed to measure distractions in a given classroom was most highly correlated with our item about the teacher's ability to prevent students from getting "out of control" ($r = .57$) and to prevent time from being wasted ($r = .45$).

Finally, the MET scale designed to measure the degree to which a teacher challenges his or her students was strongly correlated with our items regarding the overall degree to which students believed they had learned from their teacher ($r = .59$) as well as the amount of useful feedback that teacher provides ($r = .63$).

Overall, these correlations are consistent with the idea that our items do indeed capture student perceptions of some of the key dimensions of teachers' Pedagogical Effectiveness.

### Correlations with Observations

In a recent study, with a diverse (mostly Black and Latino), small, Catholic, high school, we had the opportunity to correlate students' scores on the Pedagogical Effectiveness scale with scores from administrator observations. Students completed the Pedagogical Effectiveness survey scale for each of their teachers, usually 5. Those scores were then averaged for each teacher across all of his or her classes so that each teacher had a single score that was represented by the aggregate ratings of nearly all of his or her students (a small percentage of students did not take the survey). Administrators performed brief, but frequent, observations of their teachers over the course of the school year (typically about 10 minute observations, 10 times per year) using an adaptation of Kim Marshall's framework. Those observation ratings were then averaged so that each teacher had a single observation score. We found the correlation between the aggregated survey scores and administrators' aggregated observation scores was $r = .80$. The scatterplot below suggests that this high correlation was not merely due to an outlier in the small sample:




In this study, we found students' perceptions and administrators' observations were highly congruent with each other. This suggests that this scale measures pedagogical effectiveness in a way that is similar to administrator observations, which is a particularly strong sign that this scale measures pedagogical effectiveness with a high degree of fidelity.

## Conclusion

As with the Pedagogical Effectiveness scale, we have accumulated substantial evidence of validity for the other scales of the *Panorama Student Survey*. Our two large-scale administrations and other studies represent an impressive and growing body of evidence that the *Panorama Student Survey* scales are robust and actionable for districts and schools. We are excited about the promise of these measures to help schools make more informed decisions about their professional development needs and growth.

For more information and to see the full validity report, please contact the Panorama Research Team (research@panoaramaed.com).

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# Appendix J

## Likert Questions Used in this Study

**Student Relationships** — Grades 6-12
For the following questions, we are interested in learning more about your relationships with other people in your school community.

| Question | Response Options | | | | |
|---|---|---|---|---|---|
| **Are there adults at your school whom you can go to for help if you need it right now?** | No | Yes | | | |
| **How connected do you feel to the adults at your school right now?** | Not at all connected | Slightly connected | Somewhat connected | Quite connected | Extremely connected |
| **If you are participating in distance learning, how often do you hear from your teachers individually?** | Once every few weeks | About once a week | Several times a week | Almost every day | I am not participating in distance learning |
| **How connected do you feel to other students at your school right now?** | Not at all connected | Slightly connected | Somewhat connected | Quite connected | Extremely connected |
| **If you are participating in distance learning, how often are you talking with your friends from school?** | Once every few weeks | About once a week | Several times a week | Almost every day | I am not participating in distance learning |

**Classroom Belonging**
How much students feel that they are valued members of the classroom community.

Grades 6-12

| Question | Response Options | | | | |
|---|---|---|---|---|---|
| **How well do people in your class understand you as a person?** | Do not understand at all | Understand a little | Understand somewhat | Understand quite a bit | Completely understand |
| **How connected do you feel to the teacher in this class?** | Not at all connected | Slightly connected | Somewhat connected | Quite connected | Extremely connected |
| **How much respect do students in this class show you?** | No respect at all | A little bit of respect | Some respect | Quite a bit of respect | A tremendous amount of respect |
| **How much do you matter to others in this class?** | Do not matter at all | Matter a little bit | Matter somewhat | Matter quite a bit | Matter a tremendous amount |
| **Overall, how much do you feel like you belong in this class?** | Do not belong at all | Belong a little bit | Belong somewhat | Belong quite a bit | Completely belong |

### Classroom Learning Strategies

How well students deliberately use strategies to manage their own learning processes in class.

Grades 6-12

| Question | Response Options | | | | |
|---|---|---|---|---|---|
| **When you get stuck while learning something new in this class, how likely are you to try a different strategy?** | Not at all likely | Slightly likely | Somewhat likely | Quite likely | Extremely likely |
| **How confident are you that you can choose an effective strategy to get your work for this class done well?** | Not at all confident | Slightly confident | Somewhat confident | Quite confident | Extremely confident |
| **Before you start on a challenging project in [SUBJECT] class, how often do you think about the best way to approach the project?** | Almost never | Once in a while | Sometimes | Frequently | Almost always |
| **Overall, how well do your learning strategies help you learn [SUBJECT] more effectively?** | Not well at all | Slightly well | Somewhat well | Quite well | Extremely well |
| **In [SUBJECT] class, how often do you use strategies to learn more effectively?** | Almost never | Once in a while | Sometimes | Frequently | Almost always |

### Classroom Teacher-Student Relationships

How strong the social connection is between teachers and students within and beyond the classroom.

Grades 6-12

| Question | Response Options | | | | |
|---|---|---|---|---|---|
| **How respectful is this teacher towards you?** | Not at all respectful | Slightly respectful | Somewhat respectful | Quite respectful | Extremely respectful |
| **If you walked into class upset, how concerned would your teacher be?** | Not at all concerned | Slightly concerned | Somewhat concerned | Quite concerned | Extremely concerned |
| **If you came back to visit class three years from now, how excited would this teacher be to see you?** | Not at all excited | Slightly excited | Somewhat excited | Quite excited | Extremely excited |
| **When your teacher asks how you are doing, how often do you feel that your teacher is really interested in your answer?** | Almost never | Once in a while | Sometimes | Frequently | Almost always |
| **How excited would you be to have this teacher again?** | Not at all excited | Slightly excited | Somewhat excited | Quite excited | Extremely excited |

## Appendix K

## Open Ended Questions Used in this Study

### CLASSROOM TEACHER-STUDENT RELATIONSHIPS

What changes could students make to get along better with this teacher?

What are two specific things that this teacher does that helps his/her relationships with students?

What is one thing that your teacher does that makes you feel like s/he understands you?

If you were the teacher of this class, what is one thing you would do to improve your relationships with your students?

### SCHOOL LEARNING STRATEGIES

If someone could teach you a strategy to help you improve on anything in school, what would this person teach you a strategy for?

Which of the strategies that you use seems to be the most effective for helping you succeed in school?

## Appendix L

## Email Requesting Permission to Use Survey Questions

QM

QUINTANA, RACHEL M (Student)
Mon 3/22/2021 3:53 PM
To: glaughlin@panoramaed.com

Good Afternoon Gavin,

I am a graduate student at Lindenwood University, and I am currently working on creating a study for my dissertation. I am an Assistant Principal at Warrenton High School in Warrenton, MO and I am reaching out to see what type of permissions I need to utilize your survey tools in my study for my dissertation? My study includes giving a survey to teachers and students to gather information about perceptions of their relationships and the effect on academic achievement.

Am I able to use some questions exactly as they are and tweak others as I see fit?

Thank you for your time and I look forward to hearing from you soon.

Rachel Quintana

GL

Gavin Laughlin <glaughlin@panoramaed.com>
Mon 3/22/2021 3:55 PM
To: QUINTANA, RACHEL M (Student)

**This email originated from outside of Lindenwood University. Do not click links, open attachments, or communicate with the sender unless you know the content is safe and from a reliable source.**
Hi Rachel! Our survey is free and open source, so feel free to use it. When tweaking questions, you definitely can, but it may alter the validity and reliability.

With gratitude,
Gavin

...

***Watch how one district brought MTSS to life in their schools!***

Gavin Laughlin
Outreach Specialist
@
**Panorama Education**
Direct Line: 617-934-4064

Book a Meeting With Me: Calendar Link

## Appendix M

## Categories for Hypothesis 4

Chapter 11 - Analysis of Variance (A

Caring/Relationship Question Averages by student and student EOC score -

| | α (Use .05 or .01): | | | 0.05 |
|---|---|---|---|---|
| 1- 1.4 | 1.5 - 2.4 | 2.5 -3.4 | 3.5 - 4.4 | 4.5 - 5 |
| | 410 | 399 | 403 | 395 |
| | 396 | 432 | 405 | 408 |
| | 406 | 402 | 388 | 396 |
| | 404 | 393 | 408 | 420 |
| | 408 | 393 | 393 | 396 |
| | 402 | 405 | 391 | 408 |
| | 423 | 411 | 391 | 402 |
| | 407 | 421 | 390 | 414 |
| | 388 | 412 | 417 | 387 |
| | | 416 | 402 | 409 |
| | | 402 | 392 | 389 |
| | | 444 | 407 | 397 |
| | | 390 | 396 | 380 |
| | | 399 | 416 | |
| | | | 414 | |
| | | | 405 | |
| | | | 400 | |
| | | | 370 | |
| | | | 385 | |

Chapter 11 - Analysis of Variance (A

Belonging Question Averages by student and EOC scores - 5

| | α (Use .05 or .01): | | | 0.05 |
|---|---|---|---|---|
| .- 1.4 | 1.5 - 2.4 | 2.5 -3.4 | 3.5 - 4.4 | 4.5 - 5 |
| 390 | 396 | 408 | 403 | 420 |
| 407 | 405 | 405 | 395 | 399 |
| 400 | 404 | 408 | 388 | 387 |
| 388 | 408 | 408 | 396 | 385 |
| | 423 | 432 | 396 | |
| | 412 | 402 | 393 | |
| | 412 | 402 | 391 | |
| | | 393 | 391 | |
| | | 393 | 410 | |
| | | 414 | 392 | |
| | | 417 | 407 | |
| | | 402 | 409 | |
| | | 406 | 416 | |
| | | 411 | 414 | |
| | | 421 | 405 | |
| | | 402 | 370 | |
| | | 416 | 389 | |
| | | 396 | 380 | |
| | | 402 | | |
| | | 444 | | |
| | | 390 | | |
| | | 397 | | |
| | | 399 | | |

## Vitae

Rachel Quintana grew up in Long Island, New York, and moved to Missouri in 2008. Rachel completed her Bachelors, Masters, and Specialist Degrees at Lindenwood University and began teaching high school Math in 2010. Rachel is starting her third year as an Assistant Principal at Warrenton High School. She is a proud wife and mother of two amazing boys. Rachel anticipates graduating from the Lindenwood Doctoral Program in December 2022.