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IS THERE A RELATIONSHIP BETWEEN RACIAL COMPOSITION OF SCHOOL TEACHING STAFF AND STUDENT ENGAGEMENT, STUDENT TRUST IN TEACHERS, AND STUDENT ACHIEVEMENT? AN EXAMINATION OF SCHOOLS IN AN URBAN DISTRICT

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Acknowledgments

I want to dedicate this dissertation to my late paternal grandfather and grandmother, Henry, and Mary Sykes. In 2012, my grandfather attended when I graduated with my master's degree. While there, he told me that I needed to get my doctorate. I told him he was crazy. Little did I know that in less than a year, my granddad would pass away. This degree is not only professional, but it is extremely personal. Granddad, I hope completing this degree makes you proud, and thanks for your encouragement to get it! My grandmother passed away in August 2022, and to say the last couple of months have been difficult would be an understatement. Grandmother, thanks for your prayers. This degree is for you. None of this would be possible without God, who is my strength.

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Abstract

Achievement gaps, which are disparities in academic performance and educational attainment based on racial and socioeconomic factors, have continued to get worse. Various causes for these gaps are poverty, ineffective teaching, unequal educational opportunities, and biased testing. The “Coleman Report" revealed a significant achievement gap between African-American and White students and suggested that racially and socioeconomically diverse schools could be a solution. There is growing awareness of the benefits of teacher diversity and having same-race teachers, particularly for students of color. Yet, most of the existing research has primarily focused on the micro-level of this phenomenon, examining dyadic matches (and mismatches) between the race of teacher and student and their relationship to a host of student outcomes. The purpose of this study was to examine the associations of the diversity of a teaching corps within a school to overall school-level student engagement, student trust, and student achievement in a high-poverty district with over 70 schools, 2,000 teachers, and 30,000 students. The interplay between racial composition of school teaching staff and student body racial composition was examined and, given the limited findings, also reported the results of more specific teacher/student racial alignment data at the school level, with a particular focus on black-black racial alignment indices and their relationship to student outcomes. Overall findings demonstrate limited evidence of effects with respect to racial composition of school teaching staff, student trust in teachers, and achievement. However, a positive effect was found for racial composition of school teaching staff and student engagement. All examined relationships were not found to be moderated by student body racial composition. However, deeper analysis revealed that Black teacher/student alignment index, measured as the product of the proportion

of Black teachers in a school and the proportion of Black students was positively related to reading and math achievement and these effects were large.

Chapter 1:

Introduction

Black students who have at least one Black teacher by third grade are 13% more likely to enroll in college. Those who have had at least two Black teachers were 32% more likely to go to college according to a recent study conducted by John Hopkins and American University (Gershenson et al., 2018). While the ideal condition is to create a learning environment where all students can succeed, only 1 out of 22 Black students ever have access to a Black teacher throughout their K-12 experience, which, given the previously mentioned study, indicates that Black students are missing a key element of their educational experience which could have a profound influence on their educational outcomes and life chances (Superville, 2022).

Achievement gaps describe any significant disparity in academic performance or educational attainment between different groups of students based on racial or socioeconomic factors (Great Schools Partnership, 2013; Konstantopoulos, 2009; Reardon, 2011). Scholars have reported on many causes underlying racial achievement gaps including poverty and socioeconomic status, ineffective teaching, disparate educational opportunities, and flawed/biased testing designs (Goldhaber et al., 2015; Great Schools Partnership, 2013). In 1966, The Equality of Educational Opportunity Report (better known as *The Coleman Report*) provided one of the first comprehensive looks at the state of education by poverty and race in America. One of the chief findings of the *Coleman Report* was a significant achievement gap between African-American students and their White counterparts (Dickinson, 2016). The Coleman Report suggested that one solution would be to have schools that were more socioeconomically and racially diverse (Dickinson, 2016). Since this seminal report, research has conclusively demonstrated that minoritized students have more adverse experiences in the public

education system than their White counterparts. Students of color have lower academic achievement than White students, increased disciplinary infractions, and lower graduation rates (Darling-Hammond, 2016). They are also more likely to be disproportionately identified for special education due to issues of implicit bias (Losen & Orfield, 2002).

Since the *Coleman Report*, there have been numerous initiatives, policies, and programs put in place to target and close racial and economic achievement gaps (Dickinson 2016; Rivkin, 2016). Over the last five decades, the United States government has implemented several initiatives to address the achievement gap and other educational inequities that have attenuated Black student achievement. One such initiative to create a more equal education experience for non-White students was through bussing. In the Swann *v.* Charlotte-Mecklenburg Board of Education case, the U.S. Supreme Court ruled that the school districts could require pupils to be bussed outside their residential neighborhoods to achieve racially balanced enrollments, as the guiding research was based on the idea that one's peer group was a significant factor in student achievement (Coleman et al., 1966). According to Johnson (2015), school busing increased educational and occupational attainment, college quality, and adult earnings for students of color, reduced the chance of incarceration, and improved the health status of students of color. While the ruling of Swann *v.* Charlotte-Mecklenburg Board of Education increased achievement for students of color, it was only implemented in 5% of the country and thus was not able to make significant headway in closing racial achievement gaps (Delmont, 2016).

Further, in Brown *v.* Board of Education, the Supreme Court unanimously decided that intentional racial segregation in public schools was unconstitutional. While the Brown *v.* Board of Education case stated that "separate but equal" was inherently unequal, the Supreme Court cited that access to equal opportunity would address existing achievement gaps. Chief Justice

Warren stated in the unanimous decision that separating Black children from other races generates a feeling of inferiority that may affect them for the rest of their lives (Greenspan, 2014). However, it is well-documented that this landmark decision has not led to the full dismantling of school racial segregation it took legislation (i.e., the ESEA of 1965) to force southern states to desegregate and even this was only marginally successful. In many schools around the country *de facto* segregation is the reality; for example, 74.6% of Black and Hispanic students in New York City attend schools with a 10% or fewer White student population (Greenspan, 2014). Since the *Coleman Report* and subsequent policies to level the playing field for minorized students, little change in achievement gaps has occurred. In 2011, the National Assessment of the Educational Process showed that Black and Hispanic students trailed their White peers by a difference of about two grade levels (Ansell, 2011).

Brown *v.* Board (1954) enabled children of all races to have equal access to an education; however poor implementation of integration policies and White backlash led to over 38,000 Black teachers losing their jobs (Lutz, 2017). For example, in Moberly, Missouri, the school district closed a segregated Black school, which led to the dismissal of all certified Black teachers, while teachers with less experience were able to keep their jobs. Furthermore, when Black teachers were fired, districts got rid of teachers who had experience in building strong interpersonal relationships with Black students (Will, 2019). Before Brown *v.* Board, in the 17 states that had segregated school systems, 35 to 50 percent of the teaching force was Black (Will, 2019). While student achievement data was not collected during this period, anecdotal claims suggest that all Black schools thrived because of large ratios of same-race teachers and students. Now all these years later, Black teachers make up less than 10% of the US teaching force which

likely has hurt Black students' performance on standardized tests and graduation rates (Lutz, 2017; Irvine et al., 2007).

Substantial recent evidence seems to support these claims and has attempted to more closely examine micro-level processes associated with the success of minoritized students. In particular, a surge of recent evidence describes how having a same-race teacher has helped improve minoritized students' academic learning and success (Redding, 2019). Despite the continued under-representation of teachers of color in the K-12 public school system, many scholars and practitioners tout the key benefits of teachers of color in classrooms to the academic learning and performance of students of color (Egalite et al., 2019; Redding, 2019). Compared with White teachers, teachers of color—particularly Black and Latinx teachers—are more likely to stay in teaching and to teach in schools that serve students with similar racial and socioeconomic backgrounds (Achinstein et al., 2010; Hanushek et al., 2004; Ingersoll, 2001; Ingersoll & May, 2011; Kirby et al., 1999; Marinell & Coca, 2013). Furthermore, teachers of color are less likely to administer excessive disciplinary action toward students of color and have higher expectations of them (Achinstein et al., 2010; Hanushek et al., 2004; Ingersoll, 2001; Ingersoll & May, 2011; Kirby et al., 1999; Marinell & Coca, 2013).

Statement of Problem

According to the National Center for Education Statistics [NCES] (2019) only 7% of K-12 public school teachers are Black, 9% are Hispanic, and 80% are White. It is important to note that the percentage of teachers of color is higher at public charter schools than at traditional public schools—for example, 14 percent of teachers who work in public charter schools are Latinx, as compared to the 9 percent who work in traditional public schools (NCES, 2019). While a strong correlation may not exist, it is important to note that students of color are opting

into public charter schools than traditional public schools to the tune of 1.7 million students from 2009 to 2018 (NCES, 2019). These disparities speak to some preference of students of color to attend schools where more of the teacher workforce looks like them and shares similar racial/demographic backgrounds.

A growing body of research has found that Black students may benefit from having a Black teacher as it pertains to both their academic and social development (Redding, 2019). The presence of at least one Black teacher by third grade is linked to a 13% higher likelihood of Black students enrolling in college while having two or more Black teachers increases this likelihood to 32%. However, the unfortunate reality is that only 1 out of 22 Black students will ever have access to a Black teacher throughout their K-12 experience, which could greatly impact their educational outcomes. Increased teacher diversity in a school is an important policy that educational advocates have pushed to implement, especially since half of the student body in the United States is now non-White, and receiving a quality education can be such an important ticket to moving out of poverty and into the middle class (Gershenson, 2019). As the achievement gap has not closed, the question becomes, can a more diverse teacher workforce lead to better academic outcomes for students of color?

There is growing awareness of the benefits of teacher diversity and having same-race teachers, particularly for students of color. Yet, most of the existing research has primarily focused on the micro-level of this phenomenon, examining dyadic matches (and mismatches) between the race of teacher and student and their relationship to a host of student outcomes. Questions remain as to whether there are aggregate school-level effects concerning the diversity of the teacher corps within a school. In other words, does the overall proportion of teachers of color for schools with significant numbers of students of color matter for their academic

outcomes? Thus, the purpose of this study was to examine the associations of the diversity of a teaching corps within a school to overall school-level student engagement, student trust, and student achievement for 73 schools in an urban, Midwestern high-poverty district. The following research questions framed the study:

1. Is there a relationship between the racial composition of a school teaching staff and school-level student engagement?
2. Is there a relationship between the racial composition of a school teaching staff and school-level student trust in teachers?
3. Is there a relationship between the racial composition of a school teaching staff and school-level student achievement?
4. Is the effect of the racial composition of a school teaching staff on the focal outcomes (engagement, student trust in teachers, and student achievement) moderated by the proportion of students of color in the school?

Chapter Summary

Achievement gaps, which are disparities in academic performance and educational attainment based on racial and socioeconomic factors, have continued to get worse. Various causes for these gaps are poverty, ineffective teaching, unequal educational opportunities, and biased testing. The “Coleman Report" revealed a significant achievement gap between African-American and White students and suggested that racially and socioeconomically diverse schools could be a solution.

There is growing awareness of the benefits of teacher diversity and having same-race teachers, particularly for students of color. Yet, most of the existing research has primarily focused on the micro-level of this phenomenon, examining dyadic matches (and mismatches)

between the race of teacher and student and their relationship to a host of student outcomes. the purpose of this study was to examine the associations of the diversity of a teaching corps within a school to overall school-level student engagement, student trust, and student achievement in a high-poverty district. In the next chapter, I review the research on student and teacher diversity and outcomes, including the growing evidence on teacher-student racial match. Chapter 3 advances a conceptual framework for understanding teacher-student racial match and its potential effects on focal outcomes. Chapter 4 provides details on the study design and methods used to investigate the study research questions. Chapter 5 presents results and Chapter 6 provides a discussion of results, policy implications, limitations of the study, and suggestions for future research.

Chapter2:

Literature Review

Despite numerous initiatives and policies aimed at closing achievement gaps, little progress has been made. The landmark Brown v. Board of Education case, while ending racial segregation, did not lead to the complete dismantling of school racial segregation, and de facto segregation still exists in many schools. Studies have shown that students who have the same race teacher, especially black students, have led to higher graduation rates and academic performance (Redding, 2019). This chapter attempts to give a background of racial segregation in America, where we stand now, and what policies we may put in place to address the achievement gap.

Louisiana enacted the Separate Car Act in 1890, which segregated railway cars for Blacks and Whites. Homer Plessy was arrested for not moving to the Black-only rail car. Homer Plessy was seven-eighths Black. The United States Supreme Court ruled with the justices voting 7-1 that state-imposed racial segregation was constitutional; separate treatment did not imply the inferiority of African Americans (Plessy *v*. Ferguson). Under this doctrine, African-American students and other minorities had difficulties finding schools or were forced into schools that were not of the same standard as their White counterparts—schools that were segregated by race (Darling-Hammond, 2016). Furthermore, Black schools were consistently under threat of closure in favor of funding white-majority schools (Darling-Hammond, 2016).

In 1950 and 1951, lawsuits were filed in Kansas, South Carolina, Virginia, Delaware, and the District of Columbia on behalf of Black elementary school students who all alleged segregated schools violated the equal protection clause of the 14th Amendment (Greenspan, 2014). None of the five lower courts struck down the laws mandating segregated schools. In

Kansas, for example, the ruling held that Topeka's Black schools were "substantially" equal enough to meet the Plessy doctrine. In a unanimous decision (9-0), the United States Supreme Court stated that forcing African-American students to attend separate schools because of their race created a feeling of inferiority that undermined African-American students' motivation to learn (Duignan, 2021).

In 1954, there were 82,000 African American teachers in the United States to teach over 2 million Black students (Hudson & Holmes, 1994). By 1964, a decade after *Brown*, 38,000 Black educators had lost their jobs (Hudson & Holmes, 1994). Furthermore, the number of Black college students majoring in education declined by 66% (Hudson & Holmes, 1994). Despite the potential of schools to help students reach their full potential and ability to relate to all other human beings regardless of race, the loss of African American teachers post-*Brown* led to some troubling mindsets by White teachers about the intellectual capacity of Black students, which led Black students to be over-represented in special education classes and lower academic tracks (Hudson & Holmes, 1994; Losen & Orfield, 2002).

Despite the promise of *Brown*, additional structural challenges remain to improve Black representation in the teaching profession. Barriers post-*Brown* limit the recruitment of minority teachers (Hudson & Holmes, 1994); low scores on competency tests, failure to meet certification requirements, lower salaries compared to other fields, and limited access to different job opportunities (Education Commission of the States, 1990; Hudson & Holmes, 1994). A majority of states continue to encourage teaching certification requirements even though it does not correlate with student outcomes. Furthermore, Oklahoma has a statewide teacher shortage and there has been an increase of teachers being emergency certified to teach in classrooms (Felder, 2017). While using emergency certification has helped increase some diversity in the teacher

force it is not a permanent solution to the teacher diversity issue (Felder, 2017). In a state like Oklahoma, with a high prevalence of emergency certified teachers, only 4 percent of the teaching population is Black, and 2 percent of the teaching workforce is Hispanic.

As mentioned above, desegregation closed Black schools and disrupted the impact educators of color had on the students and the communities they serve (Peters, 2019). Desegregation meant that Black students were no longer taught by Black teachers (Peters, 2019), forcing Black educators to seek employment in other fields ultimately leading to a decline of Black teachers in the K-12 system (Milner & Howard, 2004). The effects of this displacement of Black educators still linger today (Peters, 2019), current data states that 11% of public schools are led by Black principals, while over 50% of public schools are people of color, which indicates the importance of increasing the number of people of color in the education field (Peters, 2019). Modern schooling is "to inculcate in the masses a respect for the dominant culture" (Tyson, 2003, p. 328). The increasing diversity of our nation's public schools necessitates a more inclusive, diverse field of educators (Peters, 2019; Taie & Goldring, 2017). Given recent evidence on the importance of same-race teachers in the success of students of color (see Redding, 2019), such a lack of diversity could be a potentially important contributor to the lack of success in closing achievement gaps over the past several decades.

Laws Passed by Congress to Address the Achievement Gap

Ever since The Elementary and Secondary Education Act [ESEA] of 1965, the federal government has attempted to intervene in improving educational outcomes for poor students and students of color. Thus, it seems important to review its eight re-authorizations to understand how this policy has been used to address education inequity and its ultimate successes and failures in working to close the achievement gap.

The Elementary and Secondary Education Act of 1965 was a part of President Johnson's *War on Poverty* and funds primary and secondary education in the United States. The ESEA has been reauthorized every five years since its passage in 1965. In pushing ESEA to Congress, whose original goal was to improve educational outcomes for students from lower-income families by providing federal funds to school districts serving poor students, President Johnson stated in 1965 to Congress, "We are now embarked on another venture to put the American dream to work in meeting the new demands of a new day. Once again, we must start where men who would improve their society have always known they must begin—with an educational system restudied, reinforced, and revitalized" (Lyndon Johnson, 1965, p. 2). He urged that the country "declare a national goal of full educational opportunity" (Johnson, 1965, p. 2).
Since its original passage, it has been re-authorized 8 times. Below, these reauthorizations are reviewed. In June of 1982, the Educational Consolidation and Improvement Act (ECIA) reauthorized the Elementary and Secondary Education Act of 1965. This act turned Title I funds into block grants, and once a state received grant money, they could use the money to meet educational needs they considered pressing, including how to help specific disadvantaged populations (Federal Education Policy and the States, 2009). Title I funding was used to fund schools and school districts with a high percentage of students from low-income families. After the passage of ECIA, the Reagan Administration also added an increased emphasis on standardized test scores and attached continuing eligibility for federal aid contingent on rising test scores (Federal Education Policy and the States, 2009).

Under the Clinton Administration, several pieces of legislation impacted educational programs. Goals 2000, legislation passed in February 1994, was a grant program to support state development of standards, assessments, and school district implementation of standards-based

reform. In October 1994, the Improving America's Schools Act, or IASA, which was the reauthorization of ESEA, was signed into law. IASA required that Title I and non-Title I students' standards be the same (Federal Education Policy and the States, 2009). Furthermore, IASA advanced the states' standards-based reform and allocated 11 billion dollars of Title I funds to help impoverished students meet new state standards. Moving toward standards ensured that teachers would be held accountable for teaching specific objectives, leading to better student success. Moreover, in the 1990s, some rolling back of desegregation policies occurred (Gamoran, 2016).

More recently, the *No Child Left Behind Act* [NCLB] of 2001, the subsequent authorization of the Elementary and Secondary Education Act, was intended to hold schools more accountable for student performance, specifically mandating increased attention to the performance of specific vulnerable subgroups of the student population to help close achievement gaps (Klein, 2015). The goal of the law was that, by 2014, all students were expected to meet or exceed state standards in reading and math, therefore closing achievement gaps (Klein, 2015). No Child Left Behind was based upon four pillars: 1) accountability, to ensure all students achieve academic proficiency; 2) flexibility, which referred to how school districts use federal funds; 3) research-based education that emphasizes effective classroom practices through scientific research; and 4) parent options to increase the choices available to the parents of students attending Title I schools (Klien, 2015). Another major component of the law was to ensure that "highly qualified" teachers were evenly distributed throughout districts with both high concentrations of poverty and wealthier schools (Klien, 2015).

Under No Child Left Behind, schools were judged on making adequate yearly progress (AYP). The law required schools to break down their data into subgroups. If one group of

disadvantaged students underperformed, the entire school was considered underperforming. If six years schools were underperforming, they had to go through a restructuring plan, where the principal and teachers could be replaced. According to Casselman (2015), NCLB did not meet most of its ambitious goals. Most schools did not meet the 100% mandate. The laws' penalties did little to improve student performance, and large achievement gaps remained. Casselman (2015) also remarked that the legacy of NCLB is that it laid bare the inequities in the American educational system and forced districts to address them. Districts had to publicly show which students were being left behind and how they would fix this problem.

During the administration of President Barack Obama, the administration allowed No Child Left Behind waivers (Klein, 2018). The Obama Administration offered states waivers from key mandates of the No Child Left Behind (NCLB) mandates if they adopted a teacher evaluation system, rigorous standards and assessments, and implemented intensive school turnaround interventions (Klein, 2018). The NCLB waivers allowed for States not to meet that 100% of students were proficient in Math and English, which was one of the main mandates of the No Child Left Behind law.

NCLB initially set a 2014 deadline for all students to achieve proficiency, with the expectation of its reauthorization. However, due to congressional gridlock, U.S. Secretary of Education Arne Duncan introduced waivers in 2011 to offer states flexibility in exchange for adopting certain educational reforms, which generated controversy (Bonilla & Dee, 2017).

The waiver-driven reforms aimed at increasing flexibility in school accountability systems, emphasizing college and career-ready standards, and introducing new methods to evaluate teacher and principal effectiveness (Bonilla & Dee, 2017). These reforms also promoted "differentiated accountability," where states had to categorize schools with the largest

achievement gaps as "Focus Schools" (10 percent) and those with persistently low achievement as "Priority Schools" (5 percent) (Bonilla & Dee, 2017). Priority Schools had to implement specific turnaround models, while Focus Schools had more flexibility in how they addressed their achievement gaps. Understanding the impact of these reforms is crucial as they continue to shape the education landscape (Bonilla & Dee, 2017).

Research conducted by (Bonilla and Dee, 2020) found that proficiency rates increased by 17 percent for math and 9 percent for reading based on the Focus Schools in Kentucky. The state of Kentucky, based upon the waiver, had to identify schools where targeted subgroups of students have the lowest achievement and to implement reforms in these “Focus Schools” (Bonilla & Dee, 2020). This study suggests that comprehensive school planning and high-quality teacher professional development played a role in these improvements. Kentucky's success in implementing these reforms may be attributed to the state's enthusiasm for educational reforms, as they provided detailed and homegrown solutions, which contributed to high-fidelity implementation (Bonilla & Dee, 2017).

Since the *Coleman Report*, school districts and a flurry of federal programs have worked to address large social issues through more targeted intervention into educational access to underserved populations. However, in the half-century since its publication, racial gaps in achievement, academic attainment, earnings, crime, poverty, and extensive school segregation persist even though the equality of opportunity remains (Rivkin, 2016). According to Rivkin (2016), the Coleman Report legacy broadened the public understanding of some solutions that may one day elevate the academic, social, and economic outcomes of disadvantaged students and lead to closing the achievement gap.

So while Federal programs have been influential in changing learning outcomes for all students, recent evidence suggests that there are other important considerations for changing the educational opportunities, experiences, and attainment of students of color. This literature, which focuses on the impact of same-race teachers on students of color, is a burgeoning field of research that demonstrates some important gains that students of color make when they have an opportunity to be taught by a teacher who looks like them. This literature is reviewed below.

Defining Race, Racial Bias, and Disparities in Student Outcomes

Because the purpose of this paper is to investigate the role of staff racial diversity on student outcomes, it is important to formally define race for this study. Race can be defined in three ways: (1) biological lineage (Anderson & Fienberg, 2005), (2) socially constructed beliefs that refer to race as a social construct that hinders minority groups relative to a dominant or majority group (Ogbu, 1998; Williams & Collins, 1995), and (3) the situational meaning of race (Omini & Winant, 1986). In this study, it is important to understand that all these dimensions of race help shape our views about race and racial identity and how the consequences of these views on race shape the educational opportunities and life chances of those targeted by these perceptions.

Racial bias is a personal and sometimes unreasoned judgment made solely on an individual's race (Williams, 2011). Racial gaps in educational achievement persist, even though many resources have been allocated to close them. Reducing educational achievement gaps has the potential to increase earnings, and employment as well as reduce criminal behavior and dependence on social programs and assistance (Lynch, 2019)

Unfortunately, systemic racism, racial bias, and racist policies have plagued the American educational system (Lynch, 2019), and these issues have been well-documented in the

literature. Nearly two centuries ago, Native American children were forcibly displaced and sent to boarding schools, where the motto "Kill the Indian, Save the Man" was common and Native Americans were forced to abandon their native language and religion in favor of appropriating White ways of being and living (Lynch, 2019). This type of thinking reinforced a belief that White culture was the dominant and correct way to live life (Lynch, 2019). There are similar examples of Chinese and Latinx Americans being barred from going to school completely or later allowed to go to Chinese or Latinx-only schools (Lynch, 2019).

Educational outcomes for African American children are much more a function of their unequal access to key educational resources: skilled experienced teachers, quality curriculum, and funding (Darling-Hammond, 2016). The United States educational system is one of the most unequal in the industrialized world, and students receive dramatically different learning opportunities based on their social status (Darling-Hammond, 2016). The GINI index, a measure of nation-state economic inequality, consistently locates the U.S. well above the median in economic inequality per capita and this rating has worsened over the past 30 years (World Bank, 2023). The wealthiest 10 percent of U.S. school districts spend nearly 10 times more than the poorest 10 percent (Darling-Hammond, 2016). As of the 1960s, most African, Latino, and Native Americans were educated in schools that were funded at far inferior rates to those serving Whites and such disparities in funding persist today (Darling-Hammond, 2016). For example, data prepared for school finance cases in Alabama, New Jersey, New York, Louisiana, and Texas found that schools serving a greater number of students of color had significantly fewer resources than schools serving mostly White students (Darling-Hammond, 2016). MacKenzie High School in Detroit has a word processing class without word processors because the school

cannot afford them or a high school in East St. Louis that has biology laboratories that do not have laboratory tables or dissecting kits (Darling-Hammond, 2016).

Funding has certainly not been equitable, but neither has teacher expertise and access to quality teaching. Minoritized students are more likely to be assigned to the lower academic tracks and the least effective teachers (Darling-Hammond, 2016; Oakes, 1985). The National Commission on Teaching and America's Future found that 25% percent of new teachers hired without meeting certification standards are assigned to teach low-income minority schools (Darling-Hammond, 2016).

Systemic racism entrenched in the American educational system has significantly contributed to achievement gaps between White students and students of color. As previously mentioned, the achievement gap, which describes any significant disparity in academic performance or educational attainment, persists. A recent meta-analysis of social science research examined the impact of school racial composition on students' mathematics outcomes in K-12 education (Mickelson, 2013). The study found that students attending schools with a high concentration of disadvantaged racial minority populations tend to achieve lower academic progress in mathematics compared to their peers in more racially balanced or integrated schools. This effect, although small, is statistically significant and becomes more substantial as students progress from elementary to secondary grades (Mickelson, 2013). The demographics of American public schools, whether in urban, suburban, or rural areas, have been significantly influenced by changes in the racial and ethnic backgrounds of student populations. Black and Latino/ students now make up a larger proportion of these schools compared to the past. Two-thirds of American schools that Blacks and Latinos attend are more racially segregated. Asian Americans are more likely to attend integrated schools than any other ethnic group (Mickelson,

2013). Whites are the least likely of any student group to attend segregated minority schools, especially if their families live outside of central cities. There is a growing trend of racial and socioeconomic segregation in urban and suburban public schools. This research underscores the importance of addressing racial isolation in schools to reduce the widening racial gaps in academic performance as students advance through the grades (Mickelson, 2013). As the literature will show, several research studies show large and persistent racial gaps in educational attainment that may be addressed, in part, by students having access to teachers from the same racial or ethnic background. Several studies that will be discussed during this review have demonstrated that students with only one same-race teacher experience have fewer absences and suspensions, higher test scores, and are more likely to graduate high school and start college (Darling-Hammond, 2016).

This remaining literature review is dedicated to the discussion of findings regarding the influence of having a same-race teacher on student achievement, student engagement, and student trust. According to the National Center for Education Statistics, 79% of the teaching force in this country is White, and 21% of the teaching force are people of color. The review of literature will also consider the influence of educators' attitudes, beliefs, and mindsets on students' performance in schools. Much of this work draws on literature investigating how the connections between a teacher's attitudes about a student can positively or negatively affect students, their beliefs about their abilities, potential, and, ultimately, their learning and achievement.

The Role of Teacher Attitudes and Mindsets in Racial Achievement Disparities

Research shows positive effects of student diversity, but the achievement of students is influenced by a teacher’s attitude and mindset. Teachers’ attitudes and mindsets towards students

strongly influence students' success in school (Duckworth, 2009). In a study by Brookover (1969), students were picked at random in a public elementary school and called "growth sputters" to see if there would be a change in teacher behavior due to this moniker. Brookover (1969) found that one person's expectations of another's behavior may come to serve as a self-fulfilling prophecy: When teachers expected that certain children would show more remarkable intellectual development, they showed more remarkable intellectual development. This study suggested that mindsets about students can influence beliefs which can have positive or negative effects on them. What was not clear from this study was why (Brookover, 1969).

Other research suggests that teacher mindsets about students' academic abilities may be a key factor in student achievement (Cherng, 2017; Weinstein, 2012). Furthermore, Latinx and Black students tend to have lower academic achievement when underestimated by English and Math teachers (Cherng, 2017), which hints at the implicit bias of teachers in making judgments about the abilities of students of color as less capable than their White counterparts (Cherng, 2017).

To add complexity to the issues of teacher implicit bias, Gersheson et al. (2016) examined whether teacher expectations are different based on the teacher's race. This study found that non-black teachers of Black students have significantly lower expectations than Black teachers, which leads to lower academic achievement for Black students (Gersheson et al., 2016). Furthermore, this study showed that teachers likely influence students' beliefs (Gersheson et al., 2016), which is similar to the other studies mentioned above (Burgess & Greaves, 2013; Dee, 2015).

Dee's (2005) study used the National Education Longitudinal Study [NELS:88] to evaluate whether an assignment to a demographically similar teacher influences the teacher's

evaluation of that student's behavior or performance. Dee (2005) found that eighth graders viewed as disruptive or inattentive were less likely to be enrolled in honor classes. They were more likely to drop out of high school and teacher perceptions of students' abilities have a direct impact on a student's educational opportunities (Dee, 2005). Some studies suggest that White teachers assess White students to be more academically engaged than their Black counterparts (Downey & Pribesh, 2004; Ferguson, 2003). Other studies suggest that White teachers give Black students worse evaluations than Black teachers tend to give them (Alexander, Entwisle, & Thompson, 1987; Brewer, Ehrenberg & Goldhaber, 1994; Downey & Pribesh, 2004; Ferguson, 2003).

Similarly, Dweck (2006) discussed how success in life could be influenced by how we think about our own talents and abilities, what she refers to as a growth mindset. Similarly to how Cherng (2017) suggested that when students of color were underestimated, they scored lower than their White counterparts, Dweck (2006) argues that the view you adopt of yourself profoundly affects how you live your life. If you adopt a positive view of yourself, that may affect your life positively and you are more likely to exhibit resilience in the face of adversity, overcome challenges, take on more challenging problems and experience success. People with fixed mindsets believe that their potential or status in life cannot change because one must deal with the hand they are dealt (Dweck, 2006). People who have a fixed mindset are less likely to grow or flourish in life endeavors. In contrast, a person with a mindset for growth is likely to grow and flourish in life endeavors because their beliefs help them experience accomplishment, particularly in challenging or adverse circumstances (Dweck, 2006). Mindsets are crucial to ensuring students and organizations are moving toward success. These scholars cite examples of

people who develop a negative mindset that invariably led to negative behaviors characterized by unwilling-to-change attitudes.

Naturally, research has also demonstrated how teachers can play an important role in whether students have fixed or growth mindsets towards content as well as their own achievements. Researchers have found it advantageous to think about beliefs of intelligence in two ways: an incremental view or an entity view, similar to the ideas of growth and fixed mindsets (Dweck, 1999). The incremental view is the belief that a person has control over their intelligence and that their intelligence can continue to grow through continuous improvement (Jones et al., 2012). The entity view of intelligence believes that humans are born with a predetermined level of intelligence, and their intelligence does not change over time. Because teachers work closely with their students, they can profoundly affect the types of views students have over their own intelligence and its ability to change over time (Jones et al., 2012). Teachers with more incremental views of intelligence are likely to care more about specific practical skills and social behaviors and the way they teach and create goals for their classrooms and students. Teachers with an entity view of intelligence are likely to have lower self-efficacy themselves and they are less likely to create autonomy-supportive climates in their classrooms (Jones et al., 2012). Teachers themselves cultivate their own growth or fixed mindsets and, to help students, cultivate a growth mindset over a fixed mindset, they need to develop one themselves, and the malleability of intelligence leads to better student outcomes, according to the evidence (Dweck, 2006; Jones et al., 2012).

Dweck's (1988) work suggests that if an organization is to be great, there must be a growth mindset. Dweck and Leggett (1988) discussed how people's implicit bias about human attributes structures the way they understand and react to human actions and outcomes. They

reviewed research dealing with fixed and growth mindsets, specifically dealing with attributes or trait-like qualities. A person with a fixed mindset would believe that if they failed a test, it was because they are dumb, and nothing can be changed—future performances on similar tasks are likely to have the same result regardless of the effort put in to do better. However, a person with a growth mindset would see the same situation differently. If they failed the test, they failed the test because they did not study or did not put forth their best effort, which means they could do better next time. They feel they have the power to change their circumstances, outcome, and reality.

Conclusions by different researchers have been mixed on whether teacher perceptions of a student influence that student's success (Dee, 2005). For example, Ferguson (2003) examined whether teachers and students determine the Black-White score gap. Ferguson found that teachers' perceptions, expectations, and behaviors interrelate with students' beliefs, behaviors, and work habits in ways that help maintain the achievement gap (Ferguson, 2003). One important way teacher attitudes can feed into student outcomes is through phenomena like stereotype threat. Stereotype threat refers to the risk of confirming a negative stereotype about one's group as a self-characteristic (Steele & Aronson, 1995). For example, Steele and Aronson (1995) examined the impact of societal stereotypes on the intellectual test performance of African American students. It was hypothesized that these students face the threat of confirming negative stereotypes about their intellectual ability when engaging in scholastic or intellectual tasks, which can interfere with their intellectual functioning, especially during standardized tests (Steele & Aronson, 1995). Over time, this threat may also lead students to disidentify with academic achievement to protect themselves from stereotype-based self-evaluation threats and negative mindsets (Steele & Aronson, 1995).

Teacher Racial Composition, Same-Race Teachers, and Student Outcomes

As the United States demographics continue to change, the Anglo-conformist policy of the past is shifting towards cultural pluralism (Washburn, 1996). While existing research is not conclusive about whether teacher diversity matters in student learning, there can be no doubt that the United States faces a cultural gap between students and teachers in schools (Banerjee, 2017). Schools in the United States have become diverse, while most of the teacher workforce remains predominantly White (Banerjee, 2017; Guarino, Santibañez, & Daley, 2006; Little & Bartlett, 2010). Regardless of the conclusions of this research, multicultural education theory would suggest that the fact that the teaching force is not diversifying along with the student population is concerning when it comes to the academic achievement and success of students of color.

Dee (2005) sought to evaluate whether assignment to a same-race teacher influences the teacher's evaluations of student behavior and performance (Dee, 2005). Dee believed that there are two ways that demographic matches can positively influence educational outcomes (Dee, 2005). One way is called passive teacher effects. Passive teacher effects are triggered by the teacher's racial, gender, or ethnic identity (Dee, 2005). Another benefit of same-race teachers is the level of expectations they have for students who have similar demographics (Dee, 2005). According to Dee (2005), minoritized students are more likely to be evaluated negatively by a demographically dissimilar teacher (Dee, 2005). For example, in a recent study by Dee (2004), data from Tennessee's Project STAR show that random assignment to racially similar teachers improved both Black and White students' test scores.

Dee (2005) 's findings are similar to the conclusions reached by Banerjee (2017), who found that Latinx students are more likely to be placed in higher-ability groups when assigned to a Latinx teacher. Studies have shown that a teacher-child relationship is enhanced by being of

the same race, and there is a higher sense of belongingness (Alexander et al., 1987). Furthermore, having a same-race teacher leading specific classes, such as Advanced Placement or Honor classes, often determines whether students can take these classes. These are "gatekeeping classes" because access to them can open significant opportunities for students, including access to STEM post-secondary opportunities.

Minoritized students can experience increases in their motivation and personal expectations when having a same-race teacher (Adair, 1984; Harris et al., 1988; Stewart et al., 1989). Furthermore, having a teacher who is of the same race may reduce a student's belief that their teacher has a negative stereotype about them which can lead to lower student engagement and achievement (Egalite & Kisida, 2018). Ehrenberg, Goldhaber, and Brewer (1995) found that teachers' race, gender, and ethnicity were likely to influence teachers' biased assessments of their students. Gershenson (2018) found that when Black children had a Black teacher between third and fifth grades, boys were significantly less likely to drop out of high school, and both boys and girls were more likely to attend college. Furthermore, Gershenson (2018) states that Black students randomly assigned to a Black teacher in grades K-3 were 5 percentage points more likely to graduate from high school and 4 percentage points more likely to enroll in college than their peers in the same school who were not assigned a Black teacher.

Research studies focused on what practices benefit children from minority populations could help schools narrow the achievement gap between different demographic and ethnic groups (Redding, 2020). For example, the Measures of Teaching project (Kraft, 2019) showed that teachers who are the same race as their students positively impacted standardized tests, growth mindset, perseverance, and effort in class. Moreover, a Black student with the same race teacher may experience higher expectations, better learning opportunities, better relationships,

which may improve academic and nonacademic performance. (Milner, 2011; Redding, 2020) The prospect for student-teacher racial matching to improve student achievement is grounded in the belief that teachers play a role in rational and behavioral development (Redding, 2020). These examples of teacher and student racial matching are strong because, according to research, having teachers and students of the same race is not the norm (Redding, 2020). Data from the 2013 National Assessment of Educational Progress show that Black teachers taught only 23% of Black students (Yarnell & Bohrnstedt, 2018). The racial segregation of minority teachers in certain schools has led to some Black students never having a Black teacher (Gershenson et al., 2017).

The underrepresentation of teachers of color is especially startling in higher-tracked courses (Hart, 2020). For example, a study of North Carolina elementary schools found that Black teachers were disproportionately assigned to teach the levels of non-advanced classes (Clotfelter et al., 2006). Another study in 2004 found that only one in nine African American students in Texas attended schools with even one Black instructor in Advanced Placement (AP) courses (Klopfenstein, 2004). Both studies showed that students of color are unlikely to have a same-race teacher in advanced classes.

National statistics on advanced-track course-taking from 2009 suggest that among the students entering high school, a third of Black students (30%) took A.P. or I.B. courses, compared with 44% of White students and 76% of Asian students (National Center for Education Statistics, 2019). State-level studies tend to tell a similar story about students of color taking advanced courses. A study in Florida, for instance, found that White students were twice as likely as Black students to take "Level-3" courses, which captured a mix of advanced-track courses with designations such as honors, upper-level, A.P., or I.B. (Long et al., 2012).

Teachers' expectations for their students are informed by their values and beliefs (Lareau & Weininger, 2003). Teachers' values and beliefs can have a positive or negative effect on a student. It is important for students to build positive relationships with their teachers (Van Maele & Van Houtte, 2011). If a teacher trusts a student, according to research, the teacher is more likely to believe the student is teachable. Furthermore, when students believe their teachers trust them, they are more likely to succeed in school (Bryk & Schneider, 2002; Van Maele & Van Houtte, 2011). Moreover, teachers of color may buffer against an environment that activates stereotype threats. Stereotype threat is activated when students are concerned that their poor performance could bolster stereotypes that students of their background are less capable in each situation.

Due to evidence that there may be a positive effect on having the same race teacher for students of color, there have been calls from educators and politicians to recruit and hire more racial minority teachers (U.S. Department of Education, 2010). Increasing teacher diversity can be one strategy in improving and closing the achievement gap (Carver-Thomas, 2018). Students of color and White students report having a more positive perception of their teachers of color because they felt cared for and academically challenged (Carver-Thomas, 2018). It is consequential that a diverse staff helps teach and motivate all students, especially students of color, because it may lead to higher engagement, increased trust, and better achievement.

Another article Hallinan (1998) explores the impact of diversity on student learning and various social outcomes by presenting a conceptual model that highlights ability, effort, and opportunity as key factors influencing learning. This empirical study focused on desegregation in elementary and secondary schools and demonstrated benefits for the academic achievement of minority students in predominantly white schools (Hallinan, 1998). Additionally, racial attitudes

and sociability among minority and majority students improve in desegregated schools (Hallinan, 1998). At the collegiate level, this research indicates advantages of racial and ethnic diversity, leading to enhanced learning experiences (Hallinan, 1998). Students of all backgrounds better understand race and ethnicity, promoting respect for cultural differences in a multicultural environment (Hallinan, 1998).

Summary of the Literature Review

Laws passed by Congress, states, and localities have not succeeded in closing the achievement gap between African-American and White students. Considerable research has examined the positive educational experiences of Black students assigned to teachers of the same race or ethnicity. Underlying this research is the belief that the racial match between students and teachers can improve a child's academic and nonacademic performance in school. In fact, since the 1980s researchers have been exploring racial congruence. Data from the National Educational Longitudinal Study (NELS) 1988 when the students were in the 10th and 12 grade, Oates (2003) determined that the impact of racial matching on teacher perceptions was significantly related to African American students test performance. Another example, Dee (2004) research showed that being assigned to a same-race teacher increased both mathematics and reading achievement for Black and White students. However, Pigott and Cowen (2000) found that teacher racial matching did not show significant difference between Black and White student achievement in Rochester Public Schools. The mixed results in this literature suggest that still more research is needed on this issue. Yet, existing research has been focused primarily on the teacher-student dyad as the unit of analysis. Questions remain as to the overall school-wide benefits of having a diverse teaching staff within a school. Thus, this study hopes to add to the body of research in this area by examining if the overall racial composition of school staff is

related to improvements in school-wide student achievement, student trust in teachers, and student engagement.

Chapter 3:

Theoretical Framework

There is growing awareness of the benefits of teacher diversity and having same-race teachers, particularly for students of color. Yet, most of existing research has primarily focused on the micro-level of this phenomenon, examining dyadic matches (and mismatches) between the race of teacher and student and their relationship to a host of student outcomes. Questions remain as to whether there are aggregate school-level effects concerning the diversity of the teacher corps within a school. In other words, does the overall proportion of teachers of color for schools with significant numbers of students of color matter for their academic outcomes? Recall the purpose of this study will be to examine the associations between the diversity of a teaching corps within a school and overall school level student engagement, trust, and achievement.

Gay (2000) once wrote that "…knowledge and use of the cultural heritages, experiences, and perspectives of ethnic groups, must alter teachers' perceptions…which leads to improved student and parent-teacher relationships" (p. 205). To understand the significance of race, racial bias, and the disparities and benefits that students of color experience when they have a same-race teacher in the classroom, I draw upon social identity theory, critical race theory, and self-determination theory and the basic psychological need of relatedness, and shared cultural understandings.

Social Identity Theory

Social identity theory (Tajfel & Turner, 1979) holds that group members are motivated to protect their self-esteem and achieve a positive social identity through identification with others they perceive to be like themselves. Unfortunately, the push for a positive social identity leads to active discrimination of those perceived to be in the "out-group" (them) within society. This

theory shows the general tendency of humans to want to categorize individuals, discriminate between those in their "in-group" (us) and "out-group" (them) exclude individuals from their "in-group" if they are perceived to not belong (Tajfel & Turner, 1986). The theory discusses how, because of this tendency, people generally tend to exaggerate in-group identity as well as those perceived to be in the "out-group," and how categorizing people into certain groups can lead to ingroup bias (Turner, 2011). Results across hundreds of studies show that participants rate members of the majority more positively, exhibit a preference for majority members in allocation of resources, and want to maintain maximal difference in allocation between majority and minority members, thereby giving minority members less than they deserve.

Critical Race Theory

Critical race theory builds on social identity theory by providing a lens into the ways that individuals and systems conspire to limit access to resources for those not perceived to be in the dominant or "in" group. Critical race theory argues that race is a social construct and that racism is not merely the result of individual bias or prejudice, but also something embedded in legal systems and policies (Sawchuk, 2022). Critical Race Theory, or CRT, was created in the 1970s by legal scholars Derrick Bell, Alan Freeman, and Richard Delgado (Sawchuk, 2022). Critical Race Theory is important to use in this study because it helps to explain why race matters in public education and to address institutional racism as it is manifested in the classroom. Furthermore, CRT will be used to structure the discussion and racial matching may push thinking on how race and racism shape the social and educational practices, cultural beliefs, and teacher's practice in the classroom (Delgado, 2001).

Using CRT for this study, there are several points to consider. The United States of America has pervasive issues of race and racism (Delgado, 2001; Ladson-Billings, 2004; Taylor,

2000). Race-related and racist structures have operated in US public schools and have served to confer distinct advantages to White students and the disadvantage of students of color through mechanisms like teacher race mismatch and teacher implicit bias, among others. Ladson-Billings and Tate (1995) state that race is the number one factor in determining inequity in the United States and that these advantages are systematic, built into the institutions like education that confer social advantages:

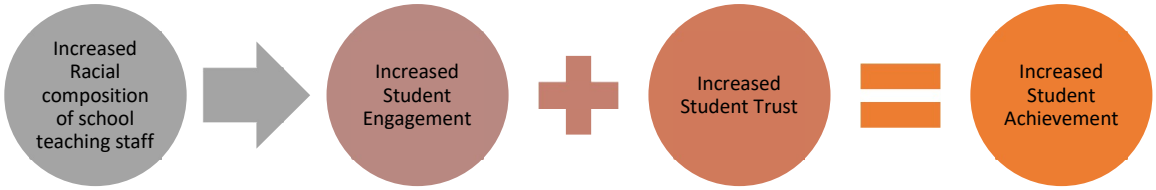
> If racism were merely isolated, unrelated, individual acts, we would expect to see at least a few examples of educational excellence and equity together in the nation's public schools. Instead, those places where African Americans do experience educational success tend to be outside of the public schools. While some might argue that poor children, regardless of race, do worse in school and that the high proportion of African American poor contributes to their dismal school performance, we argue that the cause of their poverty in conjunction with the condition of their schools and schooling is institutional and structural racism. Thus, when we speak of racism, we refer to Wellman's definition of "culturally sanctioned beliefs which, regardless of the intentions involved, defend the advantages Whites have because of the subordinated positions of racial minorities. (Ladson-Billings & Tate, 1995, p .55).

Utilizing Critical Race Theory can help facilitate an understanding of the systemic educational structures still in place that function to hinder the educational opportunity for all children, especially children of color (Ladson-Billings & Tate 1995) and allows us a lens through which to understand why things like teacher implicit bias and teacher-student racial match can serve as an important mechanism for understanding learning, psychosocial well-being, and achievement. (Solórzano & Yosso, 2002). This study's theory change is shown in the graphic below (see

Figure 1). If a staff is diverse it will lead to higher student engagement and student trust that will ultimately lead to higher student achievement.

Figure 1.

Theory of Change of Racial Composition of School Teaching Staff on Student Academic and Non-Academic Outcomes



Self-determination Theory and the Need for Relatedness

SDT is a multi-faceted psychological theory of human behavior and personality development (Ryan & Deci, 2017) with strong empirical support. A key component of SDT is the assumption, like social integration theory, of an internal desire for human beings to engage and interact with their world, exercise capacities, and pursue connectedness toward a more complex sense of self (Ryan & Deci, 2000). Basic Psychological Needs Theory (BPNT), a sub-theory of SDT, predicts that this autonomous drive will remain intact so long as key psychological needs are satisfied, specifically competence, autonomy, and relatedness. Competence refers to an individual's need to build skills and capacities in anticipation of future performance. Autonomy concerns self-determined action which emerges from self-endorsed or determined values and beliefs. Relatedness refers to need to be cared for and connect to others and have a sense of belonging to a community (Deci & Ryan, 2002). It is the need for relatedness, which is a primary focus of this work, as in schools it is this need which is either

supported or thwarted because of a student's relationship with a teacher. Having racially matched teachers supports students' psychological needs, in particular relatedness, because, as the research reviewed previously demonstrates, having a same race teacher can improve students' performance, engagement, and interest in school. In cases where students don't feel supported, overcoming obstacles is more difficult, and those students will likely perform below their potential, as suggested by Adams and Forsyth (2014). Based on prior research and theory, students of color assigned to the same-race teacher are hypothesized to have better engagement than other students of color who are assigned a different-race teacher and that we are likely to see aggregate effects of these matches at the school level.

One manifestation of strong support of relatedness in school is trust between teachers and students (Ford & Ware, 2018). Students who do not trust teachers are likely to build barriers to learning and become alienated from school (Hoy, 2002). According to Hoy (2002), trust is "one party's willingness to be vulnerable to another party based on the confidence that the latter party is benevolent, reliable, competent, honest and open" (p. 122). If students and teachers are going to be successful, they must know that one party cannot achieve their goals without relying upon each other (Hoy, 2002). Learning is a cooperative process, so there must be trust if learning is going to take place. If students, especially Black students, do not trust their teachers or have not built positive relationships, they are likely not to reach their academic goals. The evidence suggests that students of color tend to perform better on standardized tests, have improved attendance, and are suspended less frequently when they have at least one same-race teacher. (Lindsay et al., 2017).

Furthermore, trust may emerge between teacher and student because of shared cultural understandings and perceived commonalities, in line with social identity theory. As mentioned

earlier, perceptions of students by teachers lead to specific educational opportunities for students (Redding, 2019). These perceptions could lead to students being placed in, for example, special education programming, advanced classes, or gifted and talented programs. If a teacher and a student share cultural and racial similarity, the teacher is more likely to give a more fair and accurate assessment of a student's academic performance (Redding, 2019). An article by Weinstein et al. (2004), describes those expectations of behavior that are culturally influenced; and that conflicts arise when teachers and students come from different backgrounds. There are five components to culturally responsive classroom management: 1) recognition of one's ethnocentrism; 2) knowledge of students' cultural backgrounds; 3) understanding of the broader social, economic, and political context of the educational system; 4) ability and willingness to use culturally appropriate classroom management strategies; and 5) commitment to building caring classrooms (Weinstein et al., 2004). Teachers—White teachers—need to build these skills in order to build a more culturally relevant classroom, but teacher education programs often fall short in helping teachers develop these competencies (Gay, 2002). For example, Okonofua and Eberhardt (2015), showed that when teachers have negative racial stereotypes of Black students, this may lead to higher discipline infractions compared to White students. When teachers have a better understanding of their students' cultural and social backgrounds, it may lead to better outcomes for students of color. Teachers of color seem to understand their same-race students better and can make better connections to identities and lessons being taught (Redding, 2019).

Another manifestation of the strong support of relatedness is student engagement.). Student engagement is defined as “the student’s psychological investment in and effort directed toward learning, understanding, or mastering the knowledge, skills, or crafts that academic work is intended to promote” (Martin & Bolliger, 2018). Student engagement as a construct

encompasses three dimensions: affective engagement, behavioral engagement, and cognitive engagement (Parsons et al., 2014). Affective engagement is student engagement that deals with a sense of belonging in the classroom and enthusiasm around specific topics (Parsons et al., 2014). Behavioral engagement deals with students' time-on-task and cognitive engagement is a construct that deals with perseverance and self-regulation strategies. Student engagement increases student satisfaction and learning motivation and improves student performance (Martin & Bolliger, 2018). It also likely leads to increased teacher-student trust (Bryk & Schneider; Forsyth et al., 2011).

The satisfaction of three basic needs in students, achieved through emotional involvement, provision of structure, and autonomy support from teachers, has been demonstrated to positively impact academic motivation and achievement (Bao & Lam, 2008; Furrer & Skinner, 2003). For example, when children are engaged, they are provided with more motivational support by their teachers (Skinner & Belmont, 1993). In contrast, children with low motivation become even more disaffected over time, especially when confronted with challenges or transitions (Eccles et al., 1998). Engagement serves as a reliable predictor of children's long-term academic achievement and their eventual completion of school (Skinner et al, 2008).

Indeed, engagement is crucial to student learning (Martin & Bolliger, 2018 Engagement is associated with student achievement (Parsons et al., 2014). Educators aim to create engaging experiences for students because there is a correlation between higher engagement and higher achievement (Parsons et al., 2014). Skinner and Pitzer (2012) research stated that “engagement is a robust predictor of student learning, grades, achievement test scores, retention, and graduation.” Skinner and Pitzer (2012) suggests that understanding ongoing engagement can be enhanced by considering concepts of everyday resilience, particularly how students respond to

mistakes and challenges. The same resources fostering engagement also play a crucial role in shaping students' reactions to obstacles, with academic coping serving as a significant bridge back to re-engagement.

Brozo, Shiel, and Topping (2008) identified reading engagement as a powerful indicator of reading achievement. Better readers tend to read more because they are more motivated to read, while poor readers, continue to experience an ever-increasing decline in skill level (Brozo et al., 2008). Classroom teachers can help increase or decrease student engagement. Engagement can change over time (Parsons et al., 2014). Specific tasks influence students' engagement and cannot be separated from their environment. This is important because teachers can control their classroom environments. Teachers can show engaging classroom contexts by showing students that they care about them and by maintaining a positive social environment while creating a collaborative, efficient, and caring classroom environment (Parsons, Nuland, & Parsons, 2014).

The concept of relatedness is proposed as a predictor of children's engagement and learning. Feeling valued and significant to important social connections is hypothesized to stimulate positive behaviors like effort, persistence, and participation, as well as generate positive emotions such as interest and enthusiasm, while reducing negative emotions like anxiety and boredom (Furrer & Skinner, 2003). In contrast, children who perceive a lack of connection to key social partners may struggle to actively engage in academic activities, experiencing boredom, worry, and frustration, and are more likely to become disaffected (Furrer & Skinner, 2003). The quality of children's day-to-day involvement in academic activities is seen as crucial for their long-term learning, socialization, and overall development in school (Furrer & Skinner, 2003).

Shared understanding between students and teachers can lead to more positive relationships and trust, especially when teachers and students are of the same race (Redding, 2019). Not only can a shared understanding lead to more positive relationships, but it can also lead to better academic outcomes and a better sense of belonging (Redding, 2019). According to Weinstein, Tomlinson-Clarke, and Curran, (2004), "Faced with directives from the teacher, they resist or cooperate, ignore or acquiesce—and the key factor determining which option they choose is often their perception of the teacher's caring" (p. 33). It is important that White teachers adjust their perceptions to lead to better outcomes for students. Carver-Thomas (2018) demonstrates that prior research shows that teachers of color have boosted the academic performance of students of color, improved graduation rates, and increased the number of students who aspire to attend college.

Finally, students who have positive relationships with teachers from their school will likely have a positive impact on parent relationships also (Redding, 2019). Positive parental relationships with schools increase the probability of good communication between home and school. Improved communication can improve trust and better classroom placements, such as in special education and gifted-and-talented programs.

Chapter Summary

In summary, this chapter provides a theoretical foundation for understanding the importance of teacher diversity and same-race teacher-student matches on student outcomes, including engagement, trust, and academic achievement. It highlights how social identity theory, critical race theory, and self-determination theory, with a focus on the need for relatedness, can be used to examine the complex dynamics in education and the potential benefits of teacher diversity for students of color.

Chapter 4:

Method

The purpose of this study is to examine the associations between the diversity of a teaching corps within a school and overall school level student engagement, trust, and achievement. There is growing evidence of the success of students of color when they have a same race teacher, but there is little research which investigates the effects of an overall diversity of staff within a school on school-level student success. This observational, correlational study will examine the association of a measure of school-wide racial composition of school teaching staff on three dependent variables, student engagement, trust, and achievement. It is essential to focus on achievement and trust because students of color tend to often perform better on standardized tests, improve attendance and are suspended less frequently when they have at least one same-race teacher (Lindsay, Blom, & Tisley, 2017). For this study, an analysis of data from a sample of over 70 schools from a high-poverty, urban district in a Midwestern state was used to answer the following research questions:

1. Is there a relationship between the racial composition of a school teaching staff and overall school level student engagement?
2. Is there a relationship between the racial composition of a school teaching staff and overall school level student trust in teachers?
3. Is there a relationship between the racial composition of a school teaching staff and overall school level student achievement?
4. Is the effect of racial composition of a school teaching staff on the focal outcomes (engagement, student trust in teachers, and student achievement) moderated by the proportion of students of color in the school?

Data Sources and Sample

As mentioned above, this study utilized school-level data from one large, urban district in a Midwestern state serving over 30,000 students. The data for this survey was collected during the 2016-2017 school year by a research team at a local university from site principals, faculty, parents, and students from grades 5, 8, and 11 in the district. Data were collected from site principals, faculty, parents, and students from 73 schools in total. Only teacher and student data were used for this study. All teachers from the 73 elementary and secondary schools in the district were sent an electronic survey by email. Teachers were stratified by school then randomly assigned to one of two forms of the survey to balance the need to gather information on a wide array of school conditions. The constructs captured on each form of the survey were mutually exclusive. This Midwestern district administered and collected student surveys during the school day. Students from grades 5, 8, and 11 were randomly assigned to one of two survey forms. Participation was voluntary. Overall response rates for teachers on each form of the survey were 69% and 68%, respectively. Student survey response rates were 77% and 79% respectively.

Measures and Instrumentation

Study measures were taken from each of the student, teacher and principal surveys and aggregated to the school level for the purposes of the analysis. Below, the study measures are described in detail. Descriptive statistics for all measures are displayed in Table 1.

Racial composition of school teaching staff. Taken from the teacher survey, the focal independent variable of the study is a measure of school-wide racial composition of school teaching staff. This was measured as the school-wide proportion of regular teaching faculty who identify as teachers of color with respect to the total number of FTE teachers in the building.

The dependent variables of student engagement, student trust in teachers, and student achievement will be operationalized as follows (see Appendix A for detailed information on the items comprising each measure):

School-wide student engagement (α = .890). This outcome measure was captured from items on the student survey and was operationalized as the degree to which students identify with the school, feel challenged and motivated at school, and internalize the value of pursuing their interests by fully engaging in the opportunities the school offers. Engagement of students was measured using the Student Identification with School Scale (Voelkl, 1997) which captures students' excitement about school, their sense of belonging to the school, and the value they see in pursuing their education. Questions ask students if they feel proud of being part of the school, if they value their learning, if they feel teachers care about them, and if they look forward to school every day, which means students feel connected and have a high value of the importance of an education.

Table 1

Study Descriptive Statistics

	Mean	Std. Deviation	Minimum	Maximum
Pct. Asian Students	0.018	0.018	0	0.087
Pct. Hispanic Students	0.303	0.202	0	0.746
Pct. Black Students	0.275	0.194	0.07	0.807
Pct Native American Students	0.055	0.028	0.01	0.152
Pct. White Students	0.249	0.164	0.05	0.669
Racial composition of school teaching staff	24.59	15.52	0	84.21
Pct. Hispanic Teacher	3.75	7.44	0	44.44
Pct. Black Teacher	13.08	13.12	0	57.89
Pct. White Teacher	75.40	15.52	15.79	100
Pct. Stud. Diversity	65.24	18.36	23.69	88.18
Female	82.28	13.12	50.77	100
School Size (enrollment)	540.80	254.62	80.00	1321
Math Achievement 2016-2017	681.66	42.86	606.21	801.82
Reading Achievement 2016-2017	695.13	41.54	615.94	793.55

Student Engagement (SID)	3.06	0.277	2.33	3.62
Student Trust in Teachers (STT)	3.09	0.305	2.33	3.70
Tch. Trust in Students (FTSTU)	4.04	0.528	3.04	5.47
Teacher Job Satisfaction (JOBSAT)	4.42	0.433	3.17	5.50
Faculty Trust in Principal (FTPRIN)	4.48	0.742	2.71	5.78
Teacher Years Taught	12.69	3.55	2.84	21.95
Teacher Years in Current School	5.95	2.48	1.82	12.23

School-wide student-teacher trust (α = .914). This outcome was captured via questions on the student survey. Student trust is defined as the quality of the relational connection between students and teachers as measured by their perceived openness, honesty, reliability, benevolence, and competence. Questions ask students about the reliability of teacher actions, teacher concern for students, teacher competence in their teaching, teacher willingness to help students, teacher honesty, and teacher dependability. Higher student trust suggests that students perceive teachers as being open, honest, reliable, competent, and benevolent in their social interactions with students (Forsyth et al., 2011).

School student achievement in reading and math. Measures of student achievement were gathered from state administrative data on state-wide testing program assessment performance during the 2016-2017 school year in math and reading. Data were obtained for individual students and aggregated into a measure of school-wide math and reading achievement and merged with other school-level data for the purposes of analysis.

Teacher/student racial alignment index. For the purposes of a moderation analysis, an interaction term was developed to measure the degree of alignment between the school-wide, same-race, teachers and students (e.g., school-wide percentage of black teachers and black students). As a product of the school-wide percentage of black teachers and percentage of black students, this index was designed to measure the degree of "racial match" at the school level.

Analysis revealed a moderate-to-strong correlation between the percentage of black teachers and black students within a school ($r = .627$, $p < .001$).

Analytical Approach

As was mentioned before, this was a correlational study designed to examine the relationship between school-wide racial composition of school teaching staff, and our three independent variables, student engagement, trust, and achievement. It is important to focus on achievement and trust because students of color tend to often perform better on standardized tests, improved attendance, and are suspended less frequently when they have at least one same-race teacher (Lindsay et al., 2017).

While descriptive and correlational statistics were reported, the thrust of the analysis was a series of school-level OLS regressions with each outcome and a set of control variables as well as our focal measure of racial composition of school teaching staff. Several of our chosen controls were also a part of a moderation analysis to examine whether or not the effects of racial composition of school teaching staff were stronger if the school was small (school size) and if it had a higher proportion of students of color. In addition to school size and proportion of students of color in the school, other control variables used in these models were: the aggregate teacher experience of the school, especially with the consistently high turnover of teachers in urban areas, teacher job satisfaction, and faculty trust in the principal. All variables were standardized to assist in the interpretation of the findings.

Chapter 5:

Results

This chapter presents the results related to the four main research questions, each addressing a distinct aspect of the relationship between racial composition of school teaching staff and student outcomes. The study also explores whether the school's size and the proportion of students of color moderate these outcomes.

Descriptive statistics from Table 1 (presented in Chapter 4) show that this urban Midwestern school district has schools that are diverse and others that have a clear majority of students of a particular race. The Asian student population in this district is as high as 87% and low as 0%. Hispanic student population is as high as 74.6% and low as 0%. African American student population is as high as 80.7% and low as 7%. Native American student population is high as 15.2% and low as 1.7%. The White student population is high as 66.9% and low as 52.9%. Overall, the student diversity can be high as 88% in this midwestern urban school district and low as 24%. These numbers show a diverse student population but, as is discussed below, the teaching staff in these buildings are not as diverse.

Research Question 1: Is there a relationship between the racial composition of a school teaching staff and school-level student engagement?

The first research question was designed to investigate whether there was a relationship between the racial composition of a school staff (measured by percent of teaching staff of color in the school) and student engagement after controlling for other characteristics. This question and subsequent hypothesis that there is a positive relationship between racial composition of school teaching staff and student engagement was grounded in a growing body of research that has found that Black students may benefit from having Black teachers as it pertains to both their

academic and social development (Gershenson, 2019). Schools in the United States are still taught by predominantly white teachers and this trend continues, meaning that the diversity of U.S. teaching staff is stagnant (Banerjee, 2017; Guarino, Santibanez, & Daley, 2006; Little & Bartlett, 2010). It is worth noting from study descriptive statistics that a majority of District teachers are white, while the student population is becoming more and more diverse. In this large Midwestern district there are 72 schools, where 25% of the staff are teachers of color, while over 50% of the student population are students of color. Racial composition of school teaching staff ranged from 0% to 84.21% in the study schools.

Table 2

School-wide Student Engagement and Racial Composition of School Teaching Staff Full Regression Model

	β	*SE*	p-value
Constant	0.031	0.139	0.822
Percent of racial composition of school teaching staff	0.345	0.168	0.045*
Pct. female teacher	0.100	0.146	0.495
Avg. teacher years taught	0.104	0.147	0.484

Note. Outcome and all variables standardized.
$^{**}p < 0.01$, $^{*}p < 0.05$

Table 2 presents the results from an analysis of the relationship between proportion of teachers of color in a school building (percent of racial composition of school teaching staff) and students' identification with the school (school-wide student engagement). This analysis controlled for the proportion of female teachers and the average teacher years' of experience in the school. The results show that percent racial composition of school teaching staff was significantly related to school-wide student engagement, $\beta = 0.345$, $SE = 0.168$, $p < .05$. This result indicates the estimated change in the dependent variable, student engagement, is over 3

tenths of a standard deviation for every one-standard-deviation increase in percent racial composition of school teaching staff while holding other variables constant.

Research Question 2: Is there a relationship between the racial composition of a school teaching staff and school level student trust in teachers?

The second research question focuses on the relationship between racial composition of school teaching staff and school-level or collective student trust in teachers. The complete results of this analysis can be seen in Table 3. This analysis controlled for the proportion of female teachers and the average teacher years' of experience in the school as well as school size measured by student enrollment, and the proportion of students of color in the school. The results show that percent of racial composition of school teaching staff was not significantly related to school-wide student trust in teachers, $\beta = 0.234$, $SE = 0.186$, $p =$ n.s.

Table 3

Collective Student Trust in Teachers and Racial Composition of School Teaching Staff Full Regression Model

	β	*SE*	p-value
Constant	-0.001	0.139	0.995
Percent racial composition of school teaching staff	0.234	0.186	0.214
Pct. female	0.130	0.146	0.380
School size	0.117	0.154	0.450
Avg. teacher years taught	0.120	0.157	0.448
Pct. students of color	-0.274	0.167	0.107

Note. Outcome and all variables standardized.
$^{**}p < 0.01$, $^{*}p < 0.05$

Research Question 3: Is there a relationship between the racial composition of a school teaching staff and school level student achievement?

The purpose of the third research question was to investigate whether there was a relationship between the racial composition of a school staff (measured by percent of racial composition of school teaching staff) and student achievement in reading and math after controlling for other characteristics. This question was posed based the hypothesis that student engagement and trust in teachers, if related to school-wide racial composition of school teaching staff, would subsequently results in improved student achievement.

Table 4

Reading Achievement and Racial Composition of School Teaching Staff Full Regression Model

	β	*SE*	p-value
Constant	-0.055	0.094	0.560
Pct racial composition of school teaching staff	0.097	0.127	0.449
Pct. female	-0.089	0.102	0.384
School size	0.179	0.106	0.098
Avg. teacher years taught	0.092	0.107	0.395
Pct. students of color	-0.791	0.116	0.001**
Teacher job satisfaction	0.061	0.107	0.573
Faculty trust in principal	0.165	0.112	0.146

Note. Outcome and all variables standardized.
$^{**}p < 0.01$, $^{*}p < 0.05$

Tables 4 and 5 present the results from an analysis of the relationship between proportion of teachers of color in a school building (percent racial composition of school teaching staff) and student achievement in reading and math. This analysis controlled for the proportion of female teachers and the average teacher years' of experience in the school as well as school size measured by student enrollment, proportion of students of color in the school, and teacher average job satisfaction and faculty trust in the principal. Turning to the analysis of reading

achievement in Table 4, the results show that percent racial composition of school teaching staff was not significantly related to reading achievement, β = 0.097, *SE* = 0.127, *p* = 0.764. However, results did reveal a significant negative relationship between the percentage of students of color in the school and reading achievement, β = -0.791, *SE* = 0.116, *p* < .001. This result indicates the estimated change in the dependent variable, reading achievement, is approximately 8 tenths of a standard deviation for every one-standard-deviation increase in percent student diversity while holding other variables constant.

Table 5

Math Achievement and Racial Composition of School Teaching Staff Full Regression Model

	β	*SE*	p-value
Constant	-0.050	0.103	0.632
Pct racial composition of school teaching staff	0.085	0.139	0.545
Pct. female	-0.097	0.111	0.388
School size	0.172	0.116	0.145
Avg. teacher years taught	0.150	0.117	0.207
Pct. students of color	-.0707	0.126	0.001**
Teacher job satisfaction	0.090	0.117	0.445
Faculty trust in principal	0.106	0.122	0.388

Note. Outcome and all variables standardized.
**$p < 0.01$, *$p < 0.05$

Turning to the analysis of math achievement in Table 5, the results show that percent racial composition of school teaching staff was not significantly related to math achievement, β = 0.085, *SE* = 0.139, *p* = 0.610. However, results did reveal a significant negative relationship between the percentage of students of color in the school and math achievement, β = -0.707, *SE* = 0.126, *p* < .001. This result indicates the estimated change in the dependent variable, math achievement, is approximately 7 tenths of a standard deviation for every one-standard-deviation increase in percent student diversity while holding other variables constant.

Research Question 4: Is the effect of having a same-race teacher on the focal outcomes (engagement, student trust in teachers, and student achievement) moderated by the proportion of students of color in the school?

The purpose of the fourth and final research question was to investigate whether the relationships investigated in research questions 1 through 3 are, in fact, moderated by school size and/or the proporation of students of color in the school. This question directly addresses prior literature which shows that same-race teachers can have an important influence on students of color. If a school has a high proportion of teachers of color and also students of color, we might expect an amplified effect on the outcomes of focus in this investigation. In this section, I first examine the prior three research questions by adding an interaction term that represents the moderation of school-wide teacher diversity with school-wide student diversity (i.e., proportion of students and teachers of color in the school building). Tables 6, 7, 8, and 9 present the results from these moderation analyses.

Table 6

School-wide Student Engagement, Racial Composition of School Teaching Staff, and Student Racial Diversity Moderation Model

	β	*SE*	p-value
Constant	0.040	0.140	0.777
Percent of racial composition of school teaching staff	-0.452	0.601	0.456
Percent of student diversity	-0.356	0.260	0.178
Pct. female teacher	0.105	0.147	0.480
School size	0.105	0.156	0.502
Avg. teacher years taught	0.092	0.157	0.561
Racial composition of school teaching staff * student diversity	1.089	0.746	0.151

Note. Outcome and all variables standardized.
$^{**}p < 0.01$, $^{*}p < 0.05$

The results of the moderation analysis of student and racial composition of school teaching staff and student engagement is presented in Table 6. This analysis, as in the prior analyses, controlled for the proportion of female teachers and the average teacher years experience in the school as well as school size measured by student enrollment, and the proportion of students of color in the school. The results show that interaction term was not statistically significant, indicating that no such moderation exists, β = 1.089, *SE* = 0.746, *p* = n.s.

Table 7

School-wide Student Trust in Teachers, Racial Composition of School Teaching Staff, and Student Racial Diversity Moderation Model

	β	*SE*	p-value
Constant	0.007	0.139	0.960
Percent of racial composition of school teaching staff	-0.403	0.599	0.504
Percent of student diversity	-0.496	0.259	0.062
Pct. female teacher	0.132	0.146	0.372
School size	0.139	0.155	0.373
Avg. teacher years taught	0.123	0.156	0.437
Racial composition of school teaching staff * student body racial composition	0.831	0.743	0.269

Note. Outcome and all variables standardized.
$^{**}p < 0.01$, $^{*}p < 0.05$

The results of the moderation analysis of student and racial composition of school teaching staff and student trust in teachers is presented in Table 7. This analysis, as in the prior analyses, controlled for the proportion of female teachers and the average teacher years experience in the school as well as school size measured by student enrollment, and the proportion of students of color in the school. The results show that interaction term was not statistically significant, indicating that no such moderation exists in the relationship between

racial composition of school teaching staff and student trust in teachers, β = 0.831, *SE* = 0.743, *p* = n.s.

The results of the moderation analysis of student and racial composition of school teaching staff and student achievement in reading and math are presented in Tables 8 and 9. Turning to the analysis of reading achievement in Table 8, the results show that the interaction term was not statistically significant, indicating that no such moderation related to staff and student diversity and reading achievement exists, β = 0.016, SE = 0.520, p = 0.976. However, results did reveal a significant negative relationship between the percentage of students of color in the school and reading achievement, β = -0.746, SE = 0.181, p < .001.

Table 8

Math Achievement, Racial Composition of School Teaching Staff, and Student Racial Diversity Moderation Model

	β	*SE*	p-value
Constant	-0.053	0.104	0.616
Percent of racial composition of school teaching staff	0.354	0.448	0.434
Percent of student diversity	-0.569	0.193	0.005**
Pct. female teacher	-0.075	0.109	0.498
School size	0.129	0.116	0.498
Avg. teacher years taught	0.155	0.117	0.271
Racial composition of school teaching staff * student body racial composition	-0.383	0.555	0.495

Note. Outcome and all variables standardized.
**$p < 0.01$, *$p < 0.05$

Turning to the analysis of math achievement in Table 9, the results show that the interaction term was not statistically significant, indicating that no such moderation related to staff and student diversity and math achievement exists, β = -0.383, SE = 0.555, p = 0.495.

However, results did, again, reveal a significant negative relationship between the percentage of students of color in the school and math achievement, $\beta = -0.569$, SE = 0.193, $p < .01$.

Further Analysis of School-wide Teacher-Student Racial Composition

Given the lack of findings from the original set of research questions posed, and using prior literature as a guide, further analysis was done to drill down into more specific "racial match" data at the school level and their relationships to study outcomes. As mentioned in Chapter 4, a series of indices were developed for this analysis for the purpose of measuring the degree of alignment between the school-wide racial proportion of teachers and students (e.g., school-wide percentage of black teachers and percentage of black students). These indices were created for each racial category (i.e., hispanic/hispanic, asian/asian, black/black, etc.). These indices were achieved by multiplying the proportion of, for example, Black teachers in a school with the proportion of Black students in the same school, to create a coefficient of match of school-wide racial composition I deemed a "racial alignment index." Analyses were carried out

Table 9

Regression of Student Engagement and Black-Black Student/Teacher School Level Racial Alignment Index

	β	*SE*	p-value
Constant	0.031	0.141	0.827
Percent of Black teachers	0.386	0.347	0.272
Percent of Black students	-0.290	0.284	0.312
Pct. female teacher	0.098	0.146	0.507
School size	0.016	0.146	0.914
Black racial alignment index (%Black tch * %Black stud.)	0.110	0.538	0.839

Note. Outcome and all variables standardized.
$^{**}p < 0.01$, $^{*}p < 0.05$

for all outcomes and all racial match categories (i.e., black-black, hispanic-hispanic, white-white, asian-asian, etc.). Only those for black-black racial match had any significant findings, so those are the only analyses reported here. Analysis revealed a moderate-to-strong correlation between the percentage of black teachers and black students within a school (r = .627, $p < .001$).

The results of the moderation analysis of teacher/student racial alignment index and study outcomes are presented in Tables 10, 11, 12, and 13. First with the analysis of teacher/student school level racial alignment and student engagement in Table 10, the results show that the interaction term was not statistically significant, indicating that no such effect for teacher/student school level racial alignment and student engagement exists, β = 0.110, SE = 0.538, p = 0.839.

Table 10

Regression of Student Trust in Teachers and Black-Black Student/Teacher Racial Alignment Index

	β	*SE*	p-value
Constant	0.010	0.131	0.938
Percent of Black teachers	0.033	0.323	0.920
Percent of Black students	-0.757	0.265	0.006**
Pct. female teacher	0.177	0.136	0.200
School size	-0.079	0.136	0.564
Black racial alignment index (%Black tch * %Black stud.)	0.647	0.501	0.203

Note. Outcome and all variables standardized.
$^{**}p < 0.01$, $^{*}p < 0.05$

The results of the racial alignment analysis on student trust in teachers is presented in Table 11. The results show that the interaction term was not statistically significant, indicating that no such effect for teacher/student school level racial alignment and student trust in teachers exists, β = 0.647, SE = 0.501, p = 0.203. However, results did reveal a significant negative

relationship between the percentage of students of color in the school and student trust in teachers, β = -0.757, SE = 0.265, p < .01.

Table 11

Regression of Reading Achievement and Black-Black Student/Teacher Racial Alignment Index

	β	*SE*	p-value
Constant	-0.050	0.108	0.668
Percent Black students	-0.801	0.229	0.001**
Percent Black teachers	-0.936	0.284	0.002**
Percent female teacher	-0.009	0.119	0.939
School size	-0.263	0.112	0.024*
Teacher years taught	0.283	0.121	0.024*
Teacher job satisfaction	0.045	0.130	0.732
Faculty Trust in Principal	-0.006	0.124	0.959
Black racial alignment index (%Black tch * %Black stud.)	1.136	0.419	0.010**

Note. Outcome and all variables standardized.
***p* < 0.01, **p* < 0.05

The results of the match analysis on reading achievement is presented in Table 12. The results show that the interaction term was statistically significant, indicating that an effect for teacher/student school level racial alignment index and reading achievement existed, β = 1.136, SE = 0.419, p < .01. The effect of black racial alignment index and reading achievement was over one full standard deviation in size which is large. Results also demonstrated significant negative relationships between percentage of students of color in the school, β = -0.801, SE = 0.229, p < .01, percentage of Black teachers, β = -0.936, SE = 0.284, p < .01, as well as positive associations between reading achievement and school size, β = -0.263, SE = 0.112, p < .05, and aggregate teaching experience of the school, β = 0.283, SE = 0.121, p < .05.

Table 12

Regression of Math Achievement and Black-Black Student/Teacher Racial Match

	β	*SE*	p-value
Constant	-0.047	0.108	0.668
Percent Black students	-0.793	0.230	0.001**
Percent Black teachers	-0.980	0.284	0.001**
Percent female teacher	-0.016	0.119	0.891
School size	-0.236	0.113	0.042*
Teacher years taught	0.318	0.121	0.012*
Teacher job satisfaction	0.059	0.130	0.655
Faculty Trust in Principal	-0.045	0.130	0.719
Black racial alignment index (%Black tch * %Black stud.)	1.206	0.420	0.006**

Note. Outcome and all variables standardized.
**$p < 0.01$, *$p < 0.05$

The results of the racial aligment index analysis on math achievement is presented in Table 13. The results show that the interaction term was statistically significant, indicating that an effect for teacher/student school level racial alignment index and math achievement exists, β = 1.206, SE = 0.420, $p < .01$. As is evident, this match effect was also over one full standard deviation, which is very large. Results also demonstrated significant negative relationships between percentage of students of color in the school, β = -0.793, SE = 0.230, $p < .01$, percentage of Black teachers, β = -0.980, SE = 0.284, $p < .01$, and school size, β = -0.26, SE = 0.112, $p < .05$, as well as a positive relationship between math achievement and aggregate teaching experience of the school, β = 0.318, SE = 0.121, $p < .05$.

Chapter Summary

The results from the study are presented, examining the interplay between racial composition of school teaching staff and student diversity. Given the limited findings, this chapter also reports the results of more specific analyses examining the effects of school-level racial alignment on study outcomes, with a particular focus on black-black racial alignment and

its relationship to student outcomes. Findings overall reveal limited evidence of effects with respect to racial composition of school teaching staff and student trust in teachers, and achievement. However, a positive effect was found for racial composition of school teaching staff and student engagement. These relationships were not found to be moderated by student body diversity. However, deeper analysis revealed that Black teacher/student racial alignment index was positively related to reading and math achievement and these effects were large.

Chapter 6:

Discussion, Conclusion, and Suggestions for Future Research

The purpose of this study was to examine the associations between the diversity of a teaching corps within a school and overall student engagement, student trust, and student achievement within that school. This study originated from an interest in how we can close the racial achievement gap by ensuring we have a diverse teaching force. The primary study hypotheses were that having a more diverse teaching staff in a school would lead to higher student achievement, student engagement, and student trust in schools. In order to determine this, a correlational study was designed to examine the association of a measure of school-wide racial composition of school teaching staff on three dependent variables: student engagement, trust, and achievement. Most of the existing research has primarily focused on the dyadic relations between same or different-race teachers and students and their relationship to a host of student outcomes. Questions remain as to whether there are aggregate school-level effects with respect to the diversity of the teacher corps within a school. The findings from this study, which are summarized directly below, assist in our understanding of the role of school racial composition of school teaching staff on the outcomes of students, but particularly students of color.

Summary of Findings

Findings overall reveal limited evidence of effects with respect to racial composition of school teaching staff and student trust in teachers, and achievement. However, a positive effect was found for racial composition of school teaching staff and student engagement. These relationships were not found to be moderated by student body racial composition. However, deeper analysis revealed that Black teacher/student alignment index, which was a product of the

proportion of Black teachers in a school and the proportion of Black students, was positively related to reading and math achievement and these effects were large.

Further breaking these results down, the first research question assessed the connection between the racial composition of school staff and student engagement. This questions builds on existing research suggesting that students, especially Black students, might benefit from a racially diverse teaching staff. The study found a significant positive relationship between racial composition of school teaching staff and student engagement, suggesting that a more diverse teaching staff might increase overall student engagement.

The second research question focused on the association between racial composition of school teaching staff and student trust in teachers. This investigation considered various factors, including the proportion of female teachers, school size, and the proportion of students of color in the school. The study did not reveal a significant relationship between racial composition of school teaching staff and student trust in teachers. The third research question investigated the relationship between racial composition of school teaching staff and student achievement in reading and math. No such significant relationship between racial composition of school teaching staff and student achievement in reading and math was found.

The fourth research question explored whether the effect of the diversity of the student body moderated the relationship between racial composition of school teaching staff and the focal outcomes of engagement, trust, and achievement, This question aimed to assess whether a higher representation of students of color in a school intensified the impact of racial composition of school teaching staff on these outcomes. The results of this study indicate that these moderating factors did not significantly affect the outcomes studied. However, as a follow up, a more specific analysis was conducted on Black teacher/student racial alignment index and those

analyses revealed large, statistically significant effects on math and reading achievement in particular. No such effect of racial alignment index on study outcomes was found for the other racial groups (i.e., Hispanic/Hispanic, Asian/Asian, etc.)

Considerations in Light of the Study Findings

There are some internal and external forces worth discussing as they may have influenced the results of this study on whether a more racially diverse staff would lead to higher student achievement, student trust, and student engagement. Those themes are state funding, emergency certifications, and district issues.

State funding. In the Midwestern State where this study took place, the state ranks 34th nationally in average teacher salaries, but ranks last in the region and 47th nationally in per pupil expenditures (OKEA, 2022). The Midwestern State's teacher association stated that "These statistics show that, while we've made great strides over the last three years, Oklahoma is far from meeting the needs of our students … Our state has just not made the commitment to fund the classroom like all but one other state in our region (OKEA, 2022)". While funding in this midwestern state has increased by nearly 2 billion dollars over the last ten years, instructional expenditures have remained at the same level since 2010 (Francis-Smith, 2022). Furthermore, Oklahoma has a high population of students who live in poverty, and some would suggest that economically disadvantaged children require increases in per-pupil funding to ensure improved performance (Francis-Smith, 2022). It may be that if this Midwestern State improves state funding that may give more resources to schools it may lead to better achievement for students. If public education will continue to be a beacon of hope for all children, then funding has to be fixed. The uncertainty of budget shortfalls and cuts makes progress in education difficult.

The Midwestern District used for this study has since 2010 dealt with serious budget issues. In 2011, the Superintendent of this Midwestern District closed 14 schools under the plan called Project Schoolhouse (Berg, 2011). In 2016, this Midwestern district had a 10-million-dollar budget cut, and in 2017 another 12-million-dollar budget cut that led to layoffs, furlough days, and different grade configurations (Mummolo, 2017). In September 2019, this Midwestern district again planned for a shortfall of 20 million dollars. This cut never happened since the pandemic started the next semester. When a system is so influx with so much change and teacher turnover then it may be hard to see if the positive effects of a diverse staff on student achievement, trust, and engagement can materialize.

Emergency certifications. The many shortfalls and budget cuts in this midwestern district have led to many vacancies in the district. To fill these positions the Midwestern District and state allowed teachers to teach for two years while they completed their testing requirement. For this current school year, more than 1,400 teachers will be teaching with an emergency certificate, which really shows how this Midwestern State and Midwestern district are struggling to fill teacher vacancies because in 2010 there were only 100 emergency certifications for the whole Midwestern State. Emergency Certifications are a temporary fix for filling teaching positions and the constant turnover in schools may lead to lower achievement for students and less diverse school staff. School systems should consider alternative ways to certify their teachers. The traditional certification system has led to some teachers not being able to be certified and then not being allowed to continue to teach, which causes vacancies (Gershenson et al., 2022).

Issues unique to the focal district. Another possible factor that may influence racial composition of school teaching staff are internal issues within the district. For example, over

time school leaders and teacher force has gotten less diverse. The midwestern district must figure out a way to attract and keep diverse teachers and school leaders, especially as the district sees a change in the student population of the district. The district is now serving majority students of color, it should be a priority for the district to attract more people of color.

Implications for Policy and Practice

From previous research, there are benefits for a student to have a same-race teacher. There is some evidence from this study as well. In several research cases, the results showed an overall positive association when the overall racial alignment index between black teachers and black students was high. However, the answer is not to segregate students by race, but how do we attract and retain a diverse number of teachers? This rhetorical question points to several implications of this research for policy and practice. First, there must be a clear strategy made by hiring officials for any district to attract and retain a diverse staff. This may look like human resources participating in all college job fairs in the state. Almost 50% of the United States student population is non-white; yet, only 20% of the teacher force are teachers of color (Gershenson et al., 2022). A healthy school is diverse in teachers, staff, and administration. According to the Brooking's Institute, the racial composition of teachers is more diverse with new hires than teachers that have been in the field for 20 or more years (Gershenson et al., 2022). However, the change is not as significant; for example, new teachers hired are 12% black and 7.1% Hispanic, while teachers with over 20 years of experience are 6% black and 6% Hispanic (Gershenson et al., 2022). Whether it's grow-your-own programs in rural areas or teacher residencies for mid-career switchers in urban settings, all ideas should be on the table to help diversify the teacher workforce. States should also consider that school districts have to continue to get creative if there may not be a diverse pool of teachers available. For example, school

districts should consider increasing expanded learning opportunities before or after school, as research suggests that even a single experience with a role model can help students rethink their life endeavors (Gershenson et al., 2022).

Second, increased racial representation among the teacher workforce is a necessary, but not adequate, condition for school success. School districts must create policies that promote the integration of teachers across their systems to ensure all students have access to a diverse teacher workforce. Furthermore, school districts must create policies and strategies that help most teachers who are White to more effectively reach the students of color in their classrooms. If districts are not careful then they could create more segregated schools with segregated teachers. Schools must have fair and equitable funding for their schools to ensure all schools have the necessary resources they need to be successful. It is not enough to increase teacher pay and not fund to lower class sizes or to increase counselors and mental health experts in the school to help students be successful in school.

Finally, teachers of color make a lasting impact on students of color. Research continues to show that educational outcomes for children improve if their teachers are of the same background (Motamedi, 2019). Providing access to quality and diverse teaching can be just as important a tool for learning as tutoring or summer school. Research also suggests that white students have shown improved critical thinking and creativity when they have diverse teachers (Motamedi, 2019).

Study Limitations

This study had several limitations. As the study is limited to one district in one geographic area of the US, this will limit the researcher's ability to draw generalizations across other schools and school districts regarding the focal relationships examined in the study. The

study may look different in an urban setting or rural setting because of the level of diversity or limited resources. Second is the complexity of measuring the effects of same-race teachers on students. It is possible that this complexity is lost in trying to measure the aggregate effects at the school level, despite there being important differences being present. It is hoped that examining the moderation of student racial composition of the school will help uncover complexities, but this too may be limited.

Furthermore, the measure of racial composition of school teaching staff which aggregates all teachers of color together instead of examining individual effects of similarity (Black-Black, Hispanic-Hispanic, etc.) also masks complexity in the effects of same-race teachers on our outcomes. Because of the complexity of measuring the effects of same-race teachers on students, it is possible that this complexity is lost in trying to measure the aggregate effects at the school level, despite there being important differences present. Examining the moderation of student racial composition of the school will help uncover complexities, but this too proved to be limited. Despite these challenges, it is hoped that the study can uncover important effects of high teacher-racial composition of school teaching staff on student outcomes beyond that captured by studies focused primarily on the racialized nature of teacher-student dyads.

There are already studies that have been published that do show some positive outcomes by looking at the racial composition of school teaching staff of a whole school. Researchers found that diversity among all professional staff – including administrators, counselors, nurses, coaches, and instructional coaches shows similar benefits of having a same-race teacher (Blazar & Lagos, 2021), and this study was able to leverage several years of data whereas this study used only one. It raised questions about if this current study had used more than one year of data could it have arrived at similar results?

Student engagement is defined as the degree to which students identify with the school, feel challenged and motivated at school, and internalize the value of pursuing their interests by fully engaging in the opportunities the school offers. Engagement of students was measured using the Student Identification with School Scale which captures students' excitement about school, their sense of belonging to the school, and the value they see in pursuing their education. Questions ask students if they feel proud of being part of the school, if they value their learning, if they feel teachers care about them, and if they look forward to school every day, which means students feel connected and have a high value of the importance of education (Voelkl, 1997). However, student engagement can be operationalized in different ways and perhaps other measures of student engagement could have gotten more effectively at the effects of racial composition of school teaching staff on student learning and engagement.

Opportunities for Future Studies

All study limitations point to opportunities for future research. The positive effects of students of color having a same-race teacher is a phenomenon that has been researched over the years. The goal of this study was to see if having a diverse staff could lead to similar positive effects on students, especially students of color. One suggestion for future research is to ensure that the study is conducted over several years. For example, researchers should consider following students through elementary or middle school to see how students performed based on the diversity of the staff that taught them. This allows the researcher to track over time the positive effects of having a diverse staff. Furthermore, as suburban schools become more diverse, efforts should be made to conduct in other student contexts including rural and suburban schools. It would be powerful to see if the same results occur in different settings. Not only

should the researcher study urban and suburban schools but they should also study different sized urban and suburban schools.

Even though this study failed to show a significant relationship between racial composition of school teaching staff, student achievement, and student trust in teachers, the study generated important findings that can hopefully help shape future studies that will help with closing the racial achievement gap. It is hoped that future studies will continue to research whether a diverse staff leads to positive outcomes for all students, especially students of color. Educators and researchers must finally figure out how to close the racial achievement gap to ensure our students can benefit from an educational system that is built around achievement, engagement, and trust.

Conclusion

This study underscores the significance of teacher diversity and same-race teacher-student matches in influencing student outcomes, encompassing aspects such as engagement, trust, and academic achievement. It draws from various theoretical frameworks, including social identity theory, critical race theory, and self-determination theory, to emphasize the potential benefits of teacher diversity, particularly for students of color. Despite legislative efforts to address the achievement gap between African American and White students, research, including this study, have demonstrated the positive impacts of same-race teacher-student matches on student engagement, belonging, and academic performance. Scholars must continue to shine a light into racial dynamics within schools and how these are related to the success (or lack thereof) of students of color. These efforts need to be paired with policy efforts to improve the diversity of the teaching workforce in order to enhance the schooling experience of all students.

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Appendix A:

Study Dependent Variables

Student Identification with the School

10 items, 1-4 scale, *strongly disagree* (score 1) to *strongly agree* (score 4), student respondent

1. The things we learn in class are meaningful.
2. School is a very important thing in my life.
3. I feel proud of being a part of my school.
4. Most of my teachers really care about me.
5. I look forward to coming to school every day.
6. Most of what I learn in school will be useful when I get a job.
7. I would want to go to school even if I didn't have to.
8. People at school are interested in what I have to say.
9. School is worth all of the time I put into it.
10. There are teachers or other adults in my school that I can talk to if I have a problem.

Student Trust in Teachers

10 items, 1-4 scale, *strongly disagree* (score 1) to *strongly agree* (score 4), student respondent

1. Teachers are always ready to help at this school.
2. Teachers at this school are easy to talk to.
3. Students are well cared for at this school.
4. Teachers at this school always do what they are supposed to.
5. Teachers at this school really listen to students.
6. Teachers at this school are always honest with me.
7. Teachers at this school are good at teaching.
8. Students at this school can believe what teachers tell them.
9. Students learn a lot from teachers at this school.
10. Students at this school can depend on teachers for help.

The UNIVERSITY of OKLAHOMA

Institutional Review Board for the Protection of Human Subjects

Approval of Initial Submission – Exempt from IRB Review – AP01

Date: June 08, 2022 **IRB#:** 14622

Principal Investigator: Elton L Sykes

Approval Date: 06/06/2022

Exempt Category: 4

Study Title: IS THERE A RELATIONSHIP BETWEEN STAFF DIVERSITY AND STUDENT ENGAGEMENT, STUDENT TRUST IN TEACHERS, AND STUDENT ACHIEVEMENT? AN EXAMINATION OF SCHOOLS IN TWO URBAN DISTRICT

On behalf of the Institutional Review Board (IRB), I have reviewed the above-referenced research study and determined that it meets the criteria for exemption from IRB review. To view the documents approved for this submission, open this study from the *My Studies* option, go to *Submission History*, go to *Completed Submissions* tab and then click the *Details* icon.

As principal investigator of this research study, you are responsible to:

- Conduct the research study in a manner consistent with the requirements of the IRB and federal regulations 45 CFR 46.
- Request approval from the IRB prior to implementing any/all modifications as changes could affect the exempt status determination.
- Maintain accurate and complete study records for evaluation by the HRPP Quality Improvement Program and, if applicable, inspection by regulatory agencies and/or the study sponsor.
- Notify the IRB at the completion of the project.

If you have questions about this notification or using iRIS, contact the IRB @ 405-325-8110 or irb@ou.edu.

Cordially,

Lara Mayeux

Lara Mayeux, Ph.D.
Chair, Institutional Review Board