THE IMPACTS OF STUDENT-TEACHER RELATIONSHIPS AND RACE-MATCH MODERATION ON ABSENTEEISM: A FOUR WAVE LONGITUDINAL DATA STUDY

By

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ABSTRACT

This study examines how affective (student-teacher relationships) and sociological factors (race) interact in educational settings to shape differential educational experiences for diverse subgroups. Studying these factors in isolation only partially explains the mechanisms that drive outcomes for students, especially those belonging to traditionally marginalized communities.

Specifically, this study explores the influence of positive and negative student-teacher relationships on chronic absenteeism for early graders, and whether these associations differ for students who are and are not of the same race as their teacher. This study has the unique advantage of using the nationally representative Early Childhood Longitudinal Study: Kindergarten Class of 2011 (ECLSK:2011) panel data (N=16,980) collected by the National Center for Education Statistics (NCES). The availability of ECLSK:2011, with currently available data from five waves of data collection, enables the robust analysis presented in this study.

First, this study finds that good relationships have a negative association with chronic absenteeism and bad relationships have a positive association with chronic absenteeism. Second, this study finds that all teachers perceive their relationships to be less positive and more negative with Black students than with White students. Further, White teachers perceive their relationships with Black students to be less positive and more negative than with White students, implying that the racial identity of Black students influences their relationships with their teachers.

And lastly, the study finds that Black students assigned to White teachers are more likely than White students assigned to White teachers to be chronically absent. This is confirmation of

the adverse racial mismatch effect on absenteeism for Black students. Further, the effect of conflict on the likelihood of chronic absenteeism for the White student – White teacher group is positive, while the effect of conflict on the Black student – White teacher is negative. That is, while conflict positively predicts absenteeism for White students assigned to White teachers, higher conflict predicts a lower likelihood of absenteeism for Black students assigned to White teachers.

The findings imply that classroom interactions and teacher perceptions affect the behaviors of students and potentially their parents. Further, this study suggests while the effect the poor relationships is negative for students in general, the effect of conflict is reversed for Black students with White teachers, which is unanticipated and needs more examination. Perhaps, White parents and Black parents are responding differently to student-teacher relationships formed in school. Ultimately, these findings elevate the role of affective factors in education research, highlighting the importance of cultivating positive student-teacher relationships in classrooms across varying school contexts and racial lines toward improving student outcomes.

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SUMMARY

Absenteeism, even in early grades, is regarded as an antecedent for lower academic outcomes and dropping out of school (Allensworth & Easton, 2007; Balfanz & Byrnes, 2012; Kirksey, 2019). Data on absenteeism also show disparities by race and socio-economic status, with children of color being chronically absent at much higher rates than their White counterparts (Gee, 2018). Solutions to reduce absenteeism and narrow absenteeism gaps remain elusive despite policy attempts to alleviate this problem (ESSA, 2015).

While the literature on early grade absenteeism attributes children missing school to parental attitudes and beliefs about education, school-based factors influence student attendance as well. Among the school-based factors, teachers have been identified to exert the largest impacts on student learning (Rivkin, et al., 2005; Hanushek & Rivkin 2009). Teachers have also been shown to influence social and behavioral development among children, which then influences regular attendance as a manifest outcome (Jackson, 2013). Particularly salient to early grades, primary and middle school teachers have been shown to affect attendance (Gershenson, 2016). However, the mechanisms by which such effects operate remain largely unexplored in the literature.

Aimed at identifying how teachers might be influencing attendance, this study examines psychological (student-teacher relationships) and sociological factors (race) that interact in educational settings to shape differential educational experiences for diverse subgroups. Studying these factors in isolation only partially explains the mechanisms that drive outcomes for students, especially those belonging to traditionally marginalized communities. Toward this endeavor, this study first estimates the influence of positive and negative student-teacher relationships on chronic absenteeism for early graders. The study then examines the role of race

in the formation of these student-teacher relationships, and finally evaluates whether these associations differ for students who are and are not of the same race as their teacher.

Research shows that positive student-teacher relationships are associated with improved student achievement via increases in student engagement, while negative relationships lead to disengagement in classrooms (Hughes & Kwok, 2007; Roorda et al., 2017). Since disengagement is a determinant of absenteeism and race-match is associated with formation of teacher perceptions, this study explores a critical yet relatively understudied area of the influence of student-teacher relationships and race-match on absenteeism for children in early grades.

This study has the unique advantage of using the nationally representative Early Childhood Longitudinal Study: Kindergarten Class of 2011 (ECLSK:2011) panel data (N ~ 16980) collected by the National Center for Education Statistics (NCES). The availability of ECLSK:2011, with currently available data from five waves of data collection, enables the robust analysis presented in this study. Prior studies that have examined the influence of student-teacher relationships on attendance have used smaller samples, cross-sectional data or frameworks of teacher support and student-reported attachment to parents and teachers (Quin, 2016). This study uses teacher-reported measures of affective student-teacher relationship quality represented by closeness and conflict.

Firstly, this study finds that positive relationships predict a lower likelihood, while negative relationships predict a higher likelihood of chronic absenteeism for students. Secondly, teachers perceive their relationships to be more negative with Black students than with White students. Moreover, White teachers perceive their relationships with Black students to be less positive and more negative than with White students. And finally, Black students assigned to White teachers are more likely than White students assigned to White teachers to be chronically

absent, and this effect is moderated by student-teacher relationship quality. The findings imply that classroom interactions between students and teachers are at-least partly influenced their respective racial identities and exert significant effects on the behaviors of students and perhaps govern the decisions of their parents.

These findings elevate the role of studying affective dimensions in education research, highlighting the importance of cultivating positive student-teacher relationships in classrooms across varying school contexts and racial lines toward improving student outcomes. Further, these findings highlight the importance of addressing psychological and psychological factors in combination, when determining ways to improve behavioral outcomes and narrowing gaps in outcomes for traditionally marginalized student populations.

CHAPTER 1. INTRODUCTION

1.1 Problem statement

Education is one of the most important determinants of adult earnings and social outcomes. Studies have shown that high returns to education are causally linked with each additional year of schooling (Angrist & Krueger, 1991; Oreopoulos, 2006). Yet, students in U.S. schools leave school at significant rates. According to the National Center for Education Statistics, in 2019, 2 million students dropped out of high school, resulting in a dropout rate of 5.1% (U.S. Department of Education, 2021). These dropouts varied by ethnicity and race, where students of color, including Black, Latinx, and Pacific Highlander students, dropped out at disproportionally higher rates.

From an economic standpoint, the problem of dropping out of remains especially puzzling for researchers, since evidence clearly shows that each additional year of schooling is associated with higher labor market returns (Angrist & Kruger, 1991; Oreopoulos, 2006; Tamborini et al., 2015) While there are numerous factors responsible for student dropout, research shows that those factors can be broadly grouped in two categories: (a) individual characteristics of students (b) institutional characteristics of their families, schools, and communities (Rumberger & Lim, 2008). Individual characteristics that predict dropout include educational performance such as test scores, grades and retention, behaviors such as student engagement in academic as well as extra-curricular activities, attitudes such as educational expectations, and backgrounds such as race, ethnicity, and immigrant status. Institutional factors comprise family aspects such as family structure, family resources, and family practices, and school aspects such as composition of the student body, resources, and policies. Research shows that poor classroom performance and resultant condescending attitudes from students and

teachers make students want to leave school, despite higher associated earnings with each extra year of attendance (Lee & Burkam, 2003). Further, cultural and peer pressures that tend to govern adolescent thinking, amidst lack of emotional support at school, creates an aversion toward continuing school (Akerlof & Kranton, 2002).

While dropping out may be a multifaceted problem involving numerous factors, research on attendance consistently finds that high student absenteeism from school, whether excused or unexcused, is a key indicator that correlates with dropouts. Students who are absent from school for significantly more days not only perform more poorly than other students but are also more likely to eventually drop out of high school (Barge, 2011; Balfanz et al., 2007; Byrnes & Reyna, 2007; Hickman et al., 2008). One study found that chronic absenteeism was a stronger predictor of the likelihood of dropping out than academic achievement (Center, 2012). Allensworth and Easton (2005) find that differences in absenteeism are observed as early as kindergarten and this absenteeism can be a predictor of subsequence academic achievement and eventual school graduation. Their study also found that dropping out of school is more strongly associated with early absenteeism from classrooms than test scores and other student characteristics.

In addition to contributing toward high rates dropouts, absenteeism impacts a range of long-lasting academic and socio-emotional outcomes (Gottfried, 2011). Lower absences have been linked lower academic achievement and these effects are more pronounced from students from lower socioeconomic backgrounds (Gottfried, 2009; Ready, 2010). Families that belong to lower socioeconomic backgrounds are constrained for resources to challenge various barriers and help children make up for lost time in school (Chang & Romero, 2008). More recent research focused on chronic absenteeism has found significant adverse effects on socio-emotional outcomes, such as education engagement and social disengagement, problem behaviors and

interpersonal skills of students (Gottfried, 2014). Identified as a hidden educational crisis, chronic absenteeism, particularly in early schooling, is the principal outcome of this dissertation.

Absenteeism has been recognized as a multilayered problem, which is influenced by a variety of factors, ranging from individual attributes, family characteristics, school conditions and community-level features (Gottfried & Gee, 2017; Balfanz & Byrnes, 2012; Lenhoff & Pogodzinski, 2018). Individual level factors are referred to lower engagement and sense of belonging in school, while family factors include socio-economic status, mother's work status, and parental characteristics. In research examining chronic absenteeism, factors that emanate from within schools still need more exploration (Gershenson, 2016; Gottfried & Gee, 2017). Research suggests that teachers are the single most important school-based factor that affects absenteeism (Jackson, 2013). Teachers have been shown to influence attendance by promoting engagement, creating a sense of community, and highlighting the importance of regular attendance (Kelly, 2012; Ladd & Sorenson, 2017). In primary schools, teachers contact parents to highlight concerns regarding absences (Sheldon & Epstein, 2002). Aligned with research that provides evidence of the influence teachers exert on student attendance, this study explores the affective qualities of relationships that teachers share with their students to uncover additional dimensions that relate to engagement and community formation.

Affective qualities of relationships characterized as emotions and feelings such as closeness, conflict and dependency between teachers and students in research can act as powerful stimuli to enhance learning (Pianta, 2001). Reviewing research on human development from neuroscience and learning and development sciences, Darling-Hammond and Cook-Harvey (2018) summarize that effective learning relies on secure attachments, positive relationships, engaging learning experiences, and explicit integration of social, emotional, and academic skills.

Further, their research suggests that positive, stable relationships can buffer the potentially negative effects of even serious adversity. When adults have the awareness, empathy, and cultural competence to appreciate and understand children's experiences, needs, and communication, they can promote the development of positive attitudes and behaviors and build confidence to support learning.

Contributing to research that advances the importance of relationships towards creating supportive schools and learning communities, this study extends the connections between student-teacher relationships and chronic absenteeism in school. Student-teacher relationship quality is a significant relational factor that has remained understudied in the domain of absenteeism. Through case-studies at various school districts, Chang et al., (2019) find that creating a positive learning environment is essential for reducing chronic absenteeism. When schools establish supportive, culturally responsive, and engaging environments, families are more likely to prioritize school attendance, and students are motivated to overcome obstacles that may prevent them from attending. By prioritizing positive learning environments and consistent attendance, schools can support student success and reduce chronic absenteeism. Ultimately, the researchers recommend that meaningful relationships with caring adults might be fundamental to reducing the problem of chronic absenteeism.

What problematizes the research of student-teacher relationships and school absence for students from traditionally marginalized backgrounds, especially Black students, is the prevalence of racial disparities that exist involving Black children. Black students are more likely to attend underfunded schools with fewer resources, less experienced teachers, and higher rates of teacher turnover (Morgan & Amerikaner, 2018). They are also more likely to attend schools with high levels of poverty and violence, which can negatively impact their academic

achievement and overall well-being (U.S. Department of Education Office for Civil Rights, 2016). Additionally, Black students are more likely to be suspended or expelled from school, which can lead to missed instructional time and increased risk of dropout (Losen & Skiba, 2010. Black children are subjected to disproportionate rates of disciplinary referrals and out of school suspensions, and resultantly miss school (Anderson & Ritter, 2017; Bohrnstedt et al., 2015; Carter Andrews & Gutwein, 2017). Black students also receive longer suspensions for the same type of infractions than their White peers (Skiba et al., 2014). Further, research has shown that implicit and explicit biases in teachers' expectations and perceptions of Black students are associated with student outcomes (Tenenbaum & Ruck, 2007; Chin et al., 2020).

Such notable differential treatments of Black students likely affect their relationships with their teachers, which in-turn exacerbates the racial disparities that are often observed in schools. Examining factors that contribute to the academic and behavioral outcomes such as absenteeism, researchers have recommended that an increased focus on recruitment of more Black teachers, since Black students are often taught by White teachers who do not understand the cultural context of their classroom behavior, which gives rise to cultural conflicts (Dee, 2005; Gershenson et al., 2022; Weinstein, et al., 2004). Further, the quality of student-teacher relationships and assignment of students to a teacher of the same race or ethnicity might send signals to parents, influencing parental attitudes and beliefs about the school, indirectly affecting absenteeism.

Therefore, this study builds a conceptual framework around these three current issues in education research: student-teacher relationships, race-match, and absenteeism. This study evaluates whether the racial identity of Black students influences their relationships with teachers. Further, it examines the effect of relationship quality on absenteeism, and tests for

heterogeneity in these effects by race and race-match. The findings of the study have important implications for educators, researchers, educational leaders, and policymakers who must design teacher interventions in schools that can help build more inclusive and supportive relational environments, and potentially reduce chronic absenteeism.

1.2 Examined Factors

1.2.1 Student-Teacher Relationship Quality

Prior research has shown associations between positive student-teacher relationships and a variety of positive student outcomes, including increases in academic achievement and engagement and reductions in disruptive behaviors, suspension, and risk of dropping out (Cornelius-White, 2007; Quin, 2016; Roorda et al., 2011). Martin and Dowson (2009) find that low quality of student-teacher relationships is a significant factor responsible for academic motivation, engagement, and achievement in schools. Li (2018) finds positive associations between student-teacher relationships and engagement among ethnic minority subgroups. However, as most studies in the field have used non-experimental designs to study effects of relationship quality on engagement and absenteeism, researchers have called for more longitudinal studies, expressing concerns around smaller samples, directionality of effects and cross-sectional designs (Bosman et al., 2018; Roorda et al., 2017; Roorda et al., 2011).

1.2.2 Relationships across Race and Class

Black students have been shown to have higher levels of conflict and lower levels of closeness with their teachers than White students (Hamre & Pianta, 2001). Research suggests that these negative relationships do not stem from lacking capacities and behavior of Black students, but rather as a result of racial bias and discrimination against Black students that exists within schools (English et al., 2020). Black students have described that teachers interact with

them out of fear and that they perceive Black students in a negative light (Allen, 2012). Legette et al., (2020) raise concerns about a teachers' capacities to perceive Black students positively and recommend that teacher professional development be focused on humanizing student-teacher relationships with Black students.

Student-teacher relationships across race and class have been studied through the lens of power dynamics that exist between teachers and students. Echoing concerns related to Eurocentric frameworks, Gay (2010) notes that ethnic identities of Black, Latinx, and Asian American students are often ignored in teaching, especially when they come from lower socio-economic status and underprivileged backgrounds. Gay (2015) highlights that when teaching is filtered through students' cultural experiences, students across all races and classes perform better. She recommends six key practices of culturally responsive teaching: (a) having high expectations for all students, (b) engaging students' cultural knowledge, experiences, practices, and perspectives, (c) bridging gaps between home and school practices, (d) seeking to educate the whole child, (e) identifying and leveraging students' strength to transform education, and (f) critically questioning normative schooling practices, content, and assessments. Addressing the power dynamics between teachers and students, she offers insights into the changes that are required in teacher mindset to operationalize culturally responsive student-teacher relationships. First, teachers must hold all students, especially underachieving ones, to high standards of excellence and not allow notions of cultural diversity to usurp the need to prioritize knowledge and skill acquisition. Second, teachers must develop adequate knowledge of cultural values of different ethnic groups. Third, teachers must understand the difference between treatment based on cultural orientations and racial discrimination. She concludes that student-teacher

relationships must be built on faith in the dignity and intellectual potential of the students and sustained through critical and reciprocal dialogues that aid the learning process.

One factor that differentially affects the development of positive relationships between teachers and students is demographic representation. Prior research unequivocally shows a host of positive outcomes associated with when students are assigned to teachers of the same race, such as decline in the rates of suspension, significantly fewer absences, greater representation in gifted programs, and reduction in dropout rates (Dee, 2005; Lindsay & Hart, 2017; Grissom et al, 2017; Holt & Gershenson, 2019; Gershenson et al., 2018). Evidence that student suspensions and absences are impacted by demographic representation of teachers in their classrooms suggests that these outcomes might be shaped due to the relationships that teachers form with their students in classrooms and with students' parents more broadly.

1.3 Purpose of Study

This study extends research that relates to the influence of positive and negative relationships on early-grade absenteeism, while exploring moderating factors that might impact such associations. Although prior work has demonstrated that the quality of student-teacher relationships impacts engagement and absenteeism, a study of these three factors has yet to be explored in a nationwide context. Further, majority of prior research focused on findings associations between these factors has relied on smaller samples, such as schools or districts, and is limited to within-state jurisdictions.

This study first provides evidence, using a nationally representative dataset, of whether positive or negative student-teacher relationships impact absenteeism. As much of the research provides findings using cross-sectional data, this study has the unique advantage of using

longitudinal data at the student-level to determine predictive relationships between relationship quality measures and absenteeism.

Second, since race- and class-based differences impact the quality of student-teacher relationships, this study investigates whether race-matching differentially impacts absenteeism is. A study conducted using the Early Childhood Longitudinal Study Kindergarten class of 1998-99 evaluated the effects of racial matching between both Black and White students and their Black or White teachers' ratings of their classroom behaviors (Downey & Pribesh, 2004). This study showed that White teachers rated their Black students poorly, noting them as worse classroom citizens than their White peers. The identification of these effects is critical since racialized perspectives of Black and other non-White students underlie teachers' perceptions and conflictual student-teacher relationships in classrooms. Tennebaum and Ruck (2007) have shown that teachers hold lower expectations for their Black students. Halberstadt et al. (2020) have found that teachers often perceive Black children as angry when they are not and respond with anger toward them, leading to serious repercussions for Black students. Such misperceptions by teachers govern how Black children feel about their teachers, schools, and themselves. Thus, unsurprisingly, student outcomes, including attendance, tend to be lower for Black students. Incorporating the influence of racialized perspectives on the quality of student-teacher relationships, this study's findings add an important dimension to the student-teacher relationship literature.

In summary, this study argues that it is essential to develop a clearer understanding of the extent that student-teacher relationships impact absenteeism in schools. This study also addresses how racialized perspectives reflected in teacher perceptions of their relationships with students differentially impact student absenteeism. These findings can potentially aid researchers,

practitioners, and policymakers in making more informed decisions about programs that cultivate responsive student-teacher relationships in schools, enabling the creation of supportive environments for all students. The study advances a discussion around whether these mechanisms can mitigate the problem of early absenteeism, which ultimately contribute towards lowering dropout rates and improving academic and socio-emotional outcomes among adolescents.

1.4 Research Questions

This study seeks to answer three research questions. The research questions are as follows:

1. How does the quality of student-teacher relationships impact absenteeism?
    a. Does closeness predict chronic absenteeism?
    b. Does conflict predict chronic absenteeism?
2. How does racial matching impact student-teacher relationship quality between Black students and their teachers?
    a. Does racial matching impact closeness?
    b. Does racial matching impact conflict?
3. How is the association between student-teacher relationship quality and attendance moderated by the race-match of Black teachers with Black students?
    a. Does closeness differentially impact absenteeism based on the race-match of teachers and students?
    b. Does conflict differentially impact absenteeism based on the race-match of teacher and students?

CHAPTER 2. LITERATURE REVIEW

This chapter provides an overview of the research that examines associations between student-teacher relationships, race-match of students and teachers, and absenteeism. I first present research about the importance of student-teacher relationships toward student outcomes. I then elevate how race can have a significant impact on student-teacher relationships, especially when student-teacher relationships are studied through the perceptions of teachers. Next, I discuss how recent policy reforms are shaping school environments for teachers and students, which necessitates the exploration of the intersection between psychological relational factors such as student-teacher relationships and sociological factors such as race in education. I follow this discussion by introducing two theories that provide a conceptualization of student-teacher relationships that influence student outcomes in schools and frameworks through which student-teacher relationships are explored in research. Subsequently, I introduce the specific constructs that have emerged from these frameworks and their value in educational research.

Thereafter, I define absenteeism, introduce its causes, show disparities in absenteeism by subgroups, and discuss the policy efforts that have attempted to alleviate this problem. In addition, I provide a theoretical rationale behind the importance of race-matching in the analysis and delineate the effects of race-match identified in the research. Finally, I present the hypotheses that emerge from the synthesis of this review of the literature and build the conceptual framework for this study through which I develop my research questions.

2.1 Student-Teacher Relationships

Relationships that children form and maintain with their teachers are a part of the early schooling processes that impact student growth, social adjustment, and academic performance in schools (Hamre & Pianta, 2001; Roorda et al., 2017). The role of relationships that children form

with adults in shaping their experience of their social surroundings is extensively researched in early childhood literature. Hamre and Pianta (2001) found that student-teacher relationships are critical to a student's academic and social development. They suggest that positive relationships between students and teachers can lead to improved academic achievement, higher levels of motivation and engagement, and greater social competence. Their research also found that students who have positive relationships with their teachers are more likely to be engaged in the classroom and demonstrate better behavior, such as less absenteeism and less disruptive behavior.

Roorda et al. (2017) conducted a meta-analysis of 179 studies on student-teacher relationships and found that positive relationships between students and teachers are associated with a range of positive academic and social outcomes. Their research finds that positive student-teacher relationships are associated with higher levels of academic motivation and engagement, higher levels of academic achievement, lower levels of school dropout and absenteeism, and better mental health outcomes such as lower levels of stress and anxiety. While their research provides important insights into these associations, there are limitations to consider and areas for further exploration. One limitation of this study is that it relies on correlational data, and therefore cannot establish causality. While the research suggests that positive student-teacher relationships are associated with positive outcomes, it is unclear whether these relationships cause these outcomes or whether other factors are involved. Additionally, most studies in the meta-analysis employed a cross-sectional design, which does now allow causal interpretations. Another limitation is that the meta-analysis is limited to studies that meet specific inclusion criteria, and there may be relevant studies that were not included. Furthermore, while the meta-analysis suggests that positive student-teacher relationships are associated with a range of

positive outcomes, the strength of these associations varies across studies. It is possible that other factors, such as individual identities, school attributes, and classroom context, moderate the associations between student-teacher relationships and outcomes. Finally, the meta-analysis highlights the importance of the quality of student-teacher relationships, but it is unclear what specific characteristics of these relationships are most important. One specific area that needs more research is understanding which teacher behaviors, attributes and strategies are most effective in building positive relationships with students.

Since there exists the need for examining factors that contribute to the development and quality of relationships between teachers and students that resultantly affect student outcomes, I review literature that explores how the racial identities of teachers and students associate with student-teacher relationships.

2.1.1 Race and Relationships

Since relationships are studied in the literature through either teachers' or students' perceptions of those relationships, it is important to evaluate whether individual attributes, specifically racial identities of teachers and students, influence their perceptions of each other.

Race is important in the U.S. educational context for several reasons. Understanding the history of race and racism is critical to understanding the social, economic, and political dynamics in U.S. society. Research has consistently shown that race is closely linked to educational outcomes in the U.S., with students of color experiencing on average lower levels of academic achievement and higher rates of discipline and other negative outcomes compared to White students. Examining racial and socioeconomic disparities is important to study how race has influenced educational practices and outcomes (Ladson-Billings, 1994; Tatum, 2010; Banks, 2004; Noguera; 2008). Ladson-Billings (2009) argues that understanding race and culture is

essential to effective teaching and learning. She emphasizes that race is not a neutral activity, and that race plays a significant role in shaping students' experiences in school. Further, researchers have argued that an intersectional approach is essential for understanding and addressing the complex ways in which race and other forms of identity shape educational experiences in the U.S. context (Carabado & Crenshaw, 2019; Carter Andrews et al., 2019).

Since student-teacher relationships are a key aspect of educational experiences, the inclusion of race in the study of student-teacher relationships expands the understanding of how student-teacher relationships are operationalized in schools, especially for traditionally marginalized subgroups. Battey et al. (2019) study 25 middle school classrooms and find that White teachers in classrooms that have a greater majority of Black students have more negative interactions with students regarding classroom behavior compared to White teachers in predominately White classrooms and Black teachers in predominately Black classrooms. The study analyzed four videos of each teacher giving different lessons in classrooms, which had three different settings: a White teacher with mostly White students, a Black teacher with mostly Black students, and a White teacher with mostly Black students. The researchers found that all teachers, regardless of race, more often reprimanded students than praised them. However, White teachers of Black students reprimanded students for misbehavior two to four times more frequently than teachers of the same race as their students. Furthermore, White teachers of Black students were more likely to have more emotionally tense interactions with students rather than privately pulling them aside for a conversation. The study found that Black students who received negative feedback performed worse than they had in the previous school year, and that Black teachers were more likely to praise Black students' abilities than White teachers, which was correlated with higher Black student achievement. The researchers suggest that White

educators need to be more reflective about their practice in majority-Black classrooms, and should handle behavior problems privately and respectfully instead of shouting or removing students from the classroom. They also recommend that White teachers be more intentional about finding opportunities to praise Black students on their abilities.

The challenge for researchers has been to uncover reasons that Black students, in particular, are perceived in a more negative light than White students, and ways in which this disparity may first be evidenced and then removed. Quantitative researchers have utilized race-matching as a statistical tool to provide additional proof of these disparities (Dee, 2014; Gershenson et al., 2017; Grissom et al., 2017; Redding, 2019). Redding (2019) found that when students are matched with teachers who share their racial and ethnic identity, both students and teachers tend to have more positive perceptions of each other, which can lead to better academic and behavioral outcomes for students. The study suggests that racial and ethnic identity can play a significant role in shaping student-teacher relationships and that efforts to promote diversity and cultural competence in the teaching profession can have positive effects on student outcomes. In his study, he refers to literature that shows that when the behavioral change in students is attributed to the teacher, the likely explanation rests with the potential of a shared cultural understanding between the teacher and the student or the student's family (Irvine, 1989; Milner, 2006; Quiocho & Rios, 2000 as cited in Redding, 2019).

The idea behind a shared cultural understanding is that both students and teachers may have cultural values that are tied to a particular racial or ethnic community. However, just because a student and teacher share the same racial or ethnic background, they may not necessarily share the same beliefs or values. To truly improve student outcomes through a shared cultural understanding, teachers must attempt to understand and utilize the cultural backgrounds,

experiences, and perspectives of their students (Ladson-Billings, 1995; Paris et al., 2014). This can lead to the adoption of culturally relevant teaching methods, improved relationships between students and teachers, and even a greater level of engagement from students when taught by someone who shares their racial or ethnic identity. Gay (2000) writes that shared cultural understanding is the operating mechanism for growth in student outcomes when the knowledge and use of cultural references, experiences, and perspectives of ethnic groups alter teachers' perceptions of their co-racial or co-ethnic students, lead to the adoption of culturally relevant pedagogy, or improve student– and parent – teacher relationships.

Teachers' understanding of their students' cultural backgrounds can also have an impact on their teaching practices. While any teacher can adopt culturally relevant pedagogy, teachers of color may have a greater awareness of the cultural references that can assist in teaching knowledge, skills, and attitudes to students (Ladson-Billings, 1994). By understanding the social and cultural backgrounds of their students, teachers of color can make connections between their students' identities and the course material, which can inform all aspects of their teaching, including curriculum relevance and student evaluation (Lee, 1998). This approach does not imply teacher partiality or favoritism towards one group of students over another, but rather an inclusive instructional approach that values each child's importance and works to develop commonalities. By having unbiased beliefs about their students, teachers may more effectively cater their instruction to benefit all students, including those who may be historically marginalized. The improved connectedness with students can lead to a more positive learning experience for everyone involved.

In her more recent article, Ladson-Billings (2014) revisits and updates her earlier work on culturally relevant pedagogy. She emphasizes the need for teachers to build authentic and

respectful relationships with students and their communities, and to use cultural knowledge and experiences as a basis for teaching and learning. While she emphasizes developing approaches to education that are responsive to the cultural backgrounds and experiences of all students, regardless of racial and ethnic identity, she argues that culturally relevant pedagogy must take into account the historical and ongoing oppression faced by Black people, as well as the rich cultural traditions and strengths that have developed in response to this oppression. By focusing specifically on the experiences of Black students, Ladson-Billings seeks to develop an approach to education that is responsive to their unique needs and that promotes their academic success, cultural affirmation, and social justice.

When students and teachers share cultural values, it can lead to the formation of supportive relationships between them (Decker et al., 2007; Hamre & Pianta, 2006). Decker et al.'s (2007) study focuses on the role of student-teacher relationships in predicting academic outcomes and school engagement for behaviorally at-risk Black students. Employing hierarchical multiple regression analyses to predict students' social, behavioral and academic outcomes using survey data from 44 Black students, 25 teachers and observations from 5 large urban school district, the study found that a positive student-teacher relationship can serve as a protective factor against negative behavioral outcomes and school engagement for these students. The researchers emphasize the importance of developing positive relationships between at-risk students and their teachers, especially for Black students who are often disproportionately affected by negative academic outcomes and school disengagement. While the study highlights the need for educators to prioritize building positive relationships with students, particularly those who are most at risk for academic failure, the study is mainly focused on Black students

who were at risk for behavioral problems. Taking this work forward, my study endeavors to present findings that can be generalized to other Black student populations.

Race and class conflicts between students and teachers of diverse groups may arise due to teachers' lower expectations, differential instruction and management, and lack of cultural responsiveness and understanding in schools. While transforming the climate of classrooms into being more caring and community-oriented is ideal, teaching emotional and behavioral management skills to accomplish this goal can be problematic if the focus is on what is deficient in the child rather than what can be done to change the social contexts and cultural systems that have shaped the child's behavior. Research has shown that teachers have significantly lower expectations of Black students and students from lower-income families (Santiago et al., 2021). Research has also shown that these expectations directly affect instructional behavior and influence student-teacher relationships, with higher expectations being positively associated with low student-teacher conflict (Okonofua & Eberhardt, 2015; Trang & Hansen, 2021). In their mixed methods study, in which they interviewed 64 students in focused groups in a suburban school district in the midwestern U.S., Carter Andrews and Gutwein (2017) show that teachers enact differential treatment and make assumptions about students' intellectual capabilities based on deficit-oriented attitudes about Black and Brown students and students from lower socio-economic backgrounds. Moreover, they show that students' perceptions of their teachers' expectations lack an understanding of teachers' intent, hampering students' experiences and relationships with their teachers. In combination, these studies indicate that teachers cannot build positive relationships with students if students do not trust that their teachers respect them and hold high academic and behavioral expectations of them.

Further, as already discussed above, the expectations teachers have of their students can shape the nature of the relationships they develop with their students. Carter Andrews and Gutwein (2017) showed that students across all racial groups perceived the treatment by their teachers of them to be influenced by their racial identities. Research shows that subjective interpretations of students' behaviors result in disproportionate discipline for students of color (Parsons, 2016; Skiba et al., 2014; Skiba, 2011). Teachers need to examine their personal beliefs about students' behavioral and academic abilities and their explicit and implicit biases about students of all racial groups. Unless opportunities for personal examination are provided and misperceptions addressed, teachers will not build equitable and critically conscious practices in classrooms.

Implementing critically conscious practices requires being cognizant of the importance of racial identities as factors for the construction of perceptions and the cultivation of relationships. Since this study highlights the importance of racial identities as such factors, the concept of critical race consciousness, which stems from the Critical Race Theory framework, informs the analysis and findings of this study. Carter (2008) defines critical race consciousness as a "critical understanding of the asymmetrical power relationships that exist between Black and Whites in America." Critical Race Consciousness refers to the awareness and understanding of how race and racism operate in the U.S. society. It involves recognizing the ways in which race affects individuals' experiences, opportunities, and access to resources. It emphasizes the importance of acknowledging and challenging systemic racism and inequality in order to bring about social change. When students and parents possess a critical race consciousness, they demonstrate an awareness and understanding of race as a potential barrier to their schooling and life success. Subsequently, with such knowledge, if teachers have a positive view of their Black students'

racial identities, then perhaps awareness of how race acts as a potential barrier to school success is evident in their thinking. Black students and Black teachers who perceive their racial identity positively and have an awareness of racism as a potential barrier to success also adapt to succeed in school. Although critical race consciousness alone may not determine positive or negative relationships between teachers and Black children and consequently affect attendance for Black children in school, the presence of such consciousness can serve as a catalyst for teachers, Black children, or Black parents to act more intentionally toward achieving successes, such as higher attendance in school, despite facing structural constraints.

Subsequently, assigning students to teachers of their race or ethnicity can lead to improved relationships with parents and guardians, thereby increasing parental involvement and communication with school staff. This has the potential to positively impact a child's access to important school services such as screening for special education or the gifted program (Abrams & Gibbs, 2002; Harackiewiczet al., 2012). Research suggests that a lack of shared cultural understanding between school staff, who tend to be predominantly White, and racially and ethnically diverse families leads to disparities in school involvement between Black, Latinx, and White families (Noel et al., 2016). Further, a parent-teacher racial or ethnic mismatch is associated with a lower probability of the teacher having contact with the parent or the parent attending conferences (Vinopal, 2018).

Researchers also suggest one potential reason for the disparity between White students and Black students' attendance could be the lack of shared cultural understanding between school staff and families from more racially and ethnically diverse backgrounds, leading to a disconnect between the school and the student's home environment (Noel et al., 2016).

Attempting to address the unique needs of Black students who face significant challenges in the education system, including low academic achievement, disproportionately higher rates of discipline and punishment, and limited opportunities to learn their cultural histories and tradition, I direct the focus of the dissertation toward comparisons between Black students and White students and relationships that formed are between teachers of either their own race or the other race.

2.1.2 Theories: Extended Attachment and Self-Determination

Relationships are important because children develop a functional knowledge of their social surroundings based on their experiences in relationships with their caretakers (Hamre & Pianta, 2001). Relationships with adult caregivers are termed as attachments by the theorists of the extended attachment theory in the early childhood literature. Secure attachments with adult caregivers help children engage more with peers, making them more confident, and less despondent than those with insecure attachments. These factors lead to social adjustment. Teachers exhibit more aggression and anger toward children with insecure attachments than children with secure attachments. These early relationships translate into short-term growth in early childhood and better long-term educational outcomes (Hamre & Pianta, 2001).

The extended attachment theory proposes that infants and young children develop a strong emotional bond with their primary caregiver, which provides them with a sense of security and safety (Bowlby and Ainsworth, 2012). This attachment relationship serves as a foundation for the child's social and emotional development and has a lasting impact on their relationships and well-being throughout their lives. The theory of extended attachment suggests that this attachment relationship can also develop between children and other caregivers, such as

teachers or family members, and can continue to influence their social and emotional development.

Extended Attachment theory provides a basis to link student-teacher relationships with children's academic and behavioral outcomes in school, and it establishes a way to conceptualize these student-teacher relationships (Roorda et al., 2017). According to the extended attachment principle, the positive relationship between parents and children that nurtures the emotional security in a child extends to the classroom. This emotional security is necessary for exploratory learning in later stages of life. As children progress in schools, teachers and children get emotionally attached. Based on this principle, teachers provide a base for solidifying the emotional security in a child. According to an extended attachment perspective, empathetic and sensitive teachers can influence creation of school environments in which a child becomes more engaged in learning activities (Birch & Ladd, 1997). Thijs and Koomen (2008) find support for the pivotal role that children's emotional security plays between teacher support and children's engagement in learning tasks. Positive student-teacher relationships stimulate learning behavior and support the child to deal with demands in the school context (Hamre & Pianta, 2001). Contrarily, negative student-teacher relationships translate to lack of security and interfere with the child's attempts to cope with demands in school (Roorda et al., 2017).

Studies based on the extended attachment perspective examine the affective quality of a relationship. The affective quality of the student-teacher relationship refers to the positive or negative feelings and reactions of students and teachers towards each other. The affective nature of student-teacher relationships is characterized by levels of Closeness and Conflict between teachers and students. High levels of Closeness and low levels of Conflict aid in children's exploration of their environment leading to better long-term education outcomes. As such, the

three dimensions that have been derived from concepts and measures in the parent–child attachment theory are: (a) Closeness, (b) Conflict and (c) Dependency. Closeness denotes the degree of warmth and openness, Conflict reflects discordant and coercive interactions, and Dependency refers to overly dependent and clingy behaviors of the child (Pianta, 2001). Higher levels of Closeness indicate positive student-teacher relationships, whereas Conflict is considered the most distinctive feature of negative student-teacher relationships.

Other social-motivational theories, such as self determination theory, situate the role of student-teacher relationships as motivational factors that stimulate children and teachers. According to self determination theory, three psychological stimuli are necessary for intrinsic motivation and optimal functioning: relatedness, competence, and autonomy (Connell & Wellborn, 1991, as cited in Roorda et al., 2011). Teachers can promote these qualities by showing involvement (i.e., caring for and expressing interest in the student), providing structure (i.e., setting clear rules and being consequent), and supporting autonomy (i.e., giving students freedom to make their own choices and showing connections between schoolwork and students' interests). Once these basic stimuli are provided, children become engaged in learning activities and consequently perform better on tests (Skinner & Belmont, 1993, Skinner et al., 1990 as cited in Roorda et al., 2011). When teachers are more autonomy-supportive, students are more engaged in coursework, and autotomy-supportive teachers are more likely to respond to questions by students and support intrinsic motivation (Deci & Ryan, 2008). Since teachers' attitudes and behaviors are critical to motivating students to study, positive student-teacher relationships can be powerful predictors of whether students report higher levels of competence, autonomy, and positive relatedness, thereby demonstrating high levels of positive behavior and engagement in schools.

The two theories presented above provide common ideas relevant for this study. As an important predictor of engagement, teacher involvement can create a sense of extended attachment for the children and fulfil the need for relatedness that is required for children to be intrinsically motivated (Skinner & Belmont, 1993). Most research ultimately establishes that high levels of teacher support and low level of conflict lead to developmental benefits for children such as engagement, cooperation, peer acceptance, academic achievement, and additionally predict long-term achievement, controlling for relevant child characteristics (Hamre & Pianta, 2001).

2.1.3 The Construct of Student-Teacher Relationships

Student-teacher relationships are framed around teacher and student perceptions about positive or negative aspects of engagement and relationships in the classroom. The data to measure engagement and aspects of relationships are collected through surveys. Teacher reports of conflict and provision of support are found to be moderately negatively correlated (Hughes et al., 2008). Below grade 4, children's reports of social support and acceptance from their teachers show weak agreement with teacher reports of support or closeness (Mantzicopoulos & Neuharth-Pritchett, 2003).

Researchers have used the constructs of Closeness, Conflict and Dependency between teachers and students to study the quality of student-teacher relationships (Pianta, 2001). For early-graders, commonly used instruments ask teachers to rate their perceived closeness and conflict with each child, providing a proxy for student-teacher relationships. Findings in the current literature around student-teacher relationships measured through this construct indicate strong ties between positive relationships and higher social competence and development among students. In a study containing reports from teachers of kindergarteners and first-graders, Pianta

and Stuhlman (2004) find a strong pattern of how student-teacher relationship quality is related to a child's observed social and academic development. In a similar study trying to evaluate the effects of student-teacher relationships, Birch and Ladd (1998) find perceptions of Conflict being significantly associated with children's prosocial behavior in earlier grades.

The student-teacher relationship scale (STRS) developed by Pianta (2001) measures teacher's perceptions of conflict, closeness, and dependency about a specific child. Relevant for this dissertation, ECLSK:2011 uses the reduced-form STRS, reducing the original scale of 28 items to 15 items on a 5-point Likert scale (Pianta & Stuhlman, 2004). The instrument has been adapted for ECLSK:2011 to measure only closeness and conflict, as these two factors show the largest effects on student outcomes.

A potential criticism of measuring relationships through perceptions of teachers is that teachers could rate their perceptions based on the child's behavioral orientation. However, Pianta and Hamre (2001) have shown student-teacher relationships to be associated with academic and social outcomes independent of their teachers' reports of overall adjustment in schools. As such, they've argued that negative relationships predict adjustment and other social indicators that relate to social competence and behavioral problems.

Alternatively, student-teacher relationships have been conceptualized in research through students' perceptions of emotional quality of their relationships with their teachers, with questionnaires exploring the emotional climates of schools and classrooms (Sabol & Pianta, 2012). Student responses to school and classroom climate surveys are also viewed as proxies for the quality of student-teacher relationships.

I acknowledge that the instrument used to derive the variables for this study serves merely as one alternative for measuring the true relationship quality in classrooms.

2.1.4 Undervaluing of student-teacher relationships

Under the No Child Left Behind (NCLB) Act of 2001, schools and teachers were held accountable for students' academic proficiency based on high-stakes achievement tests (Harris, 2011). NCLB mandated annual achievement testing from grades three to eight, evaluation of schools according to improvement in aggregate scores, disaggregated by subgroups, and hiring of highly qualified teachers in every classroom. In such a policy environment, greater emphasis was put on teacher effectiveness, which involved extensive evaluation and compensatory rewards. Evaluations could be conducted by teachers, school principals, or students, while rewards included monetary stipends, accolades or allowing teachers their choice of classes to teach (Barile et al, 2012). Barile et al. (2012) discuss the impact of teacher rewards and evaluation policies on student-teacher relationship climate as perceived by students in schools. Using a sample of 7779 students from the Educational Longitudinal Study of 2002, Barile et al., (2012) study whether associations between teacher reward policies, dropout and achievement were mediated by student-teacher relationships climate. They found that schools with reward policies in which more effective teachers are assigned higher-achieving students exhibited poorer student-teacher relationship climate. They also found that neither monetary nor award incentive policies were significantly associated with the student-teacher relationship climate, and that schools that allowed students to evaluate their teachers showed more positive school climate. Further, a positive student-teacher relationship climate was negatively associated with high-school dropout rate and, after controlling for student-teacher relationship climate, reward and evaluation policies did not predict academic achievement.

Moreover, research on student-teacher interactions across classrooms demonstrates that policy in education has yet to fully recognize such interactions as a powerful resource for student

achievement and development (Darling-Hammond et al., 2020). In the recent past, as schools have placed more emphasis on academic demands and state standards, students, families, and teachers have felt greater stress. A report from NCES (2014) showed that in the previous 10 years students and teachers had experienced higher levels of stress and the rates at which teachers used exclusionary discipline practices had increased, which researchers have argued reflects a misalignment between expectations placed on students and educators (Sullivan & Bal, 2013). Further, research shows that social and instructional features of student-teacher interactions were broadly low, and even lower for students from disadvantaged socio-economic backgrounds (Pianta et al., 2007). Morever, to identify which classroom practices used by teachers were associated with higher levels of student achievement, Kane et al.'s (2010) use 2071 teacher evaluations spanning across eight years, where the same teacher was observed multiple times in a panel data of Cincinnati public school students. Their study found that improving a teacher's classroom environment management skills and utilizing questioning and discussion practices were important aspects that predict achievement. Further, in a study of elementary school classroom experiences more than 1000 children, the results showed both instructional and emotional aspects of the classroom were predictive on academic gains, and that student-teacher interactions ought to be more focussed on eliciting analysis or problem solving than basic skills (Pianta et al., 2007). These studies illustrate that student experiences in the recent past have promoted a sense of disengagement and disconnectedness in classrooms, which is sub-optimal for the development of students.

Every Student Succeeds Act (ESSA) replaced the NCLB act, representing a significant shift in federal education policy, giving more control and flexibility to states and local districts, while emphasizing the importance of school climate and other non-academic indicators of

student success (Every Student Succeeds Act, 2015). ESSA includes provisions that encourage the development of positive school climate and culture, as well as programs that promote social-emotional learning and trauma-informed approaches to teaching. These provisions are important steps in creating a more positive and supportive learning environment for all students. However, ESSA does not explicitly address issues of racial bias, discrimination, or the unique experiences of Black students in the education system. Negative relationships between Black students and specifically White teachers can be rooted in historical and ongoing racial biases and disparities in the education system, and addressing these issues requires a more comprehensive approach that goes beyond school climate and social-emotional learning. This might involve addressing issues such as implicit bias, culturally responsive teaching, and the development of more diverse and culturally competent teaching staff. While ESSA may contribute to these efforts indirectly, more targeted policies and research initiatives are necessary to fully address the problem of negative relationships between Black students and White teachers. Centering on relationships between Black students and teachers can help create positive cognitive as well as behavioral outcomes for these students.

Next, I discuss one specific behavioral outcome – Absenteeism – to build my analysis toward examining how these psychological and sociological factors influence Absenteeism, especially for the Black student population.

2.2 Absenteeism

2.2.1 Defining Absenteeism

Absenteeism is defined as missed instructional days that are excused, unexcused, or the result of disciplinary removal from school (Jordan & Miller, 2017). Truancy is an additional term used to generally define a specific number of unexcused absences from school over a designated

period, in which a student who is of compulsory schooling age is absent from school without an excuse provided by parents or permission obtained from teachers or administrators (Sutphen et al., 2010). Truancy is calculated by dividing missed school days by total number of schooling days. Additionally, absenteeism is labelled "chronic" when students typically miss a larger proportion of the school year (Chang & Romero, 2008). Chronic absenteeism also refers to a pattern of missing school that is frequent and ongoing.

Seven million children, which is 16% of the student population, were reported to be chronically absent from school in the year 2015-16 (U.S. Department of Education, 2021). Being chronically absent typically refers to missing 7 – 15% of the school year, but there are variations on what percentages states mark as their thresholds to classify students as chronically absent. Missing 10% of the school year equates to missing around 18 or more days of school in a typical 180-day school year.

A host of student outcomes such as poor academic performance, juvenile delinquency, and school dropouts have been identified to be associated with absenteeism (Ehrlich et al., 2013, Sheldon, 2007; Eklund et al., 2019). Further, The U.S. Department of Education has found that consistent absenteeism in school can result in poorer outcomes in adulthood due to its association with higher rates of poverty, reduced physical health indicators, and increased involvement with the criminal justice system (U.S. Depart of Education, 2019).

There are several mechanisms that explain chronic absenteeism resulting in adverse adult outcomes. One mechanism is that school absences relate to academic achievement due to lack of instructional time. Chang and Romero (2007) find that chronic absenteeism can also lead to disengagement from the classroom and a lack of motivation to learn. This can result in lower academic achievement and an increased likelihood of dropping out of school. The authors

suggest that addressing chronic absenteeism early on is critical to ensuring that children stay motivated and engaged in their learning. In addition, research shows that students who show a long-standing pattern of poor attendance are the students who are chronically absent and drop out of school (Chang et al., 2018; MacIver, 2010).

Absences can be organized into multiple categories: students who (a) cannot attend, (b) will not attend, and (c) do not attend school. Balfanz & Byrnes (2012) have found that reasons for those students *who cannot attend* school include prohibitive factors such as physical illness, family responsibilities, housing instability, and being involved in the juvenile system. In contrast, students *who will not attend* school are those who fear attending schools because of unsafe school environments and feelings of harassment. Lastly, students who *do not attend* school include value-based preferences, and disengagement that dissuade students from attending school. Such students may believe that there is more value to be gained from spending time at other activities besides school (Eklund et al., 2020).

The variation among these categories highlights the importance of exploring multiple factors that may contribute to the problem of chronic absenteeism. Addressing chronic absenteeism requires a multifaceted approach that may involve improving school climate and culture, providing targeted supports for students who are at risk of missing school, and addressing the root causes of chronic absenteeism, such as health issues, transportation barriers, and family or community factors that may be contributing to the problem.

2.2.2 Causes of Absenteeism

Absenteeism may be caused by any combination of child-, family-, peer-, school-, and community-based factors (Kearney, 2008). Patnode et al. (2018) organize factors that cause absenteeism into three broad categories termed “Barriers,” “Aversion,” and “Disengagement.”

Barriers constitute factors that prevent a student from attending school such as physical health, inconsistent and unreliable transportation, and housing instability, among others. Suspensions also act as a barrier that will directly prevent a student from attending school. It is pertinent that suspensions and referrals have been found to be related to lower attendance rates and eventual school dropout (Balfanz et al., 2014; Cholewa, Hull, Babcock, & Smith, 2018 as cited in Patnode et al., 2018).

Aversion constitutes factors that influence attendance because students feel unsafe and unwelcome at school. School factors such as school climate and student academic performance may influence students to not attend school. As such, aversion factors may not physically prevent students from attending school, but owing to psychological health, school climate, and academic performance, deter students from attending student.

Disengagement constitutes factors that impact attendance due to a student's lack of engagement and connection with school, peer-effects, and students' perceptions of the classroom environment and their relationship with their teachers. (Black et al., 2014; Chang et al., 2018; Farmer et al., 2003; Sheldon & Epstein, 2004, as cited in Patnode et al., 2018). Allensworth and Eaton (2007) identify student-teacher relationships (building trust between teachers and students) and valuing schools as specific school-level engagement factors that are directly linked to students.

For early grade absenteeism, parents too can exert significant control over student attendance. Parental attitudes and beliefs about education influence the extent to which they prioritize regular attendance (Alexander et al., 1997; Morrissey et al., 2014). Children from families that do not feel connected with the school or do not emphasize the value of school are more likely to be absent. While parental influence partly influences absenteeism, school-related

factors, particularly teachers, impact absenteeism by promoting student engagement, connecting with parents, creating a sense of community, and conveying the importance of regular attendance (Baker et al. 2010; Kelly 2012). Primary and middle school teachers have also been shown to affect absenteeism (Ladd & Sorenson, 2017; Gershenson, 2016). Jackson (2018) analyses the effects of teachers on students' acquisition of socio-emotional competencies, using student behavior such as suspensions and on-time grade progression as proxies. In Jackson's study, regular attendance is conceptualized as a manifestation of socio-emotional development, which is partly imparted by teachers in young children. Finding causal effects that link teachers to student attendance, he calls for an exploration of mechanisms through which these effects might operate.

Finally, many researchers have utilized Bronfenbrenner's (1977) ecological theory that claims that a mix of consistently evolving biological, social, and environmental factors shapes human development (Lenhoff & Pogodzinski, 2018; Gottfried, 2017). While these researchers have applied this informative framework to assess a broad set of factors to explore causes of absenteeism, they have called for research that identifies associations between specific school-based factors and chronic absenteeism analyzing student-level data, controlling for measures of student characteristics. Further, they also have called for longitudinal analyses that attempts accurately capture causal effects of such school- and teacher-based factors on absenteeism. Using a longitudinal data set such as ECLSK:2011 that captures data at the student-level, my study answers this call.

2.2.3 Accountability for Absenteeism

Federal and state policies are increasingly emphasizing the development of attendance metrices in school accountability systems, recognizing the vast effects of attendance on student

wellbeing. ESSA now gives states the opportunity to develop their own accountability systems to capture data around absenteeism, so that contextually relevant interventions can be introduced (ESSA, 2015). Previously, high-stakes accountability policies prioritized raising test scores and reducing achievement gaps, but now federal and state leaders realize that several indictors of school quality and chronic absenteeism need to be included in school accountability. Research shows that the majority of states are using some form of quantitative indicators for chronic absenteeism and inequitable attendance observed among various subgroups of children (Kostyo et al., 2018).

Although policy efforts to report and track attendance are creditable, absenteeism can be a complex problem. Along with setting absenteeism thresholds, it is important to understand which students miss school and why they miss school. Without a nuanced examination of mechanisms that govern school absenteeism, interventions and policy efforts would not adequately address the problem. Using strict inclusion criteria of studies in a meta-analysis of evidence-based interventions to address chronic absenteeism, Eklund et al. (2020) find that interventions, regardless of type (behavioral, academic, family-school partnership, and policy-oriented) have not had significant success in reducing chronic absenteeism. They also report that attendance interventions did not differentially affect any grade-level participants, identifying the need to identify specific features on the interventions that might need to be changed in order to cater to students of different grades. Further, to close attendance gaps between subgroups, concrete steps that address factors that affect these subgroups differently are required.

2.2.4 Group Disparities in Absenteeism

Disparities in absenteeism can be observed between children from different racial, ethnic, and socio-economic backgrounds. Garcia and Weiss (2018) report that students who are diagnosed

with a disability, students eligible for free lunch, English Learners, and students who identify as Hispanic or Black were most likely to miss school. Using NAEP 2015 data, they report that 26% of IEP students, 23.2% of students eligible for free lunch, and 17.9% of students eligible for reduced-price lunch missed three or more school days. Among the those who missed 10 or more days of school, the free-lunch eligible students missed school twice as much as those who were not eligible. While absenteeism also varies by state and geographical locations, it is startling that the overall absenteeism rates have not changed significantly between 2003 and 2015.

Data indicates that Black students in the United States suffer from higher rates of chronic absenteeism compared to their White peers. According to the U.S. Department of Education's Civil Rights Data Collection, which collects data from all public schools in the country, Black students had a chronic absenteeism rate of 20 percent in the 2017-2018 school year, compared to a rate of 14 percent for White students (U.S. Department of Education, 2017).

According to research, there are several factors that contribute to the higher rates of chronic absenteeism among Black students compared to White students. These factors include:

(a) Systemic inequities: Black students are more likely to attend schools in under-resourced and disadvantaged neighborhoods, which can lead to poor health outcomes and higher rates of absenteeism (Skiba et al, 2002)

(b) Discrimination: Black students may experience discrimination and bias from teachers and other students, which can lead to feelings of disengagement and disconnection from school. (Gregory et al., 2010; Okonofua et al., 2016)

(c) Family factors: Black families are more likely to face economic and social challenges that can make it difficult to prioritize attendance, such as unstable

housing, lack of access to healthcare, and higher rates of unemployment (Chang & Romero, 2008)

While this study is an effort to isolate teacher-based factors that result in disconnection from schools, it is important to acknowledge that these factors are interconnected and often reinforce each other. Addressing chronic absenteeism among Black students requires a comprehensive approach that addresses the underlying systemic and cultural factors that contribute to disparities in educational outcomes.

2.3 Race-Match

As indicated previously, research suggests that race-match can have a positive impact on outcomes for Black students. Dee (2004) has found that Black students who have same-race teachers are more likely to graduate from high school, attend college, and have higher earnings later in life compared to Black students who do not have same-race teachers. In addition, Black students in districts with more representative teachers have been shown to experience more favorable rates of tracking, suspensions and expulsions, and academic achievement (Grissom et al., 2017). A study using longitudinal analysis of administrative data from North Carolina found that an higher percentage of Black teachers has been associated with a significantly lower likelihood of exclusionary discipline practices and fewer suspensions (Lindsay & Hart, 2017). A higher representation of Black and Hispanic students in gifted and talented programs has been observed in schools with large numbers of Black and Hispanic teachers (Grissom et al., 2017). Thus, positive effects of Black students being assigned to Black teachers are consistently observed at the school and district levels.

Dee (2005) also presents evidence on whether matching of a student to a demographically similar teacher influences teachers' subjective evaluations and perceptions of

student behavior and performance. For instance, his study employs logistic regressions with fixed effects using National Education Longitudinal Study of 1988 to show that the odds of a student being seen as disruptive by a teacher are 1.36 times as large when the teacher does not share the student's racial and ethnic background. Similar effects are observed for other measured perceptions. He argues that these perceptions likely have an effect on educational environments and classroom interactions between teachers and students. In his research, Dee has explored several potential mechanisms that may explain the positive impacts of race-match effects for Black students. These mechanisms include:

1. Improved communication and cultural understanding: Having a teacher who shares the same racial or ethnic background as a Black student may facilitate better communication and understanding between the student and teacher. This can help to build trust and foster a positive learning environment.
2. Role model and identity development: Seeing a teacher who shares their racial or ethnic identity may help Black students to develop a stronger sense of identity and self-esteem. This can be particularly important for students who may not see positive representations of themselves in other aspects of their lives.
3. Reduced stereotype threat: Stereotype threat refers to the anxiety or fear of confirming negative stereotypes about one's racial or ethnic group. Having a teacher who shares the same racial or ethnic background as a Black student may help to reduce stereotype threat and improve their academic performance.
4. Classroom management and discipline: Black students who have a same-race teacher are less likely to be suspended or expelled from school, suggesting that Black teachers may

be better equipped to handle or less likely to face behavioral issues and maintain a positive learning environment.

Dee calls for future research that studies the nature of student-teacher dynamics to guide public policy and ultimately argues for a more diversified and representative workforce as the most practical policy to reduce biases in the classrooms that harm students who do not share a teacher's demographic traits.

2.3.1 Effects of Representation in Education

At the individual level, Black students who have a teacher of the same race in elementary school tend have a lower dropout rate (Gershenson et al., 2018). Using longitudinal data, Holt and Gershenson (2015) show that student-teacher racial mismatch increases the likelihood that a student will be chronically absent, and that students assigned to other race teachers are suspended significantly more times in a year. Their study examines associations between student teacher racial mismatch and absenteeism among primary school students, employing two-way student and classroom fixef effects strategy analyzing administrative data from North Carolina's public schools between 2006 to 2010. Their main findings are that students assigned a teacher of a different race are more likely to be chronically absent and to be suspended at least once, than their peers who are assigned the same-race teacher. These effects are large for non-White male students. Goldhaber and Hanse (2009) show that irrespective of how a teacher performs on the state licensure tests, Black students still demonstrate more positive outcomes than White students, when assigned to Black teachers. Therefore, race-match is considered a significant teacher-related factor that consistently has been shown to influence educational outcomes. Further, in their meta-analytic review of research on representation with respect to race and ethnicity, Grissom et al., (2015) find impact on educational outcomes across four categories:

student discipline, assignment of students to gifted and talented programs, assignment to special education, and student achievement. Some of the limitations of these studies is that the sample is often limited to a single school district or a state, which limits the generalizability to other contexts or populations. Further, studies that find race-match effects often do not investigate and account for other potential psychological factors such as teacher bias, student motivation or student-teacher relationships.

Despite their limitations, the theoretical foundation of these studies, which also informs their policy recommendations, are relevant to my study. Researchers who study the effects of representation and race-match in education often rely on Representative Bureaucracy Theory to argue for a more diverse educator workforce to improve policy outputs and outcomes for traditionally disadvantaged students.

2.3.2 Representative Bureaucracy Theory

Representative Bureaucracy Theory posits that a workforce representative of the people ensures that the interests of all groups within the population are considered in the bureaucratic decision-making process (Kingsley, 1944). A more representative bureaucracy may send symbolic signals of equal opportunity for social advancement. Mosher (1968) explains that representation can occur in two ways: passive representation and active representation. Passive (or symbolic) representation occurs when an organization employs individuals from specific groups, such as racial or ethnic minorities, in proportion to the share of that subgroup in the population. Active representation occurs when those representative bureaucrats serve the interests of their subgroups by engaging to meet the needs of their subgroups and influencing policy relevant decisions. Passive representation is rather symbolic and may lead to active representation.

The theory suggests that a more diverse educator workforce can lead to more culturally responsive teaching practices, better communication and understanding between educators and students from different backgrounds, and a greater focus on addressing the needs of disadvantaged students (Dee, 2005; Clotfelter et al., 2006; Egalite et al., 2015). Therefore, researchers use this theory to investigate whether there is a relationship between educator workforce diversity and policy outcomes and student achievement.

2.3.2 Linking Educator Diversity and Mindset to Student Success

In the Representative Bureaucracy Theory, public service workers are bureaucrats who interact directly with citizens and have considerable control over the execution of their duties (Lipsky, 2010). In public schools, teachers can be regarded as street-level bureaucrats that implement policies directly with students and parents. Teachers of color may act partially towards groups they share backgrounds with, exercising authority in ways that are counter to the discriminatory behavior exhibited by White teachers (Lim, 2006). Partiality could entail providing more attention to students of color in classrooms, producing substantive differences in treatment of students of color. Lim (2006) also argues that alternatively teachers may consciously avoid showing partiality and engage in practices that promote equity, using culturally responsive strategies and improving the overall environment of the classroom. Further, teachers of color may impact the behaviors of students of color and their parents by enabling them to demand more or better services from the school. Lim (2006) terms this as "coproduction inducement," which is demonstrated, for instance, when a student of color works harder to impress a teacher of color that they consider as their role model. Thus, the application of this theory in educational research can be used to examine outcomes associated with a higher representation of race, ethnicity, gender, and many other characteristics of students, teachers, and administrators.

Confirming the proposed actions of a group in response to the efforts of their representatives, researchers argue that students from the same racial backgrounds as their teachers engage more with their teachers, modifying their efforts and behavior in classrooms (Grissom et al., 2015).

The idea that a population might modify its efforts due to symbolic representation of its group informs the link that my study draws between representation and absenteeism. Symbolic representation of a group could help increasing feelings of inclusion and belonging, sending signals to traditionally marginalized communities that their voices and experiences are valued. Since members of these communities could modify their efforts and action in response to representation, I hypothesize that race-match creates a sociological impetus for Black children and Black families to attend school more frequently and affect more positive educational outcomes.

2.4 Hypotheses

This study seeks to fill two important gaps in the literature. Recognizing the need to explore mechanisms that influence absenteeism on a national level, the study attempts to estimate the effect of teacher perceptions of student-teacher relationship quality on absenteeism, and it examines whether these perceptions differ systematically for racially matched student-teacher groups. Further, this study combines psychological and sociological factors to explore these mechanisms with data that is nationally representative.

Several hypotheses arise from the literature review. Since negative relationships highly adversely affect student engagement and since disengagement is associated with absenteeism, the first hypothesis that emerges is that relationship quality has an impact on absenteeism. More specifically, students are more likely to attend school when their teachers perceive positive relationships with them. Conversely, students are less likely to attend when their teachers

perceive a conflictual relationship with them. While observable effects will denote that psychological factors prevalent in classrooms have an impact on students' (or their parents') behavioral outcomes, lack of observable effects might indicate that factors originating outside the school or that other factors within schools may have a more significant impact on absenteeism in early grades for children.

Subsequently, since teacher perceptions of students have been shown to depend on race-match, teacher perceptions of relationship quality may also differ according to racial matching. Researchers argue that teacher perceptions, teacher biases, and White teachers' inability to reflect critically on racist systems might explain the effects observed due to race-matching in classrooms (Stark et al., 2020). Since suspensions often result from teachers' discernment of infractions, teacher subjectivity might explain the disproportionate gaps in suspensions and absences (Downey & Pribesh, 2004). The reliance on the construct of teacher perceptions of student-teacher relationship quality in this study makes the examination of race-match moderation relevant. The second hypothesis that emerges is that race-match is associated with how teachers rate their relationships with their students. In other words, students assigned to teachers of other races are more likely to be in negative relationships with their teachers. Confirmation of this hypothesis will indicate that student-teacher relationships depend upon whether the student is of the same race as their teacher.

Lastly, there may be variation in the conditions under which relationship quality influences absenteeism. Consistent with prior research, the third hypothesis extends that not only does race-match have an effect on absenteeism for students, but that it also serves as a condition under which relationship quality more strongly influences absenteeism. Existence of such a relationship would indicate that effect of race-match might be moderated by a positive or a

negative relationship between teachers and students. If the effect of race-match on absenteeism is indeed moderated by the quality of the relationship between teachers and students, policy recommendations would need to go beyond just increasing representation of teachers and focus more on improving factors that make racial matching advantageous for Black students.

While this study reviews the effects of student-teacher relationships moderating the relationship between race-match and absenteeism, it is important to note that the direction of this relationship could be reversed in certain cases and examined through the same models presented in this study. The dynamics of student-teacher relationships are complex and multifaceted, influenced by various factors such as cultural understanding, communication, and rapport building. In some instances, a race-match between student and teacher might lead to a stronger connection and better attendance, as shared racial or ethnic backgrounds can foster a sense of belonging and cultural affinity. However, it is also possible that a lack of alignment in cultural experiences and perspectives may hinder the development of a positive relationship, potentially leading to increased absenteeism. Thus, it may be that race-match ultimately determines the impact of the quality of student-teacher relationship on chronic absenteeism. In such a scenario, race-match could be the moderating factor in the statistical relationship between student-teacher relationships and chronic absenteeism.

2.5 Conceptual Framework

The hypotheses above inform the conceptual framework of this study. The key concepts being evaluated in the study are student-teacher relationships, race-match, and absenteeism. As shown in Figure 1.1, research question 1 is situated to examine the effect of student-teacher relationships on absenteeism. However, the overall goal of the study is to dig deeper into multiple dimensions of student-teacher relationships. Race-match effects on relationships help

examine factors that influence relationships, linking psychological and sociological dimensions that are often studied separately. Therefore, research question 2, as shown in Figure 1.2, evaluates whether race-match is associated with the perceptions that teachers have of their relationships with their students.

Figure 1.1

The direct effect of relationship quality on absenteeism

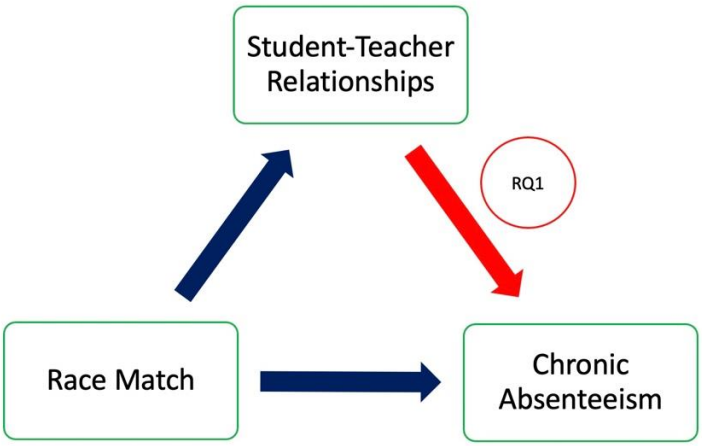
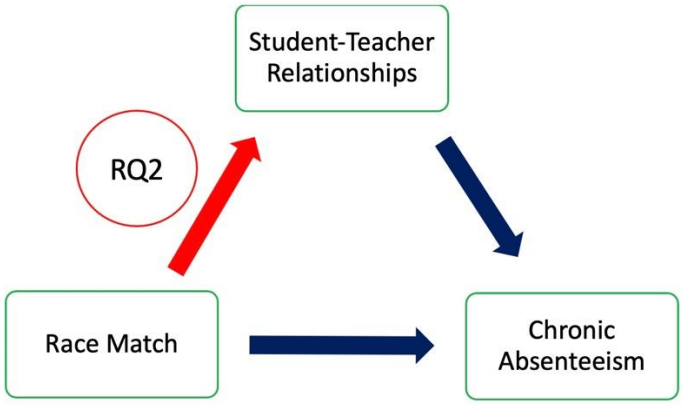


Figure 1.2

The influence of race-match on student-teacher relationships

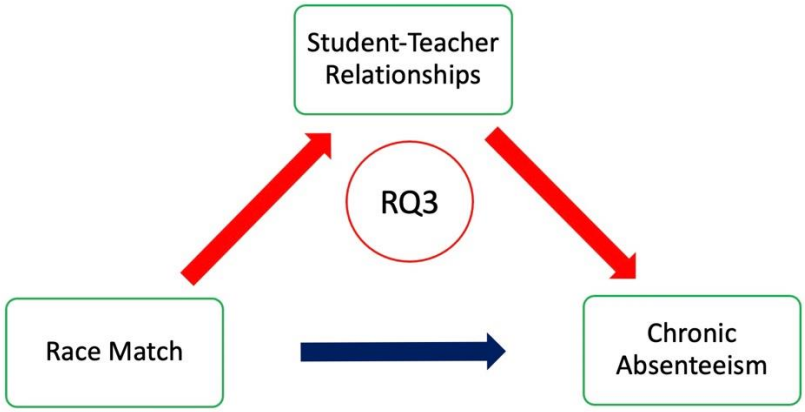


Finally, research question 3, as shown in Figure 1.3, adds another element of whether race-match and student-teacher relationships together intersect to influence absenteeism among Black students. Since the direct effect of race-match on absenteeism has been evidenced

extensively in research, that evaluation is not the primary objective of the paper. Confirmation of the direct effect of race-match will nonetheless provide support for prior research that has demonstrated the influence of race-match on behavioral outcomes.

Figure 1.3

Relationship quality mediating the effect of race-match on absenteeism



CHAPTER 3. DATA AND METHODS

3.1 Study Design

Using a sample of 16980 children in the ECLSK:2011 data, I conducted quantitative analyses to examine the direct effects of race-match on absenteeism and whether those effects are moderated by student-teacher relationships. I also conducted analyses to examine the direct effects of student-teacher relationships on absenteeism and the direct effects of race-match on student teacher relationships. Employing two-way fixed effects models to account for both time and school unobserved heterogeneity, I identify the impact of student-teacher relationship quality on absenteeism to answer my first research question. For the second research question, I examine the impact of teachers' and students' racial matching on student-teacher relationship quality, focusing on differences between White and Black students and teachers. For the third research question, I use race-match as an interaction term to determine whether racial grouping of Black students and White students with Black teachers and White teachers alters the strength of the relationship between student-teacher relationship quality and absenteeism. Results for the third research question reveal the effect of race-match and racial mismatch on absenteeism and also whether student-teacher relationship quality moderates the effect of race-match on absenteeism.

The main identification challenge that poses a threat to the validity of two-way fixed effects estimates emanates from the non-random assignment of students to teachers and schools based on unobserved factors (Jackson, 2016). The risk factors associated with absences may be related to the characteristics of the child (e.g., race, gender, age), characteristics of the family (e.g., socio-economic status and family structure), characteristics of the school (e.g., class sizes, retention rates), and characteristics of the teacher (e.g. teacher quality). Non-random assignment produces correlated effects because of unobserved factors that might influence both teachers'

perceptions of closeness and conflict and absence from school. To overcome this challenge, I estimate models that control for unobserved heterogeneity in days absent from school, by controlling for student, teacher, and school characteristics and prior absences.

I further test for the presence of differential sorting on observables, assuming that if there is no systematic differential sorting on observable child characteristics, then differential sorting on unobservable characteristics, such as Black students with higher ability being assigned to Black teachers, is unlikely to threaten the validity of the preferred two-way fixed effects estimator in my model. If the estimated coefficients of the control variables are statistically significant and substantially change the estimated effect of the key variable of interest, then this suggests that there is differential sorting on observables.

3.2 Data

3.2.1 Sample

For this study, I use student-level nationally representative longitudinal data from the ECLSK:2011. ECLS-K:2011 study is conducted and maintained by National Center of Educational Statistics (NCES) of the U.S. Department of Education's Institute of Education Sciences. The data analyzed in this study were collected in spring kindergarten in 2011, spring first grade in 2012, spring second grade in 2013, and spring third grade in 2014. These dates correspond with students predominantly enrolled in those listed grades at the time. The data contain information on student and teacher demographics, student-teacher relationships, and annual absences. Restricting the analytical sample to students for whom absences and relationship scores are observed yields a sample of approximately 16980 unique children and 52,180 child-year observations across 2740 schools. The sample sizes have been rounded to the nearest tens to follow the rules set by NCES about restricted-use data. For questions about race-

match, the analytical sample (N~10,880) is restricted to Black students and White students assigned to Black teachers and White teachers.

In ECLSK:2011, a child's classroom teacher completed a child-level teacher questionnaire that included questions about the child's behavior and relationships. In these questionnaires, classroom teachers were asked to report for each child because it was typical for each child to have the same classroom teacher until third grade. Until third grade, the child was taught by the same teacher for a significant portion of the day. From the fourth grade, subject-specific teachers were asked to answer child-level questions about the children they taught through instruments that are more catered to a child's reading, mathematics, or science experiences.

The sample for the ECLS-K:2011 study was selected using a complex sampling design that involved multiple stages of sampling, including stratification and clustering. The study included over 18,000 children from across the United States who were enrolled in kindergarten in the 2010-11 school year. The sample was designed to be representative of all children who were enrolled in kindergarten in the United States in that year.

Data were collected from children, their families, teachers, and school administrators through a series of surveys, assessments, and observations conducted at regular intervals throughout the study period. The data collected included information on a wide range of factors related to child development, including cognitive skills, social and emotional development, health and wellbeing, family background, and school experiences.

3.2.2 Key Variables

The key explanatory variables in this study, relevant for the first and third research questions, are derived from the teacher-reported 15-item Student-Teacher Relationship Scale

(STRS) (Pianta, 2001), which reports measures of closeness and conflict between teacher and child. The design for the constructs of closeness and conflict have been derived from the the extended attachment theory. The instrument can be found in Appendix C of this study. As part of teacher questionnaires from 2011 – 2014, classroom teachers of students are presented with 15 descriptive statements about their relationships with the ECLS-K:2011 children. The scale used to assess their relationships is a 5-point scale with options between "definitely does not apply" and "definitely applies." Each item is scored from 1-5, with 5 representing "definitely applies," and the scale score reported in the data is the mean score.

Closeness and Conflict are two separate variables that are developed in the ECLS-K:2011. The Closeness scales score is the average of 7 items, while the Conflict scaled score is the average rating of the other 8 items. Data on these scores are reported when the respondent teacher provides a rating on at least 7 of the 7 or 8 items for each variable. The Closeness scale is a measure of the affection, warmth, and open communication that the teacher experiences with the student. The Conflict scale is a measure of the teacher's perception of the negative and conflictual aspects of their relationship with the child. The higher the closeness score, the more positive the teacher perceives their relationship with the child. The higher the score on the conflict variable, the more distant and conflicted the teacher perceives their relationship with the child. ECLSK:2011 reports that the internal consistency reliability (Cronbach's alpha) of Closeness and Conflict scores between the four years ranges from .86 to .89 and .88 to .90, respectively.

The dependent variable for the first and third research questions is chronic absenteeism. In ECLSK:2011, teachers indicate a range of absences for each student. Absences are marked on a 6-point scale that includes ranges of the annual tally of absences. The range categories listed

are “no absences”, “1 to 4 absences,” “5 to 7 absences,” “8-10 absences,” “11-19 absences,” and “20 or more absences.” Relying on previously established definitions of chronic absenteeism in the literature, the chronic absenteeism measure in this study equals 1 if a student has missed more than 10 days of school (approximately two weeks) and 0 otherwise (Gottfried & Gee; 2017). I also provide regression results with an alternate categorization of chronic absenteeism such that the variable chronic absenteeism equals 1 if a student misses more than 20 days of schools. This variable is named *extreme absenteeism* to reduce ambiguity between the two dependent variables. Thus, the main explained or dependent variable is termed chronic absenteeism and an alternate variable called extreme absenteeism is used to support the main analysis.

In addition, I also present a Poisson model to analyze absenteeism data, making absenteeism a continuous variable with exact counts of absences. Researchers suggest that Poisson model is relatively simple to understand and can be used to model a wide variety of count data (Hilbe, 2014). The Poisson regression models the log of the expected count as a function of the predictor variables. As such it gives the difference in the logs of the expected counts for one unit of change in the explanatory variable. For instance, the estimate of the coefficient of Closeness will be the change in the logs of expected absences given a one unit change in Closeness. The Poisson model is efficient and produces estimates of the rate of occurrence of events, which can be more easily interpretable than estimates of probabilities or odds (Smithson & Verkuilen, 2006). For the Poisson models in this study, each child receives a number of absences that is the median of the range of absenteeism reported for the child. For instance, absenteeism for a child who is reported to have incurred “5-7 absences” takes the value of 6.

The key dependent variables for the second research question are Closeness and Conflict. To recall, the Closeness score reflects a level of affection that the teacher reports to have for the student, while Conflict indicates negative feeling that the teacher experiences with the student. The explanatory variables for the second research question are groups made to reflect racial match or mismatch of teachers and students. I limit the analysis to Black students and White students and teachers and create racial groups.

3.2.3 Control Variables

Student-teacher relationship quality is closely linked to several factors that might shape teachers' perceptions of their students. In the first set of regression models, I denote student-level controls by $\boldsymbol{S}$, teacher-level controls by $\boldsymbol{T}$, and school-level controls by $\boldsymbol{H}$. I denote all these controls as $\boldsymbol{X}$ across subsequent models employed to answer questions 2 and 3. Demographic variables such as gender, race, ethnicity of students and teachers are likely to influence relationship quality and absenteeism. Socio-economic backgrounds of individual students as well as the overall proportion of students from disadvantaged socio-economic backgrounds is also likely to influence both relationship quality and absenteeism in school. Thus, I delineate the control variables used in the study in their respective groups.

3.2.3.1 Student Controls

For student controls, the first control included is the gender of the student. I construct a binary variable "female", which takes the value of 1 if the student is reported as female and 0 if the student is reported as male. As a proxy for a student's socio-economic status, I construct a binary variable called "free or reduced-priced lunch eligible" which takes a value of 1 if the student is reported eligible and 0 if not. Further, student's racial identity is also included as a control variable. The race categories used in the analysis are White, Black, Hispanic, and Asian.

While I use racial categories in the analysis as controls in the first and third sets of models, I acknowledge that racial categories are socially constructed, and the categories used in ECLSK:2011 were provided to the survey respondents by NCES researchers. I acknowledge that isolating racial categories is nonrepresentative of the differences within each of the racial subgroups. I am also cognizant of the critique of the use of racial categories in quantitative data as potentially serving White racial interests (Gillborn et al., 2018). Further, I have excluded multiracial students from the analysis as the number of students who indicate identifying as belonging to more than one race is very small (approximately 4%). Further, only 452 (approximately 2%) students in data identify as being Black and White. While I exclude these students from analysis, I am cognizant that the experiences of these students might be different from both White students and Black students. More studies in the future can consider experiences of these students as well. Including multiracial students in the analysis does not significantly alter the results presented in the study.

3.2.3.2 Teacher and School Controls

The teacher controls in this study include demographic characteristics such as gender and racial identity, as well as markers for teacher quality. I include a binary variable for whether a teacher has attained a master's education. I also include a variable for teacher experience, which reflects the number of years that a teacher has been a schoolteacher, since the most consistent observable attribute that is related to teaching quality is experience (Clotfelter, Ladd, & Vigdor, 2010; Papay & Kraft, 2015). I also include a school level control that indicates the poverty index level of the district in which the school is situated.

3.2.3.3 School and Time Fixed Effects

Fixed effects can help to isolate the causal effect of a particular variable of interest by controlling for unobserved heterogeneity. Fixed effects can be a powerful tool for addressing endogeneity and selection bias in observational studies. (Quintana, 2021; Angrist & Krueger, 1999)

The fixed effects approach involves subtracting the unit-specific mean from each observation for that unit. This effectively removes the unit-level fixed effects from the data, leaving only the time-varying component. This can be done by inclusion of dummy variables in a regression model to control for unobserved heterogeneity across individuals or groups. As such these models address endogeneity and selection bias in observational studies by controlling for time-invariant unobserved heterogeneity at the individual or group level. Endogeneity arises when a causal relationship between two variables is confounded by other factors that affect both the dependent and independent variables. For instance, in this study of the effects of student-teacher relationships on chronic absenteeism, it is possible that schools in which students share on average more positive relationships with their teachers also have other characteristics, such as better school climates or more culturally inclusive practices, that independently contribute to lower absences of students. In this case, the effect of classroom relationships may be overestimated because it is confounded by these other factors. Overestimating an effect refers to estimating the effect size to be larger than the true effect size in the population, which means that the effect appears stronger than it actually is. The fixed effects approach holds constant everything about the unit that does not change overtime. Therefore, if one can assume school climate to be fixed evertime, then the effect of school climate is accounted for in fixed effects models. The limitation is that the fixed effects approach only controls for time invariant factors

about the variables, without controlling for factors that may vary across time. So, if school climate changes overtime then fixef effects does not help account for it.

Similarly, time fixed effects in models control for any unobserved time-invariant factors that may be related to both the key independent variable and dependent variables. These are factors that are constant over time and may be related to the treatment variable, which can lead to biased estimates of treatment effects if they are not properly accounted for. Angrist and Pischke (2008) explain that including time fixed effects in a regression model essentially controls for any factors that vary over time but are fixed for each unit in the panel.

3.3 Empirical Methodology

I use two-way fixed effects regression to estimate the associations between student-teacher relationships, race-match, and absenteeism for children in early elementary grades, using ECLSK:2011. The outcome variable in the first and third research question whether a student is chronically absent. Since this variable is categorical, I employ linear probability models and limited dependent variable models to estimate my results. Linear probability models reflect outcomes as indicating some underlying propensity of success. For instance, in this study the outcome indicates some underlying propensity for a child to be chronically absent, and once that propensity crosses the threshold the student is chronically absent. The concern with linear probability models is when the mean outcome is close to 0 or 1. In such cases, prediction values can be outside the 0 to 1 range. I provide results of linear probability models as additional analyses of my results, especially since linear probability models assume a linear relationship between variables. In logit regressions, the conditional probability is a non-linear function of the explanatory variables, which allows predictive probabilities of the estimates to stay between 0 and 1. The estimates of the logit regressions to predict the change in the log odds of chronic

absenteeism, which range between -1 and 1. If the log odds are less than 0, the association is negative, and if the log odds are positive the association is positive. I also provide tables with odds ratios for ease of interpretation of the coefficients. For my second research question I employ the ordinary least squares method, since the outcome variables (closeness and conflict) are continuous variables.

3.3.1 Association between Student-Teacher Relationships and Absenteeism

Research Question1: How does the quality of student-teacher relationships impact the likelihood of student chronic absenteeism?

To answer the first research question, I model associations at the individual student level between each of the relationship variables and chronic absenteeism with robust standard errors clustered at the school level. The sample includes approximately 16980 students (52574 observations) with scores for closeness and conflict and measures for absenteeism. I control for lagged absenteeism, which includes one-year prior measures of absenteeism, to account for confounding issues that might arise from prior absenteeism, especially since prior absenteeism may impact student-teacher relationship quality. The one-year lagged dependent variable controls for any unobserved historical factors that influence both absenteeism and student-teacher relationship quality and serves as an alternative to individual-level student fixed effects, which account for individual-level characteristics that are consistent over time (Gottfried, 2019). By including the lagged dependent variable, some of the variation in the dependent variable that is due to unobserved factors is controlled for, which reduces the correlation between the dependent variable and the error term (Raudenbush & Bryk, 2002).

I also control for a set of observable student, teacher, and school characteristics mentioned above that may be related to missing school and perceived Conflict or Closeness

among teachers. To reiterate, students and teachers are not randomly distributed across schools, so controlling for observables and employing fixed effects help account for systematic unobserved differences between schools (Kruger & Whitmore, 2001). I will use the regression models specified below:

3.3.1.1 Baseline Model for Absenteeism and Relationships

$$Y_{ijst} = \beta_0 + \beta_1 C_{ijst} + \boldsymbol{S_{ijst}}\,\beta_2 + \boldsymbol{T_{jst}}\,\beta_3 + \boldsymbol{H_{st}}\,\beta_4 + \in_{isjt} \quad (1)$$

Here *Y* is the outcome (likelihood of being chronically absent) evaluated for student *i,* taught by teacher *j,* in school *s* in the year *t.* I fit the model twice, using closeness first and then conflict as the key independent variables. The key term in the model is *C*, which represents closeness or conflict for student *i* reported by teacher *j* in school *s* in year *t.* Closeness and conflict are the key explanatory variables and β_1 is the coefficient of interest, predicting the association between these relationship quality measures and absenteeism. $\boldsymbol{S}$, $\boldsymbol{T}$, and $\boldsymbol{H}$ denote student, teacher, and school-level controls respectively.

3.3.1.2 Models with Covariates for Absenteeism and Relationships

$$Y_{ijst} = \beta_0 + \beta_1 C_{ijst} + \boldsymbol{S_{ijst}}\,\beta_2 + \boldsymbol{T_{jst}}\,\beta_3 + \boldsymbol{H_{st}}\,\beta_4 + \beta_5 Y_{ijst-t} + \in_{isjt} \quad (2)$$

$$Y_{ijst} = \beta_0 + \beta_1 C_{ijst} + \boldsymbol{S_{ijst}}\,\beta_2 + \boldsymbol{T_{jst}}\,\beta_3 + \boldsymbol{H_{st}}\,\beta_4 + \beta_5 Y_{ijst-1} + \emptyset_s + \Im_t + \in_{isjt} \quad (3)$$

In Model 2, I control for lagged absenteeism reflected in the term Y_{ijst-t}, which includes one-year prior measures for absenteeism, and in Model 3 I also control for time and school fixed effects. $\emptyset_s$ denotes school fixed effects, $\Im_t$ denotes time fixed effects, and $\in_{isjt}$ is the error term. By controlling for prior absenteeism, I control for additive effects that are carried over by grade that influence both relationship quality and being absent from school. By controlling for school fixed effects, I control for school level unobserved time invariant effects. To recall, it may be argued that certain school practices are correlated with the outcome and the key explanatory

variables. For instance, students in schools with stricter attendance policies could be missing less school and experiencing more positive relationships with their teachers for abiding by those policies. Thus, students in these schools could be missing less school due to a stricter school climate rather than conflictual relationships experienced with their teachers. Alternatively, certain schools may have on aggregate lower parental involvement, which could result in higher absenteeism and more conflictual relationships with teachers. Since higher parental involvement in these schools conflates the association between student-teacher relationships and absenteeism, any effect of negative relationships will be overestimated. School fixed effects help control for any such school-level conditions about a school that are fixed for all students in the school, controlling for such school-based unobserved confounders. Finally, I use clustered standard errors at the school level. By controlling for clustered standard errors at the school level, the model accounts for this within-cluster correlation and produces more accurate standard errors. Further, controlling for clustered standard errors at the school level can help to address violations of the independence assumption of a regression model, which assumes that the observations are independent of each other. This assumption is often violated in clustered data, where observations within the same cluster are likely to be more similar to each other than to observations outside the cluster. Controlling for clustered standard errors at the school level allows for this violation and produces more accurate standard errors.

3.3.2 Association between Student-Teacher Relationships and Race-Match

Research Question 2: How does racial matching impact student-teacher relationship quality?

- ***a. Does racial matching impact perceived closeness?***
- ***b. Does racial matching impact perceived conflict?***

To answer the second research question about whether racial congruence matters in teacher perceptions of relationship quality, I used the strategy used by Downey and Pribesh (2004). In models to answer questions 2a and 2b, I first regress Closeness and Conflict respectively on student's race (Black student) and teacher's race (White teacher), and then include an interaction term, multiplying the two race indicator variables (Black student and White teacher). I also complement this analysis with an additional approach to enable a direct comparison between perceived conflict with Black students who are assigned White teachers versus Black teachers in models 9, 10 and 11. In the models below, I create binary variables to represent four possible student race combinations (Black student – Black teacher, White student – White teacher, White student – Black teacher, and Black student – White teacher). The White student – White teacher group serves as the referent category in this model, since it is easier to compare outcomes for Black students and White students that assigned White teachers, which are key to this analysis. As such, the White student – White teacher referent group in this study is not chosen as a benchmark for assessing student outcomes. It is chosen because it allows for an easier comparison between key groups of interest. Making any other reference group would not change the estimates.

There would undoubtedly be factors other than racial matching that impact teachers' perceptions of the quality of relationships with their students. For instance, White teachers may be assigned Black students of a higher socio-economic status (SES) than Black students who are matched with Black teachers. SES would therefore confound the relationship between race match and relationship quality, if racially different teachers perceive a higher conflict with their students who are from a lower socio-economic background. To overcome this problem, the

models control for factors that could be associated with race-matching of students and teacher perceptions of the quality of relationship.

The regression models are specified below:

3.3.2.1 Main Regression Models of Relationships and Race-Match.

$$C_{ijst} = \beta_0 + \beta_1 blackstudent_{ijst} + \beta_2 whiteteacher_{ijst} + \in_{ihjt} \quad (4)$$

$$C_{ijst} = \beta_0 + \beta_1 blackstudent_{ijst} + \beta_2 whiteteacher_{ijst} + \beta_3 blackstudent \times whiteteacher_{ijst} + \in_{ihjt} \quad (5)$$

$$C_{ijst} = \beta_0 + \beta_1 blackstudent_{ijst} + \beta_2 whiteteacher_{ijst} + \beta_3 blackstudent \times whiteteacher_{ijst} + \beta_4 C_{ijst-1} + \in_{ihjt} \quad (6)$$

$$C_{ijst} = \beta_0 + \beta_1 blackstudent_{ijst} + \beta_2 whiteteacher_{ijst} + \beta_3 blackstudent \times whiteteacher_{ijst} + \beta_4 C_{ijst-1} + \boldsymbol{X_{ijst}}\, \beta_5 + \emptyset_s + \Im_t + \in_{ijst} \quad (7)$$

3.3.2.2. **Alternative Regression Model of Relationships and Race-Match.**

$$C_{ijst} = \beta_0 + \beta_1 blackstudent\_blackteacher_{ijst} + \beta_2 blackstudent\_whiteteacher_{ijst} + \beta_3 whitestudent\_blackteacher_{ijst} + \in_{ijst} \quad (8)$$

$$C_{ijst} = \beta_0 + \beta_1 blackstudent\_blackteacher_{ijst} + \beta_2 blackstudent\_whiteteacher_{ijst} + \beta_3 whitestudent\_blackteacher_{ijst} + \beta_4 C_{ijst-1} + \in_{ijst} \quad (9)$$

$$C_{ijst} = \beta_0 + \beta_1 blackstudent\_blackteacher_{ijst} + \beta_2 blackstudent\_whiteteacher_{ijst} + \beta_3 whitestudent\_blackteacher_{ijst} + \beta_4 C_{ijst-1} + \beta_5 \boldsymbol{X_{ijst}} + \emptyset_s + \Im_t + \in_{ijst} \quad (10)$$

In the models specified above, the dependent variable *C* refers to Closeness - positive relationship quality as perceived by the teacher or Conflict – negative relationship quality, where subscripts *i, j, s,* and *t,* index students, teachers, schools, and years respectively. Model 4 is the base model before setting up Model 5 with an interaction term. In Model 5, β_3 is the coefficient of interest, showing whether Closeness or Conflict measures differ when a Black student is

assigned a White teacher. Model 6 adds a variable with prior values of Closeness and Conflict. I acknowledge that prior scores reflect Closeness and Conflict scores reported by a different teachers of the students' previous grades, so I may not able to control for complete endogeneity. Model 7 adds all controls.

In the alternative models that support the main findings, β_1, β_2 and β_3 are the key coefficients of interest, indicating the difference between positive relationship quality measures across race-match categories and the reference category (White student – White teacher) . For instance, β_2 is the difference between the relationship measures observed in a Black student – White student grouping and the White student - White teacher grouping, holding other factors constant. $\boldsymbol{X}$ denotes student, teacher, and school level controls. $\emptyset_s$ denotes school fixed effects, $\Im_t$ denotes time fixed effects, and $\in_{isjt}$ is the error term. I include prior student-teacher relationship scores (closeness at time period t-1 when closeness is the dependent variable and conflict at time period t-1 when conflict is the dependent variable) in Models 9 and 10, represented by the term C_{ijst-1}, and use clustered standard errors at the school level.

3.3.3 Impact of Relationship Quality on Absenteeism Moderated by Race-Match

Research Question 3: How is the association between student-teacher relationship quality and attendance moderated by the race-match of teachers and students?

a. ***Does Closeness differentially impact absenteeism based on the race-match of teachers and students?***
b. ***Does Conflict differentially impact absenteeism based on the race-match of teachers and students?***

To answer the third research question, I include the interaction terms indicated in prior models, using the grouped categories for race-match, along with including those grouped

categories in the regression. The coefficient β_2 , thus, for example in Model 11 below, indicates a the difference in the likelihood of chronic absenteeism between a White student assigned a White teacher and a Black student assigned a White teacher. The coefficient of interest would be β_7 in Model 14 which indicates the extent to which perceived closeness or conflict differentially impacts absenteeism when students and teachers are both Black versus when the student is White and the teacher is Black.

3.3.3.1 Regression Models for Absenteeism and Race-match moderation

Models 8, 9, and 10 use the White student – White teacher category as the referent category, however I conduct similar regressions using an alternative set of models (not mentioned in the paper) using the Black student – Black teacher category as the referent group. Acknowledging that racism is deeply embedded in society and is not entirely explained by isolating quantitative data, the goal of this paper is to examine how relationships are influenced by the racial identities of the students, and whether this is influencing student outcomes. Thus, making separates categories to draw comparisons is essential. Statistically, choosing any other race-matched group will not alter the findings of the study. Overall, in this study, I purposefully examine racial inequities in classrooms, and I am committed to highlighting the oppressive realities experienced by Black students.

$$Y_{ijst} = \beta_0 + \beta_1 C_{ijst} + \beta_2 blackstudent\_whiteteacher_{ijst} + \beta_3 whitestudent\_blackteacher_{ijst} + \beta_4 blackstudent\_blackteacher_{ijst} + \in_{ihjt} \quad (11)$$

$$Y_{ijst} = \beta_0 + \beta_1 C_{ijst} + \beta_2 blackstudent\_whiteteacher_{ijst} + \beta_3 whitestudent\_blackteacher_{ijst} + \beta_4 blackstudent\_blackteacher_{ijst} + \boldsymbol{X_{ijst}}\beta_6 + \in_{ihjt} \quad (12)$$

$$Y_{ijst} = \beta_0 + \beta_1 C_{ijst} + \beta_2 blackstudent\_whiteteacher_{ijst} + \beta_3 whitestudent\_blackteacher_{ijst} + \beta_4 blackstudent\_blackteacher_{ijst} + \beta_5 Absent_{ijst-1} + \boldsymbol{X_{ijst}}\beta_6 + \beta_7 C \times blackstudent\_whiteteacher_{ijst} + \beta_8 C \times whitestudent\_blackteacher_{ijst} + \beta_9 C \times blackstudent\_blackteacher_{ijst} + \in_{ihjt} \quad (13)$$

$$Y_{ijst} = \beta_0 + \beta_1 \mathrm{C}_{ijst} + \beta_2 Black\ student - White\ teacher_{ijst} + \beta_3 White\ student - Black\ teacher_{ijst} + \beta_4 Black\ student - Black\ teacher_{ijst} + \beta_5 Absent_{ijst-1} + \boldsymbol{X_{ijst}}\beta_6 + \boldsymbol{\beta_7}\ \mathrm{C} \times Black\ student - White\ teacher_{ijst} + \beta_8\ \mathrm{C} \times White\ student - Black\ teacher_{ijst} + \beta_9\ \mathrm{C} \times Black\ student - Black\ teacher_{ijst} + \emptyset_s + \Im_t + \in_{ijst} \quad (14)$$

Model 11 is the base model, including only race-match groups. Model 12 includes the student, teacher, and school level controls denoted by $\boldsymbol{X}$, and Model 13 includes the interaction terms indicated by multiplying the relationship variables with the grouped categories for race-match. I run the conditional logistic regression in Model 14 adding school and time fixed effects.

In these models, the dependent variable Y_{ijst} refers to the indicator variable chronic absenteeism, where subscripts *i, j, s,* and *t,* index students, teachers, schools, and years respectively. $\boldsymbol{X}$ denotes student, teacher, and school level controls. $\emptyset_s$ denotes school fixed effects, $\Im_t$ denotes time fixed effects, and $\in_{\mathrm{isjt}}$ is the error term. β_7 is the coefficient of interest predicting whether conflict or closeness differentially associates with being chronically absent for each category. The coefficient of interest β_7 in the model indicates the extent to which relationship quality differentially impacts absenteeism when students and teachers are both White versus when the student is Black and the teacher is White. Note that in this model β_1 represents the effect of *C* when student and teacher are White.

Further, if β_2 and β_7 are not statistically significantly different from zero, then the whole equation can be assumed to be the same for White student – White teacher assignment and Black

student – White teacher assignment. Although not listed above, I create separate models using Black student – Black teacher to make deductions about the comparison between Black student – Black teacher and other racially matched groups.

3.4 Methodological Considerations

Strengths of this dissertation include a large sample (16,980) of early-grade children examined at four time points from kindergarten to third grade. In addition, this study is able to control for lagged dependent variables, while also controlling for a host of teacher, student, and school characteristics, which helps account for possible confounding variables.

Nevertheless, the results from this dissertation need to be considered in light of several limitations. First, only teacher-reported measures of the student-teacher relationships would be used. To ensure accuracy in the measurement of quality of relationships, future studies need to consider multiple perceptions of student-teacher relationships. The student's perspective of the relationships is equally important since this study explores whether student absenteeism is impacted by the relationship that students share with teachers. Multiple sources of reported measures would eliminate the risk of single-source bias. Further, I examine the role of student-teacher relationships relying primarily on variables derived from the extended attachment theory framework. Other frameworks such as autonomy, support, and agency that derive from other social-motivational theories could be utilized to expand understanding of student-teacher relationships. And lastly, only time-invariant school and student characteristics are controlled for in a fixed-effects analysis. Certain time varying characteristics of students and schools may potentially confound the associations revealed between relationship quality and absences. Therefore, even significant results in this study must be interpreted with caution and not presumed to be causal.

3.4.1 Robustness and Additional Analyses

In order to support the findings presented for the first research question and to provide an alternative interpretation of coefficients, I also present results from specifying the regression models as linear probability models. The linear probability model (LPM) assumes a linear relationship between the predictors and the probability of the outcome and estimates the coefficients of the predictors using ordinary least squares (OLS) regression. One of the advantages of an LPM is that it produces coefficients that are easy to interpret. For example, a coefficient of 0.02 for a predictor variable means that for every one-unit difference in the predictor, the probability of the outcome differs by 2 percentage points.

Further, one of the important risks to mitigate in regression is the risk of misspecification. Misspecification refers to the scenario in which the assumed model used in an analysis is incorrect or inadequate to capture the true relationship between the variables. For example, one of the ways in which a model can be wrongly specified is that the functional form of the model may be incorrect, such as assuming a linear relationship when the true relationship is nonlinear. This may be especially problematic if the lagged dependent term, currently used to reduce the problem of endogeneity, is wrongly specified. To check whether the model is accurately specified, I fit regression models including different functional forms of the lagged dependent term. For instance, I included squared and cubic transformations of the prior absences in model 16 to confirm my results.

$$Y_{ijst} = \beta_0 + \beta_1 C_{ijst} + \boldsymbol{S_{ihjt}}\,\beta_2 + \boldsymbol{T_{ihjt}}\,\beta_3 + \boldsymbol{H_{st}}\,\beta_4 + \beta_5 Y_{ijst-1} + \beta_6 {Y^2}_{ijst-1} + \beta_7 {Y^3}_{ijst-1} + \emptyset_s + \Im_t + \in_{isjt} \quad (16)$$

Lastly, I also addressed students who leave school each year. I repeated the analysis using only those students who stayed in their schools for the entire duration of the study. I lost

approximately 8000 students from my sample, with 10,000 still remaining. Further I conducted a check to analyze whether data is missing at random. To conduct this analysis, I created binary variables that took the value of 1 when data was missing and 0 when the data was not missing, and I regressed that variable on other covariates to see whether missing data was correlated with other factors.

CHAPTER 4. FINDINGS

4.1 Relationships and Absenteeism

4.1.1 Descriptive Summary

Table 1 presents the descriptive statistics for all students in the analytical sample. The analytical sample includes White, Latinx, Black and Asian students because the proportion of students of other racial categories is significantly less than these four categories (mostly below 1%). In the data, White students and Black students were reported as White and Black/African American respectively, with both groups being non-Hispanic. Latinx students were reported as Hispanic, irrespective of an alternate race specified. Since the focus of the dissertation is examining racial disparities in relationships and misperceptions of Black students, a comparison with Black students remains the focal point of the analysis. In the analytical sample, 49.9% of the students are White, 14.1% are Black, 27% are Latinx, and 9.1% are Asian. 9.9% of the students are reported as being chronically absent (missing more than 10 days in a school year), while 2.4% of the students are reported to be extremely absent (missing more than 20 days in a school year). Approximately 49% of students are female students while approximately 95% of the teachers in the data are female. 89% of the teachers are White, and 6.8% are Black. The average number of years of experience as a schoolteacher is 14.7 years, while the average enrollment is approximately 531 students in school.

The table also contains the mean scores of teacher-reported conflict and closeness levels for students. The mean conflict score is 1.62 and the mean closeness score is 4.26. In addition to these mean scores, the histograms of these variables enable deeper insight into the distribution of these variables within the dataset.

I present the histograms of conflict in Figure 2.1, closeness in Figure 2.2, and means within ranges of total absences reported for students in Figure 2.3. The variable chronic absenteeism refers to students who have missed more than 10 school days in a year, and which is also reflected in the histogram. Figure 2.1 also shows that the distribution of conflict scores is not symmetrically distributed around the mean. The shape of the histogram indicates that the distribution is skewed to one side. The longer tail suggests the presence of outliers much farther from the rest of the data. While these students may be considered outliers in the tail, their scores could be influential in the analysis because not just because of the variation but also because they are facing the consequences of adverse relationships the most. Further examination is needed to determine the reason teachers perceive higher levels of conflict with these students. Understanding factors that exert an effect on conflict can potentially alleviate the problem of negative relationships in the classroom.

Figure 2.1

Histogram of Conflict

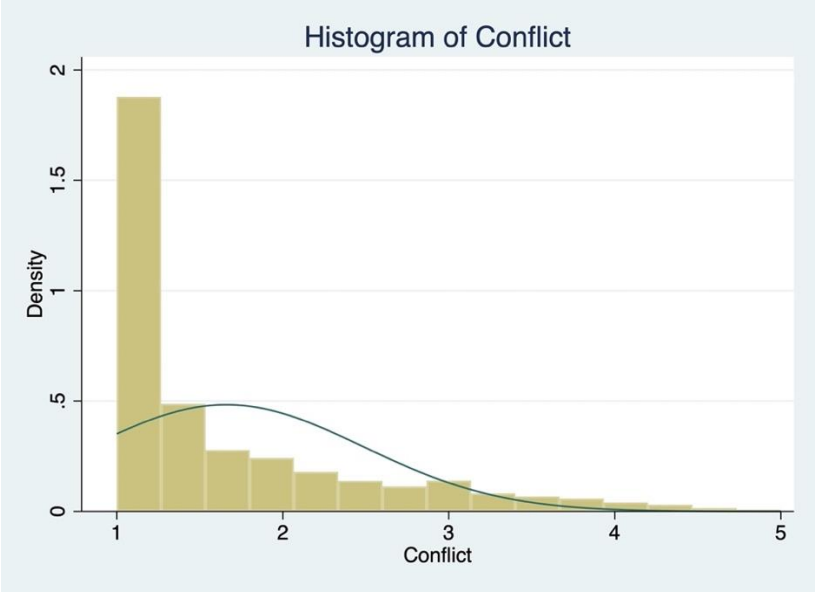


Figure 2.2 presents a histogram of closeness, which is less skewed than the one of conflict. The shape of the histogram indicates that the distribution is left-skewed, but not as heavily skewed. This graph also suggests that there are outliers who score below a 2 and need further examination.

Figure 2.2

Histogram of Closeness

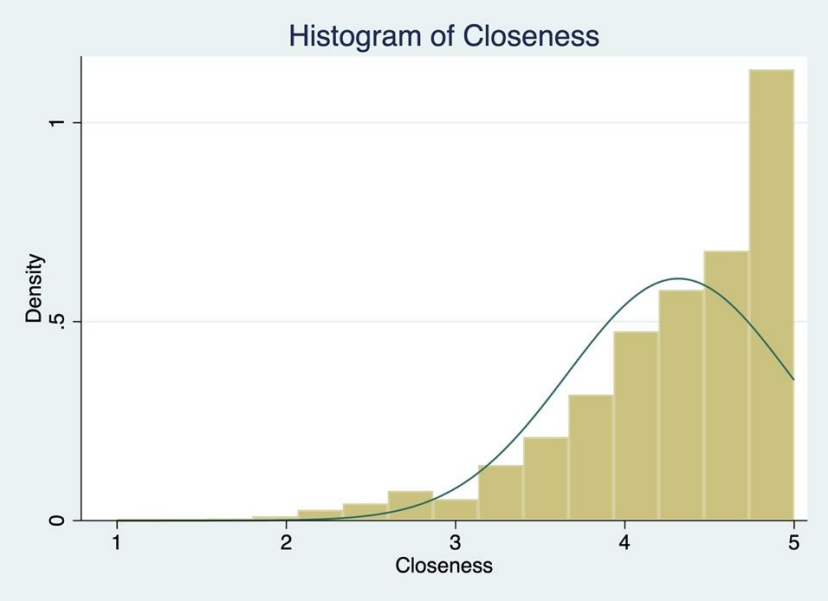
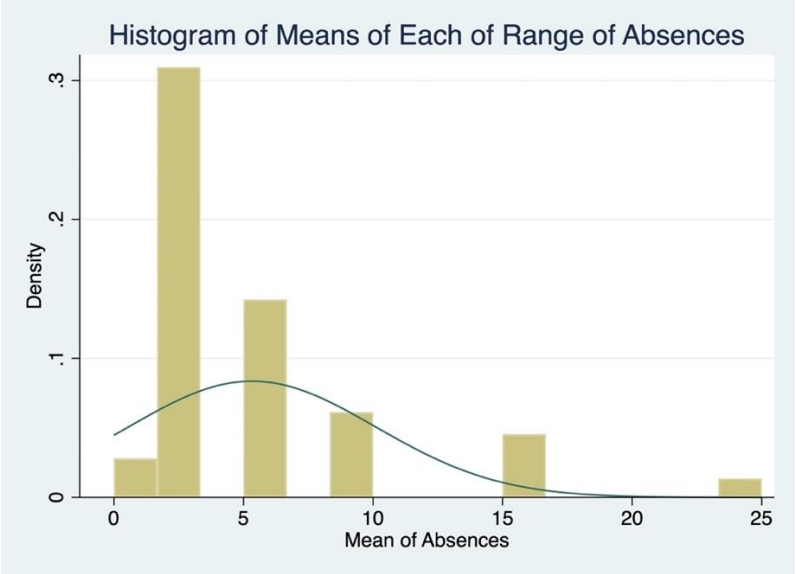


Figure 2.3 shows the means of each range of absences reported in the data. The first bar represents those who do not have even one absence. The last two bars represent those that are categorized as chronically absent. Most students are reported to have missed school between 1-4 times.

Figure 2.3

Frequency of each range of absences



4.1.2 The Effects of Relationship Quality on Likelihood of Being Chronically Absent

I first test the hypothesized existence of a direct effect of relationship quality on absenteeism using the logit (limited dependent variable model), linear probability models and Poisson models. The various models are meant to support the conclusions of the main logit models, especially since the data of each variable is not normally distributed. Poisson model is often used in cases where the distribution of the data is not normal, where the data may be skewed or have a large number of zero values. It allows me to model the rate of occurrence of events, and to handle overdispersion in the data. Table 5 and Table 6 show the logit regression results for the association between the likelihood of being chronically absent and closeness and conflict respectively. Model 3 contains student, teacher, and school controls as well as the lagged dependent variable and two-way fixed effects. Table 7 and Table 8 show the linear probability model results of the same equation, while Table 9 and Table 10 show poisson models.

Across all models, relationship quality appears to be a significant predictor of chronic absence, all else being constant. Closeness is negatively associated with the likelihood of being chronically absent, all else being equal, and the estimated coefficients are statistically significant at the 5% significance level. For ease of interpretation, results from the linear probability model 1 in Table 7 indicate that for every one-point difference in closeness, the probability of being chronically absent differs by .018 or 1.8%, all else being equal. Results in Table 8 show that negative relationships, represented by conflict, predict a higher likelihood of being chronically absent. The model indicates that a one-unit change in conflict changes the likelihood of being chronically absent by .01 or 1%.

Adding the lagged dependent variable reduces the effect of the estimated coefficient but the standard errors do not change much. The model confirms that prior absences are strong predictors of future absences, with a significant increase in the likelihood of being chronically absent. The lagged dependent variable separates certain historical factors that relate to variation in conflict as well as current absenteeism. Despite accounting for those historical factors, teachers' perceptions of their relationships with students exert an effect on the likelihood of the child attending school. The effects of both conflict and closeness on the likelihood of chronic absenteeism remain significant even after introducing the lagged dependent variable for prior absences and time and year fixed effects. The inclusion of exponent transformations of the lagged dependent variable provides evidence against misspecification in the models.

Results also indicate that Black students are less likely than White students to be chronically absent after controlling for various controls and free or reduced-priced lunch eligibility, which I use as a proxy for socio-economic status. The White racial subgroup is the referent subgroup among all racial categories. While the literature reports that a greater

proportion of Black students miss school than the proportion of White students, the results show that the effect of being a Black student on absenteeism is driven by socio-economic or school-related factors. Model 3 across each type of model indicates that there is not a statistically significant difference between the likelihood of White students and Black students being absent, after controlling for school and time-fixed effects.

Results also show that female students are more likely than male students to be chronically absent, all else being equal. In addition, the base models indicate that being taught by an Asian teacher or Black teacher is associated with a lower likelihood of a student being chronically absent than the likelihood for being taught by a White teacher. The base linear probability model shows that the likelihood of a student being chronically absent is 2% points lower when taught by an Asian teacher and 1.7% points lower when taught by a Black teacher, than when taught by a White teacher. After controlling for lag and fixed effects however, these differences are not statistically significant.

4.2 Relationships across Racial Groups

4.2.1 Disparities in Absenteeism and Relationships

The goal of this section is to examine the disparities in relationship quality across racial subgroups. Overall, the data from the study suggest that a greater proportion of Black and Latinx students are absent from school. Table 3 presents the proportions of students who are categorized as chronically absent by race (Asian, White, Black, Latinx). Data show that there is a difference of .9 percentage points between White students who are chronically absent and Black students who are chronically absent. 9.3% of the White students, 10.2% of the Black students. A chi-square test of independence revealed that Black students were chronically absent significantly more than White students in this data, $\chi^2 = 4.73$, $p = .03$.

I examine this more deeply through my regression models, which provide more nuance to whether Black students are more likely than White students to be chronically absent, when other factors are accounted for. The focus of the study is to reveal the mechanisms that might be driving these behavioral outcomes for Black students. Overall, 10.1% of the students were reported to be chronically absent. 1.8% of the White students, 3.3% of the Black students, and 2.7% of the Latinx students were reported to be extremely absent. The difference between Black students and White students who were extremely absent was 1.5 percentage points.

The disparity in the quality of relationships by race is also evident in the data. Table 4 contains the mean scores of closeness and conflict. The mean score of closeness for White students is 4.35, while for Black students is 4.20, for Asian students is 4.18, and for Latinx students is 4.17. Teachers on average seem to perceive more positive relationships with White students than they do with the other racial subgroups of students. Table 4 also shows that the mean score of conflict for Black students, White students, Asian students, and Latinx Students. A one-way independent-samples analysis of variance (ANOVA) revelated that there is a significant effect of race on conflict at $p<.001$. Scheffe post-hoc comparisons revealed that conflict for Black students (M=1.92, SD=.965) was significantly higher than White students (M=1.59, SD=.76), Latinx students (M=1.58, SD=.73) and Asian students (M=1.44, SD = .606). Thus, teachers perceive their relationships with Black students to be more negative than any other racial subgroup. Further Table 4 indicates that teachers report the highest level of closeness with White students and the lowest level of conflict with Asian students.

4.2.2 The Effects of Race-match on Relationship Quality

In this section, I analyze differences between Black students and White students when assigned to teachers of the same race and when assigned to teachers of different races. Focusing

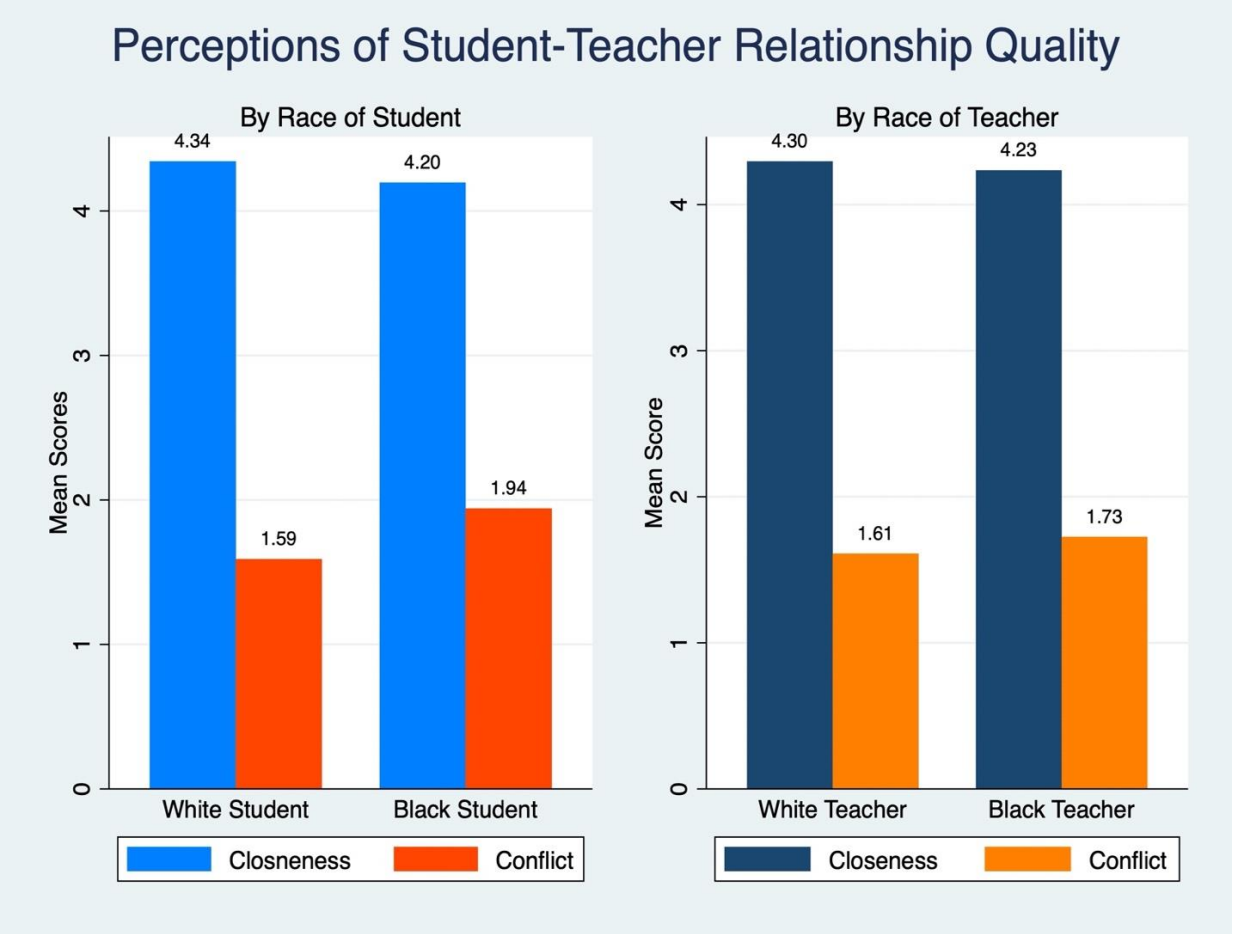
on two groups allows for a more detailed and nuanced analysis of the experiences of Black students, and to explore the factors that contribute to race-match effects within this group. The literature on race-match effects is more extensive and conclusive for Black students than for Latinx and Asian students. Focusing on Black students enables drawing on this rich body of literature and building on existing research in a more targeted way. Such an analysis provides more valuable insights for policymakers and educators seeking to improve experiences for Black students. While exploring race-match effects broadly across racial subgroups may be informative, this analysis is specifically focused on highlighting historic and current challenges of Black students and understanding why race-match effects for Black students are more pronounced.

To make the disparities across the two racial subgroups more accessible and easier to interpret, I first present graphs that help present the results of the regression models more accessible and engaging. Figure 3.1 combines two bar graphs that show mean scores of closeness and conflict by race. The bar graph on the left is categorized by the race of the student, while the one on the right is categorized by the race of the teacher. The graph highlights differences in perceived closeness and conflict for Black and White students, as well as the difference between perceptions of White teachers and Black teachers. Teachers perceive their relationships with White students to be higher than Black students with 4.34 assigned to White students and 4.2 assigned to Black students. Teachers perceive their relationships with Black students to be more conflictual than with White students. Additionally, White teachers on average report their relationships with students to be more positive and less conflictual than Black teachers. The mean score of closeness for White teachers is 4.3, whereas for Black teachers is 4.23. One way ANOVA revelated that there is a significant effect of race on conflict at $p<.001$. Scheffe post-hoc

comparison revealed that Black students received significantly lower closeness scores than White students. The mean score of conflict for White teachers is 1.61 and for Black teachers is 1.73. One way ANOVA revealed this difference was also significant at p<.001, and Scheffe post-hoc analysis revealed that White teachers reported significantly lower conflict than Black teachers. These differences show that Black teachers and White teachers perceive their relationships with students differently. Also, teachers perceive their relationships with Black students and White students differently.

Figure 3.1

Perceived Student-Teacher Relationship Quality by Race



Observing the differences in relationship perceptions across these four subgroups, I analyze how these scores vary when teachers are assigned to students of the same race. Figure 3.2 shows a graph of perceived closeness by the race of the student categorized by the race of the teacher. The graph shows that while teachers of both racial groups indicate higher closeness levels with White students than with Black students, the difference between those scores is less for Black teachers. Black teachers perceive closeness with White students to be 4.30 and Black students to be 4.23, with a difference of .07 units. However, White teachers perceive their closeness with White students as 4.35 and with Black students as 4.18. The difference between the two scores is .17 units. One way ANOVA revealed that this difference was statistically significant at $p<.001$ and a post-hoc Scheffe test revealed that White teachers reported significantly higher closeness scores than Black teachers. Similarly, not only do White teachers perceive their relationships with Black students to be conflictual, but the difference in their perceptions also is greater than the difference for Black teachers. Figure 3.3 shows that the difference in perceived conflict for White teachers' scores for Black students (1.98) and for White students (1.59) is .39. The difference in perceived conflict between Black teachers assigned to Black students (1.86) and Black teachers assigned to White students (1.6) is .26. As such there is a greater disparity in relationship perceptions of White teachers than Black teachers.

Figure 3.2

Graph of Perceived Closeness by Race of Student by Race of Teacher

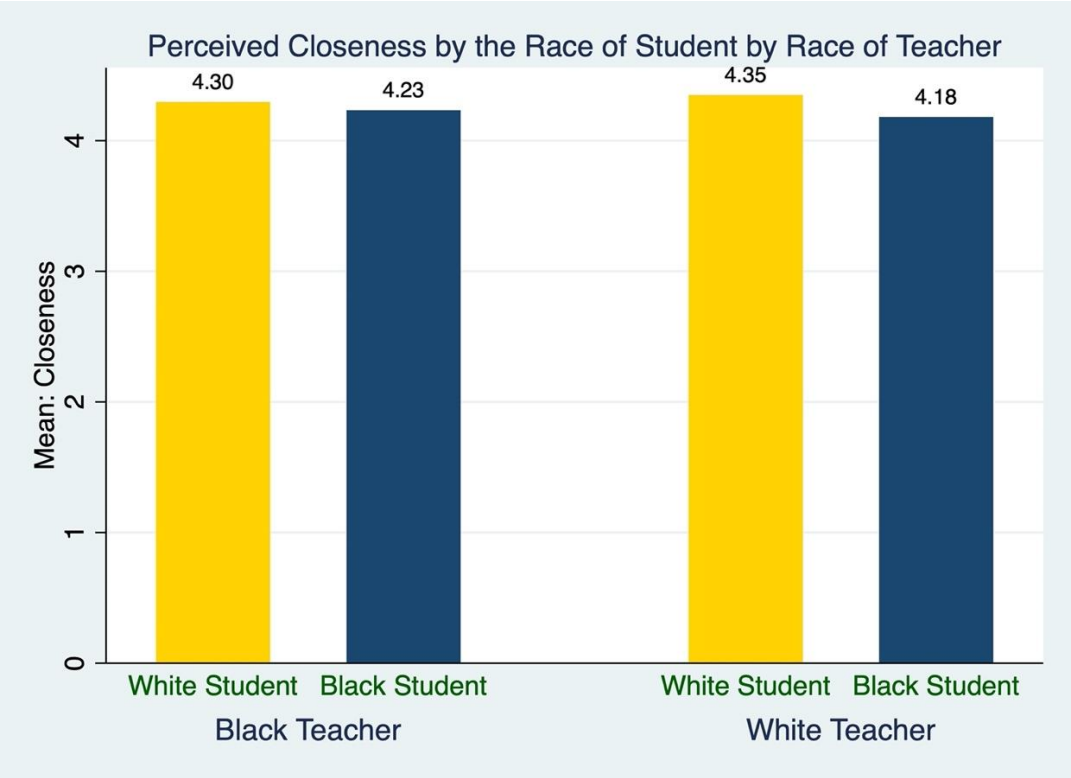
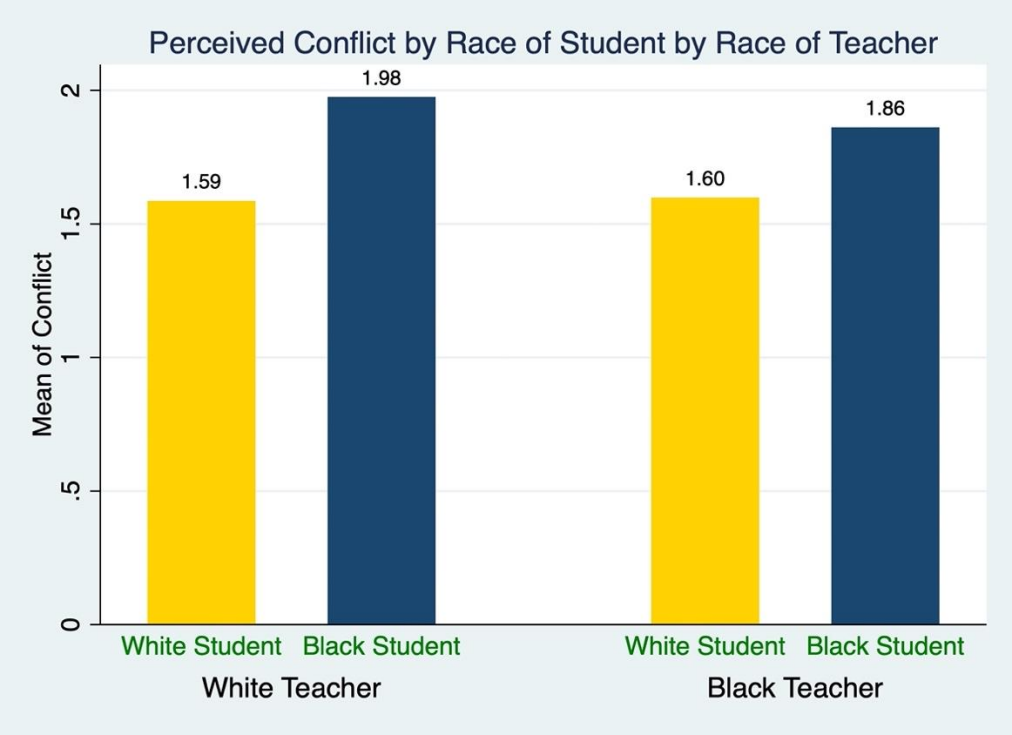


Figure 3.3

Graph of Perceived Conflict by Race of Student by Race of Teacher



The regression results in the study further illustrate difference perceptions of relationships by race. These perceptions are more racialized among White teachers than they are among Black teachers. The base model in Table 11 shows that Black students receive statistically significantly lower closeness scores than White students, controlling for the teacher's race. Also, White teachers report higher levels of closeness with students than Black teachers, controlling for the student's race. Model 2 contains the interaction of Black student and White teacher variables, while Model 3 adds the lagged closeness variable. In Model 3 the estimated coefficient of White teacher indicates the levels of closeness they report for White students, while the estimated coefficient of the interaction term is the differential level of closeness they report for Black students. The estimate of the interaction term is -.0849 and is statistically significant, implying that White teachers report lower levels of closeness with Black students

than with White students. In other words, White teachers perceive their relationships with Black students to be significantly less positive than with White students, holding all else constant. Inclusion of the additional students' reading test scores and absences as controls accounts for factors that may influence teacher perceptions. For instance, teacher perceptions of students could be formed due to students' test scores or their attendance behavior. Controlling for these variables, I can possibly claim more strongly that the race of Black students is the determining effect on how teachers form their perceptions of closeness. While the estimate of this coefficient in Model 4 with additional controls loses statistical significance. Model 4 also shows that prior closeness predicts current closeness, and being a female student is positively associated with closeness. Further, reading scores are positively associated with closeness and female teachers report higher levels of closeness than male teachers.

Additionally, while prior closeness offers a control to identify the effect of the race-(mis) match on closeness, researchers have argued that including controls for pre-tests or priors hides the role of racism by absorbing the baseline differences associated with race (Perez Huber et al., 2018 as cited in Frank et al., n.d.). According the Quantcrit framework, including models without prior scores documents to effect of racism on relationships. Reduction in the estimated effect of the coefficients of Black Student * White teacher by including lagged dependent variable for closeness indicates existence of structural barriers that limit educational opportunities for Black students. The effect of those structural barriers is evident in the estimated coefficient of the interaction prior to the inclusion of Lagged_Closeness. Including the school fixed effects in the model further reduces the effect to a point that the effect of race (mis) match becomes insignificant. While the estimated effect does not remain significant, it shows that factors that are

fixed at the school level are at play between the pre and post periods that make relationships of Black students less close with White teachers.

Results reported in Table 12 show that teachers perceive higher levels of conflict with Black students than White students. The conflict score assigned to Black students is significantly higher than students of other racial subgroups. Model 4 shows that Black students not only receive a higher conflict score from Black teachers, but they also receive a significantly higher conflict score when assigned a White teacher. The differential effect of the interaction term is significant even with inclusion of fixed effects and controls. The results also show that teachers perceive their relationships with Hispanic students and Asian students to be of higher levels of conflict than with White students. The table also shows that a 1-unit difference in reading score is associated with a -.101 difference in perceived conflict. Being female is negatively associated with conflict, while school's district poverty level is positively associated with conflict. In addition, the estimated coefficient of Lagged_conflict shows that despite a change in teachers from one grade to the next, prior conflict remains a strong predictor of current conflict.

In summary, the key variable is the interaction term. The estimated coefficient of the interaction term suggests an adverse race-mismatch effect for Black students. To verify the race-match effect on Black students, I employ an alternate approach by creating four categories to compare each group with the referent group. The referent group is the White Student – White Teacher group.

Table 13 shows results of regression of closeness on the three race-match groups. The key subgroup of interest is the Black Student – White teacher subgroup. The estimated coefficient of this subgroup shows that White teachers perceive their relationships with Black students to have (-.168) lower levels of closeness than they do with White students, all else being

equal. The estimates are still statistically significant, even after controlling for prior closeness and other covariates. Table 14 shows results from the regression of conflict on race-match subgroups. White teachers rate their relationships with Black students with higher levels of conflict than they do with White students.

These results provide evidence that Black students are subject to adverse perceptions of their teachers. Not only do teachers on average perceive relationships with Black students more poorly, but White teachers also report even higher levels of conflict and lower levels of closeness with Black students. The findings imply a racial bias in perceptions among White teachers or that White teacher actually have worse relationships with Black students, which makes their relationships with Black student biased. White teachers' perceptions of Black students are racialized, and their relationships with Black students are more negative and less positive. To further examine the influence of the racial identities of Black students and these adverse perceptions on behavioral outcomes, I conduct a separate analysis to answer my third research.

4.3 Race-Match and Relationship Moderation Effects on Absenteeism

In this section, I compare estimates of race-match groups and interactions with relationship variables to draw conclusions about their effect on absenteeism for students. The analysis is still centered on the differential experiences of Black students as compared to White students.

The first set of results presented in Table 15 hold the White student – White teacher group as the reference group. Thus, the estimated coefficients of the Black student – White teacher subgroup allow for comparisons between Black students and White students, when assigned to White teachers. The second set of results presented in Table 16 hold the Black student – Black teacher subgroup as the comparison. Thus, the estimated coefficients of the

Black student – White teacher subgroup allow for comparison of Black students, when they are taught by White teachers versus when taught by Black teachers. The two types of comparisons present an opportunity to draw nuanced conclusions about differences in the experiences of Black students and White students, while also examining the experiences of Black students when taught by White teachers versus Black teachers.

The existence of the race-match effect on the likelihood of chronic absenteeism shows that Black students either benefit from being taught by Black teachers or are harmed by being taught by White teachers. The analysis presented in the two tables helps hypothesize about different mechanisms that could explain these effects. The analysis elevates two mechanisms – one is centered on the perceptions of White teachers that may be biased against diverse students in comparison to White students, and the other is centered on differences between the capacities of Black teachers and White teachers to respond to the needs of Black students. In Table 14, where White teacher is fixed, the estimates compare how White teachers perceive their White students differently from Black students. White teachers could be perceiving Black students differently from White students due to inherent biases against Black students. This could be disincentivizing Black students or their families to send them to school. Thus, this comparison points to the *incapacities* of White teachers to perceive their Black students in the same way as White students.

The results presented in Table 16, in which Black student is fixed, pertains to how White teachers perceive their Black students differently from the way Black teachers perceive those students. This comparison perhaps highlights the *greater capacities* of Black teachers than those of White teachers to relate to, interact with, and motivate Black students to attend school or communicate with their families to send them to school. Alternatively, Black students could be

perceiving Black teachers differently from White teachers, looking up toward Black teachers as better role models than White teachers.

Of key interest to this study are both race-match effects and the role of student-teacher relationships on absenteeism. I also created interaction terms by multiplying c*onflict* with the race-match subgroups. I present only those results that contain interactions with c*onflict* because the estimated coefficients of interactions with c*loseness* are not statistically significant. In addition, the levels of conflict with Black students are starkly different from the levels with White students.

Results of Model 1 in Table 15 show that the Black student – White teacher group, in comparison to White teacher – White student group, has a statistically significant positive association (.219) with absenteeism. Thus, Black students assigned to White teachers are more likely than White students assigned to White teachers to be chronically absent. This is confirmation that the racial mismatch is disadvantageous for Black students, in that White students benefit from being assigned to White teachers more than Black students do. Although reparameterization of groups is done separately to show the difference in estimated coefficients between other groups, such as Black student – White teacher versus Black student – Black teacher, I calculated that the difference in the estimates of Black student – White teacher and Black student – Black teacher is .4 and found that the estimate is significant at the 1% significance level. Table 16 presents regression estimates that confirm the calculation of the difference being .4. This provides further evidence that the racial mismatch effect for the Black student – White teacher group is significant in both scenarios: one in which the race of the student is changed but the White teacher is held constant, and the other in which the race of the teacher is changed but the Black student is held constant.

Model 2 in Table 15 indicates that the association between conflict and chronic absenteeism differs by the race-match groups. Specifically, the slope of c*onflict's* relationship with absenteeism significantly differs between the Black student – White teacher group and the White student – White teacher group. The effect of c*onflict* on the likelihood of chronic absenteeism for the White student – White teacher group is .118, while the effect of conflict on the Black student – White teacher is -.104 (.118 - .222). That is, while higher levels of c*onflict* predict a higher likelihood in chronic absenteeism broadly, progressively higher levels of c*onflict* predict a lower likelihood of absenteeism for a Black student when assigned to a White teacher. We should also note that Black students with White teachers are more likely to be absent (.186) when conflict is zero.

Building on the estimates in Model 2, Model 3 contains school and time-fixed effects. The school and time-fixed effects are crucial to highlighting the negative effects of a racial mismatch for Black students and how associations between negative student-teacher relationship quality and absenteeism are reversed for Black students assigned to White teachers. The inclusion of school-level fixed effects does not alter the conclusion that race-match moderates the effect of student-teacher relationship quality on absenteeism. Model 3 with fixed effects provides evidence that the base model underestimates this effect of race-match for a given school. Controlling for fixed effects of school, the difference in the probability of chronic absenteeism for Black students when assigned White teachers and White students when assigned to White teachers is .478. Thus, the effect size of race-match is higher than the one presented in Model 2 or Model 3.

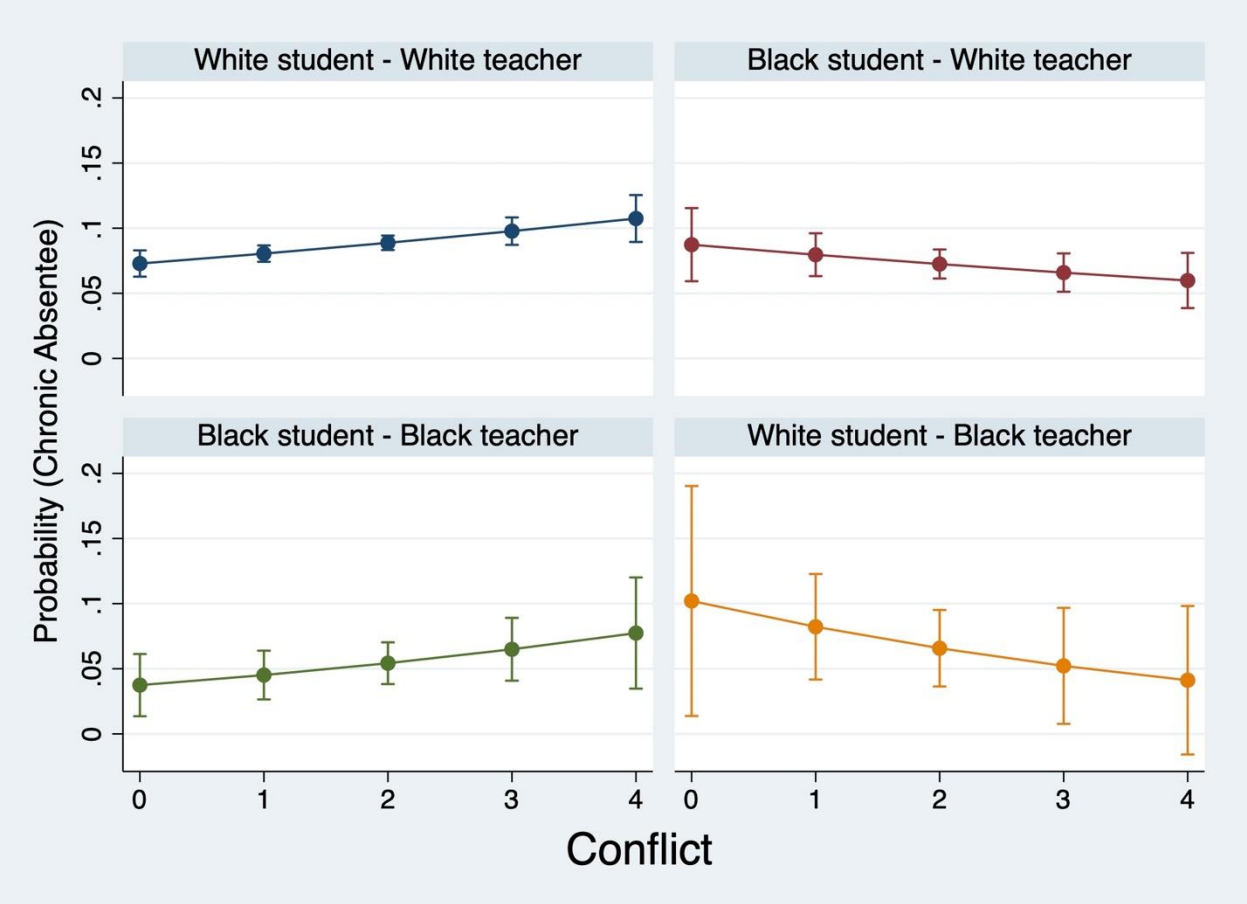
Table 16 presents estimates of race-match groups, holding the Black Student- Black Teacher group as the reference group. The interpretation of the estimated coefficient of Black

student- White teacher subgroup is that at zero conflict the difference in probabilities for Black students assigned to White teachers versus those assigned to Black teachers is .865. This is statistically significant at the 1% significance level. And again, at higher levels of conflict, the difference in probabilities is lower than when there is no conflict. Specifically, when the reported conflict is 1 the difference in probabilities of chronic absenteeism is .865 - .333, which is equal to .532. The estimates of the key interaction term Conflict * Blackstudent_Whiteteacher imply that higher levels of conflict between Black students and White teachers are somehow proving beneficial for Black Students only in the racially mismatched situation.

To make the interpretation of the estimated coefficients of the interaction terms more accessible, I run postestimation tests to predict probabilities of chronic absenteeism corresponding to different levels of closeness and conflict. Figure 4.1 illustrates the predictive probabilities of being a chronic absentee at various levels of conflict for each of the race-matched groups, adjusted for the interaction terms and the control variables. These four graphs depict two different trends of effects – a trend for the effect of the racially matched groups versus a trend for racially mismatched groups. With differences in each unit of conflict the probabilities of being chronically absent decrease for the racially mismatched groups and increase for racially matched groups.

Figure 4.1

Adjusted Predictions for Race-match groups by Conflict with 95% confidence intervals.



The figure also confirms that at zero conflict, the probability of being chronically absent is higher for a Black student assigned to a White teacher than for a White student assigned to a White teacher or for a Black student assigned to a Black teacher. At higher levels of conflict, the probability of being chronically absent gets progressively lower for a Black student assigned to a White teacher than a White student assigned to a White teacher or Black student assigned to a Black teacher. These findings imply that higher levels of conflict between White teachers and Black students are advantageous for Black students, when considering the problem of chronic absenteeism. More research is needed to examine this unexpected and unanticipated result.

4.4 Postestimation Sensitivity Analysis

Recognizing concerns about the non-random sample invalidating the inference of my results, I first note that the sample included schools from diverse backgrounds. Nonetheless, there may still be concerns that the inference is not valid for a population that includes non-volunteer schools. Therefore, I drew on Frank et al (2013) as in the http://Konfound-it app and quantified how much bias there would have to be due to the non-random sample (or any other source) to invalidate my inferences.

A statistical inference in a regression model may be invalidated if the estimate loses statistical significance. This robustness check allows us to quantify how much of the effect in the data would have to due to chance in order for the estimate to lose statistical significance. For part (a) of the first research question about the effect of closeness on chronic absenteeism, I estimate an effect of -.180. (shown in Table 5), which is statistically significant at the 1% significance level. The number of observations in the analysis at 14337. Regarding half of the observations as treated with higher levels of closeness than the other half that experience lower levels of closeness, the analysis indicates that to invalidate the inference, I would need to replace 501 treatment failure cases. This is equivalent to transferring 87 cases from treatment failure to treatment success. Treatment success indicates those cases who were given treatment of higher closeness (or positive relationship) and were chronically absent, treatment failure indicates those cases who given the same treatment but who were not chronically absent. Therefore, the question to deliberate would be that after controlling for prior absenteeism, student and teacher demographic controls, and school- and time-fixed effects, how likely is it that these 501 observations are due to chance. I argue that the effect of closeness of chronic absenteeism is strong enough the warrant a causal interpretation.

Similarly, for part (b) of the first research question about the effect of conflict on chronic absenteeism, the analysis indicates that to invalidate the inference, you would need to replace 25 treatment success cases. This is equivalent to transferring 7 cases from treatment success to treatment failure.

For part (b) of the second research question, where I used White Student – Black Teacher interaction term in the model, to invalidate an inference, 70.8 % of the estimated effect of interaction on conflict would have to be due to bias. This is based on a threshold of 0.027 for statistical significance (alpha = 0.05). Correspondingly, to invalidate the inference one would have to replace 70.8% of the observed data with counterfactural cases of no effect. Further, to invalidate an inference, 14290 observations would have to be replaced with cases for which the effect is 0 (Frank et al, 2013). For answering the same second research question, for which I employ alternate models that include three race-match comparison groups, to invalidate an inference, 17.88 % of the estimated effect of Black Student – White teacher on closeness would have to be due to bias. This is based on a threshold of -0.073 for statistical significance (alpha = 0.05). Further, to sustain an inference, 23.88 % of the estimated effect of Black Student – White teacher on conflict would have to be due to bias. This is based on a threshold of 0.069 for statistical significance (alpha = 0.05). To sustain an inference, 3433 of the cases with 0 effect would have to be replaced with cases at the threshold of inference.

Finally, for part (b) of the third research question, I conduct this analysis for two model-scenarios: (a) those that have White student – White teacher as reference group and (b) those that have Black student – Black teacher as the referent group. The effect of interaction of Black Student – White Teacher * Conflict on chronic absenteeism in the first group is -.254, this analysis indicates that to invalidate the inference, I would need to replace 201 treatment failure

cases. This is equivalent to transferring 7 cases from treatment failure to treatment success. For the latter comparison group, the effect of the interaction term is -.479. This analysis indicates I would need to replace 480 treatment failure cases. This is equivalent to transferring 6 cases from treatment failure to treatment success.

Further, a concern about unit fixed-effects models is the reciprocal nature of the causal effects examined in the analysis. To generate causal inferences, fixed-effects models assume that (1) there are no unobserved time-varying confounders, (2) past outcomes do not directly affect the explanatory variables (reverse causality), and (3) past explanatory variables do not directly affect current outcomes (lagged treatments) (Vaisey and Miles, 2017; Woolridge, 2010) Researchers have proposed various methods to tackle the question of reverse causality. Leszczensky and Wolbring (2022) recommend using a fixed-effects model with time-lagged effects, which I use throughout the analysis. They also suggest that including lagged values of the predictor variable in the model can control for potential reverse causality. However, this model is useful when there is a time lag between the predictor and the outcome variable. Data on relationship quality and absenteeism for each year are collected at the same time point. Further, they discuss using dynamic panel models that include both lagged values of the outcome variable and the predictor variable in the model to account for the dynamic relationship between them. They also describe a cross-lagged panel analysis that helps to identify causal predominance, by examining the reciprocal nature of the effects between two variables.

First, cross-lagged models estimate the relationship between dependent and independent variables by including their prior or lagged values at multiple time points. Cross-lagged coefficients are easily comparable when variables are standardized. There are two paths constructed: the autoregressive path and the cross-lagged path. The autoregressive path shows

the relationship between the same variable at multiple time points, while the cross-lagged paths show the relationships between lagged dependent variables and the current independent variables, as well as between lagged independent variables and current dependent variables. Figure 5.1 shows the cross-lagged panel effects on Closeness and chronic absenteeism, while Figure 5.2 shows the cross-lagged panel effects on conflict and chronic absenteeism. The estimated coefficients in both the figures are standardized, making it easier to compare their effect sizes. Differences in the estimates of the cross-lagged paths provide some evidence regarding predominance of the causal effect between the two variables. Conflict variables across time points are labelled CNFLCT*year* and closeness is labelled CLSNSS*year*. The table shows that estimates of the paths that go from the relationship quality variables to chronic absenteeism are greater than those that move from chronic absenteeism to relationship quality. Some of the differences between these effect sizes are statistically significant. These differences in the estimates provide more credence to the theoretical causal path from relationships to absenteeism.

Figure 5.1

Cross-Lagged Panel Effects on Closeness and Chronic Absenteeism

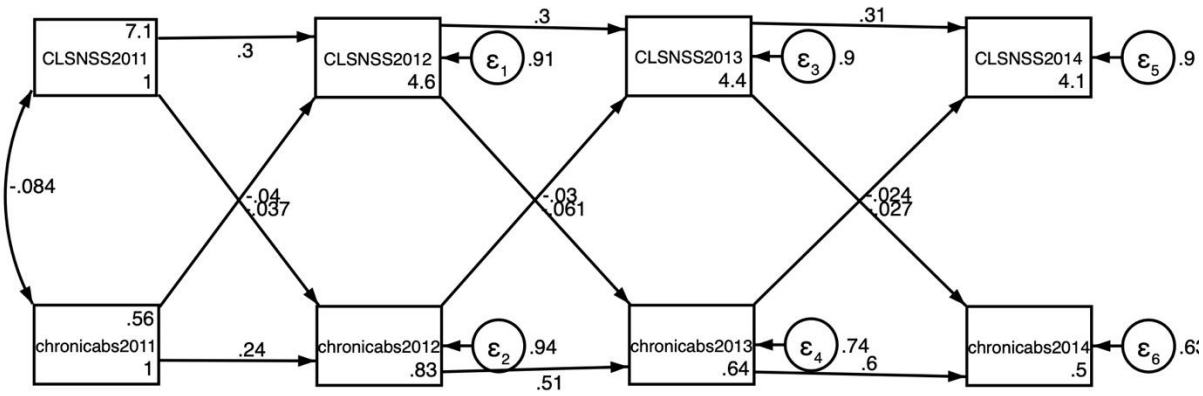
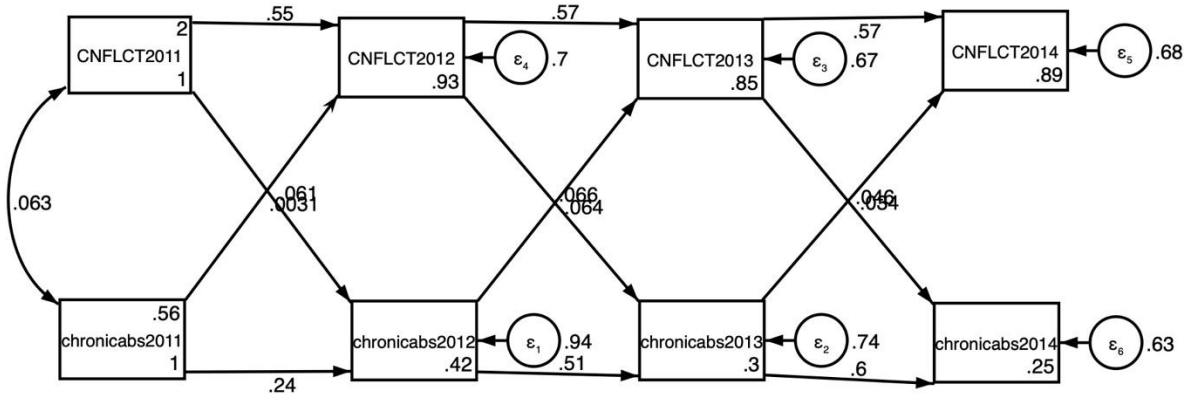


Figure 5.2

Cross-Lagged Panel Effects of Conflict and Chronic Absenteeism



CHAPTER 5. DISCUSSION

5.1 Implications

While much is known about the effects of student-teacher relationships on student engagement and student achievement, research has yet to fully examine the effects of student-teacher relationships on chronic absenteeism. Even less work has assessed how psychological and sociological factors intersect to influence absenteeism in tandem. Examining the mechanisms that drive chronic absenteeism has direct implications for policies and practices to overcome this serious problem in schools. This study contributes to the chronic absenteeism literature by exploring the influence of positive and negative student-teacher relationships on chronic absenteeism for early graders through a dataset that is nationally representative of students in the US. Understanding absenteeism for early graders is significant since early graders do not have the agency to attend school. The role of student-teacher relationships at the elementary school level has potential implications for how classroom interactions have an indirect effect on parental decisions for these children. In addition, evaluating the effects of student-teacher relationships on Chronic absenteeism for Black students who face additional challenges in educational contexts than their White peers, this study presents significant insights into how addressing the problem for diverse racial subgroups of students requires considering the interaction of racial and structural inequities and classroom dynamics.

This study presents several striking findings. First, student-teacher relationships, in early grades, influence the actions of students who are chronically absent. Positive relationships with teachers predict a lower likelihood that a student is chronically absent, while negative relationships predict a higher likelihood that a student is chronically absent. The results are consistent across all types of models presented the study. This highlights the need for schools

and educators to prioritize building positive relationships with their students as a key strategy for addressing absenteeism and improving overall academic outcomes. The findings of this study suggest that efforts to foster a positive and supportive school culture that promotes healthy relationships between teachers and students may be an effective approach to addressing chronic absenteeism in schools.

Subsequently, students who are identified as female and students who come from low socio-economic backgrounds are also more likely to be chronically absent from school. The latter is consistent with extant research that finds family socio-economic status to be an indicator of school absenteeism (Gottfried & Gee, 2017; Gubbels et al., 2019; Klein et al., 2020). According to the U.S. Department of Education (2015) in the year 2015-16, male students were roughly equally as likely as female students to be chronically absent, however the current data reflects a population still in elementary school and supports the findings of Garcia and Weiss (2018) who find in their analysis of the National Assessment of Educational Progress data that boys are less likely to be chronically absent than girls. This study accounts for various other factors that might confound the relationship between gender and Chronic absenteeism, and hence infers that girls are indeed more likely to be chronically absent from school.

Further, the study shows that Closeness has a stronger effect on Chronic absenteeism than Conflict. In their metanalysis, Roorda et al., (2017) found that Closeness had a stronger relationship with student engagement and achievement in their sample of studies, while Conflict had stronger impacts on student engagement and student achievement when considering only longitudinal studies. Murray and Malmgren (2005) found that students, especially those who come for low socio-economic backgrounds, who share higher positive relationships with their teachers, experience greater socio-emotional adjustment than students who so do not share such

relationships, which shields these students from institutional barriers such as lack of sufficient resources, high teacher turnover, and less experienced teachers in schools. Further, Cheung (2019) found that teacher-student relationships help explain the positive association between parental involvement and school adjustment. In alignment with these previous research findings, it is possible that higher levels of Closeness between teachers and students create conducive conditions for greater parental involvement, garnering trust between parents and teachers and school, motivating parents to act to send their children to school. Closeness indicates additional care and empathy felt by the teacher for a student. Students who receive such care adjust well and enjoy school. As a result, either parents perceive this or these students communicate about their experiences at school to their parents, making the parents trust the school more. More research that examines the role of school adjustment and parental involvement can perhaps explain the reason that positive relationships have a stronger impact on Chronic absenteeism.

Additionally, the significance of the study's findings lies in the potential for educators to use them to develop interventions and strategies aimed at reducing Chronic absenteeism in schools. By understanding the role of teachers' perceptions in shaping students' attendance behavior, educators can work to improve the quality of teacher-student relationships by providing professional development and training to teachers. This study's findings indicate that interventions aimed at reducing absenteeism should focus on the affective qualities of relationships formed in the classroom. Teachers need to be cognizant of the effect that these qualities have on their students. Eklund et al., (2020) find small or moderate impact of the three types of intervention that are commonly implemented to address on attendance outcomes. These three intervention types were behavioral interventions (attendance contracts, counseling, and socio-emotional instruction), academic interventions (instructional supports) and parental

involvement. None of these interventions encompass ways that teachers learn how to recognize and manage potential sources of conflict in their relationships with students and develop skills for fostering positive and supportive relationships. Ultimately, by leveraging these findings, educators may be better equipped to address absenteeism and promote positive academic outcomes for their students.

The study's findings also have implications for the role of teachers' perceptions in student absenteeism. Student-teacher relationships in the ECLSK:2011 data are measured through teachers' perceptions of these relationships with their students. The findings may extend that, in part, teachers' perceptions of their students are influencing whether students miss school at a significantly high rate. When teachers have positive perceptions of their students, they are more likely to create a supportive and engaging classroom environment that promotes learning and encourages students to attend school regularly. Teachers with positive perceptions may also be more likely to provide individualized attention and support to students who are struggling, which can help to prevent absenteeism by addressing underlying academic or social-emotional issues. Since Closeness and Conflict measures are reflections of teachers' perceptions of their students, this study also shows that teachers' perceptions can be linked to variation in Chronic absenteeism in school.

Delving deeper into factors that may be influencing teacher perceptions, I examine the effects of the racial identities of students and teachers on student-teacher relationships. Table 12 shows that Black students are significantly more likely to be in negative relationships with their teachers than White students, implying that Black students face more adverse circumstances in schools. Further, the effect of being assigned to a White teacher makes relationships even worse for Black students. Black students taught by White teachers experience higher levels of Conflict

than Black students taught by Black teachers. This finding confirms that the racial identity of Black students has a significant effect on teachers' perceptions of classroom relationships, indicating White teachers and Black teachers perceive their Black students differently. As such, White teachers' perceptions arguably limit educational opportunities and influence the classroom environments for Black students.

Tables 13 and 14 provide estimates from alternate models, comparing various race-match group outcomes with the White student – White teacher reference group in the model. Comparing race-match group outcomes confirms the existence of a race-match effect on relationships. Estimates from Table 14 show that Black students share higher Conflict higher with White teachers than White students do. Further, estimates in Table 13 show that the Black student - White teacher group's effect is negative on Closeness after controlling for socio-economic factors and individual attributes. The implications of White teachers sharing worse relationships with Black students than with White students can have a significant impact on the academic and socioemotional outcomes of Black students. These results signal the presence of unintended or intended biases in interactions with students. Negative relationships between White teachers and Black students can result in lower academic performance and potentially higher rates of disciplinary actions, such as suspension and expulsion, for Black students. Negative relationships between White teachers and Black students can also contribute to racial tension in schools and perpetuate stereotypes and biases. These findings highlight the importance of teacher diversity and culturally responsive teaching to better support the learning and socioemotional needs of students from diverse racial and ethnic backgrounds.

Black students also share stronger relationships with Black teachers than White teachers. The results imply that when Black students feel connected to their teacher, they may be more

likely to participate in class and ask questions, leading to increased engagement and understanding of the material. Positive relationships between Black teachers and Black students can contribute to a more positive school climate, with a greater sense of inclusion and belonging for Black students. Better relationships with Black teachers show that Black teachers potentially serve as better role models for Black students and act to the advantage of Black students. Perhaps, White teachers can learn from Black teachers about the cultural backgrounds and experiences of Black students, leading to enhanced cultural competence and a better understanding of how to support and teach Black students.

Concerned more with outcome-oriented disparities across racial categories, researchers rarely discuss the existence of what can be termed as a 'Relationship-Gap' in schools between White teachers and Black students. Controlling for a variety of factors that might influence classroom relationships, such as reading achievement scores, absences and socio-economic status, the study points to affective factors such as emotions, perceptions and biases against Black students that seem to be driving this study's outcomes, while simultaneously showing the Black teachers exhibit greater capacities to negotiate their relationships with their students. These findings are consistent with prior research that finds that teachers interact differently with Black students, and perceive Black students poorly (Downey and Pribesh, 2004; Gregory & Roberts, 2017; Hines-Datiri & Carter Andrews, 2017).

Over time, the prevalence of negative attitudes towards Black students has become deeply embedded, stemming from societal representations and perceptions of Black people as being intellectually inferior. Since teachers' perceptions lie at the heart of the lower levels of negative relationships, the findings from this study reinforce the need for increasing racial awareness and developing teachers' capacities to perceive Black students positively. Multiple

researchers have called for increasing racial awareness to reduce racial bias in classrooms (P. L. Carter et al., 2017; Gregory, Clawson, & Gerewitz, 2016). Researchers have also stressed that teachers critically examine the source of their perceptions and actions towards Black students in order to improve relationships. Ladson-Billings (1995) highlights the importance of teachers' perceptions of Black students and the need to recognize and challenge the ways in which these perceptions can be influenced by racial stereotypes and biases. She argues that culturally relevant teaching requires a critical examination of the ways in which race and culture intersect in the classroom, and the ways in which these intersections can impact student learning. She emphasizes the need for teachers to engage in self-reflection and to examine their own biases in order to create a more equitable and inclusive learning environment for Black students. Gay (2000), in her work on culturally responsive teaching, emphasizes the importance of teachers' perceptions of their Black students, arguing that teachers must be aware of and sensitive to the cultural backgrounds of their Black students in order to create a learning environment that is culturally responsive and engaging. She emphasizes that teachers must go beyond a superficial understanding of cultural differences and instead engage in a deep exploration of the cultural traditions and practices that shape their students' experiences. By doing so, teachers can create a more culturally responsive classroom that meets the needs of all students, including those who come from diverse cultural backgrounds.

Finally, for the third research question, this study explores the effects of student-teacher race-match on Chronic absenteeism. The results show that Black students have better outcomes when assigned to Black teachers than to White teachers and Black students also have worse outcomes than White students when assigned to White teachers. The White teacher - Black student racial mismatch is particularly damaging for Black students. Black students when taught

by White teachers are more likely to be chronically absent than when taught by White teachers. Black students taught by White teachers are also more likely to be chronically absent than when taught by Black teachers. Clearly, being taught by Black teachers is advantageous for Black students.

This finding is supported by multiple theories that attribute positive outcomes for Black students to the same racial identity of their Black teachers. The first theory posits that students assigned to teachers of the same race build stronger connections with their teachers and feel more positively about school (Achinstein et al., 2010; Irvine, 1990; Villegas & Irvine, 2010; Warikoo, 2004). The second theory posits that cultural competence and critical race consciousness equip teachers of color to operate with asset-based mindsets and higher expectations of their students (Ladson-Billings, 1992; Fox, 2016; Ouazad, 2014). And the third theory posits that bureaucratic representation of a subgroup in a position of power is associated with a greater advantage and furthering of interests for the subgroup (Grissom et al., 2015). The findings in this study resonate with each of these theories, implying that Black teachers are successful in serving Black students as they build stronger connections with their students, which then indirectly influences parents deciding to send their children to school.

Further, the study shows that negative relationships exert differential effects on racially mismatched Black students. Racial mismatch reverses the effect of Conflict on Chronic absenteeism for Black students. Black students assigned to White teachers show an opposite trend from White students assigned to White teachers, even though Black students are more likely than White students to be absent when White teachers report zero conflict. These findings depart from the initial set of findings that show negative relationships in classrooms harm student outcomes. The reason that Conflict has a positive effect on racially mismatched Black students is

unanticipated and needs more examination. Nevertheless, the findings echo claims made in prior research that Black students experience unique circumstances in educational settings. Perhaps, the parents of these children are indeed counteracting the effects of negative relationships with teachers to create positive outcomes for their children. As such, White parents and Black parents are responding differently to student-teacher relationships formed in school. This implication would then be consistent with the view that Black parents build resilience toward mitigating not only disadvantageous sociological effects but also adverse psychological effects of conflictual relationships at school. These findings call for a renewed conceptualization of parental involvement, lending support to research that shows that conventional domains of involvement have divergent manifestations among Black parents (Huguley et al., 2021). It may also be that White teachers modify their interactions and messaging about their relationships with parents of Black children. Research has shown that teachers were more likely to approach Black and Latinx families when their children exhibited behavioral problems in school, and less likely to share their accomplishments (Cherng, 2016). Perhaps, Black students benefit from such differential outreach by their teachers. More research that explores how Black families respond to interactions with White teachers is needed to explain the causes of this finding.

In summary, the findings contribute to a distinct understanding of the affective and sociological domains affecting absenteeism. First, as expected, good relationships in classrooms lead to good effects, while negative relationships have deleterious effects. In addition, teacher perceptions of a student serve as an indicator of the individual risk of that student missing school. Second, on a broader level, this study shows that sociological factors, such as the racial identities of teachers and students, affect classroom interactions, teachers' perceptions, and outcomes for students. While chronic absenteeism is the specific outcome examined in the study,

the findings illuminate how psychological and sociological factors interact to affect actions taken by students and their parents about school. As such, the psychological factors (relationships) have the opposite effect on Black students that are taught by White teachers. The findings of this study, therefore, develop a more nuanced portrayal of the educational experiences of Black students.

5.2 Limitations

There are several limitations to this study that can be addressed in future research. First, while the analysis reveals strong associations between student-teacher relationships and Chronic absenteeism and the use of nationally representative data makes a case for the generalizability of its findings, I cannot be certain that student-teacher relationships are causing a student to be absent from school. While controlling for school factors that are constant over time adds robustness to the findings, micro or macro-level policy and cultural shifts that change over time may confound the findings. For instance, the adoption of diversity, equity, and inclusion missions, resulting in cultural changes at the school level, may affect the teachers' perceptions of their students and attendance. However, I am arguing that I am inferring a casual effect of relationships and race-match on absenteeism, and a causal effect of race-match on relationships. The sensitivity analysis presented in this study helps overcome the common impasse that longitudinal studies in the social sciences often reach related to causality due to data being collected in non-experimental settings, and provides a ground for discussion. Rather than conceding this quasi-experimental analysis non-causal due to lack of an experimental design, the discussion I probe is what it would take to invalidate my inference and whether it is reasonable to assume a causal effect given the practical knowledge that readers possess about the strengths of determining factors of absenteeism in schools and if there's an omitted factor that might

invalidate my conclusion. Given, the effects and their respective change scenarios presented in the sensitivity analysis, I show the causal strength of each effect presented in the analysis.

Second, although this study intentionally explores student-teacher racial matching for the White and the Black populations, the study does not determine whether the same relationships would hold for Latinx and Asian populations. I do not suspect that they would, and hence there is much value in researching other racial demographics to determine the full range of significance of student-teacher relationships for student attendance.

Lastly, the data in the study contains only teacher-reported measures of student-teacher relationships. To ensure consistency in the measurement of the quality of relationships, future studies need to consider other sources to proxy student-teacher relationships. Multiple sources of reported measures would eliminate the risk of single-source bias. Further, I examine the role of student-teacher relationships relying primarily on variables derived from the extended attachment theory framework. Other frameworks such as autonomy, support, and agency that derive from other social-motivational theories could be utilized to expand the understanding of student-teacher relationships.

5.3 Conclusion

The study addresses the critical association between student-teacher relationships and absenteeism in schools. By developing robust associations of the impacts of relational factors on student absenteeism in early grades, and whether racial matching moderates these relationships for Black students, the study makes several contributions to the field. First, the study elevates the importance of the affective qualities of student-teacher relationships in educational research. Affective variables such as empathy and warmth, though crucial in evaluating classroom dynamics, often are hard to quantify and use in quantitative educational research. Second, the

study provides a rich analysis using nationally representative longitudinal data. Third, factors that impact absenteeism can help policymakers, researchers, and practitioners focus their attention on relational factors, along with behavioral, cognitive, and physical ones. Fourth, the extent that race influences the formation of relationships can help practitioners and researchers implement interventions that focus on developing cultural competence and addressing racially biased attitudes among teachers. Collectively, these effects offer valuable insights into the mechanisms that influence absenteeism and ways in which student-teacher relationships are fostered.

Creating positive student-teacher relationships is essential for student success, regardless of race or ethnicity. However, teachers who are culturally responsive and aware of their students' diverse backgrounds can build strong relationships with students from different racial and ethnic groups by creating a learning environment that is inclusive and supportive of all students. Culturally responsive teaching practices can help teachers to create a classroom environment that recognizes and values the cultural backgrounds of all students. This can include incorporating culturally relevant materials and resources into lesson plans, using teaching strategies that are culturally appropriate, and providing opportunities for students to share their own cultural perspectives and experiences.

The question of whether teachers of the same race or ethnicity as their students form stronger relationships with those students is an important one, particularly given the changing demographics of classrooms across the United States. While this study has suggested that race-matching can be a significant factor in building strong relationships, it is important to recognize that there are many other factors that can contribute to the development of positive relationships between teachers and students.

In recent years, the percentage of students of color in U.S. schools has continued to rise, while the percentage of teachers of color has remained relatively low. This means that many students of color are largely exposed to teachers of different races and ethnicities. However, it is still possible for teachers to form strong and positive relationships with students from different racial and ethnic backgrounds. By creating learning environments that are inclusive and supportive of all students, teachers can help to foster positive relationships and create a sense of belonging for all students.

Teacher training is also critical in helping teachers to develop the skills and knowledge needed to create a positive and supportive classroom environment. Professional development opportunities can help teachers to develop a better understanding of the cultural backgrounds of their students, as well as effective classroom management and communication strategies.

In summary, building positive student-teacher relationships requires a multifaceted approach that takes into account a wide range of factors, including race-matching, cultural responsiveness, teacher training, and classroom management practices. By creating a positive and supportive learning environment, teachers can help all students to achieve their full potential.

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APPENDIX A. LIST OF TABLES

Table 1

Descriptive Statistics of Students

	Proportion	
Key Outcome Variables		
Chronic Absence	9.9%	
Extreme Absence	2.4%	
Student Controls		
Female Student	48.8%	
Free or Reduced Priced Lunch Eligible	56.4%	
IEP on file	10.9%	
Student Race (Parent and School Reported)		
White	49.9%	
Black	14.1%	
Latinx	27.0%	
Asian	9.1%	
Teachers Controls		
Female	95.2%	
White	89.0%	
Black	7.0%	
Masters	47.3%	
	Mean	SD
Key Explanatory Variables of Relationship Quality		
Conflict	1.62	.79
Closeness	4.26	.68
Teachers Experience		
Number of Years as School Teacher	14.73	9.80
Number of students enrolled in school	531.61	245.11
School Factors		
School District Composite Poverty Level	19.95	10.54

Note. N ~ 16980 (n=17225 for teachers and n=2730 for schools. More than 10 absences were recorded as chronic absence. More than 20 absences coded as extreme absence.

Table 2

Descriptive Statistics of Key Variables by Year

	2011	2012	2013	2014
Chronic Absence	13.6%	9.3%	9.4%	7.2%
Relationship Quality				
Conflict	1.63	1.63	1.61	1.59
Closeness	4.35	4.29	4.23	4.14

Table 3

Descriptive Statistics of Students by Race

	Asian student	White student	Black student	Latinx student
Key Outcome Variables				
Chronic Absence	7.7%	9.3%	10.2%	10.8%
Extreme Absence	2.4%	1.8%	3.3%	2.7%
Student Characteristics				
Female	53.2%	48.0%	48.3%	49.2%
IEP	6.0%	11.2%	12.3%	11.2%
Free or Reduced Priced Lunch	47.0%	36.0%	84.5%	83.4%
Teacher Characteristics				
Female	95.4%	96.0%	95.8%	93.4%
White	78.2%	96.8%	69.4%	86.2%
Black	3.6%	1.9%	28.6%	7.5%
Masters	51.1%	47.1%	51.2%	44.7%

Note. N~16980. Four racial categories are presented in the table. Native Hawaiian/Pacific Islander, Alaskan Native, and Multi-racial students have been excluded as they are below 5% of the population.

Table 4

Descriptive Summary of Students by Race as Means

	Asian student		White Student		Black Student		Latinx Student	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Relationship Quality								
Conflict	1.44	.60	1.59	.77	1.94	.98	1.58	.73
Closeness	4.18	.72	4.35	.64	4.20	.69	4.17	.72
Teacher Characteristics								
Number of Years as School Teacher	15.88	9.63	15.11	9.93	13.93	9.91	13.98	9.44
School Characteristics								
Number of students enrolled in school	575.0	246.4	493.2	235.5	505.9	232.6	602.1	245.
District Poverty Level	16.47	8.93	15.84	8.54	26.46	10.93	24.51	10.54

Table 5

Logit Regression Coefficients of Closeness as Predictor of Chronic Absenteeism

	Model 1	Model 2	Model 3
	Base	With Prior	With Fixed Effects
Key Independent Variable			
Closeness	-0.234***	-0.171***	-0.180***
	(0.0334)	(0.0400)	(0.0455)
Student Controls			
Lagged Absenteeism		0.744***	0.605***
		(0.0222)	(0.0245)
Black	-0.204**	-0.224**	-0.0378
	(0.0983)	(0.110)	(0.143)
Latinx	0.0538	0.120	0.159*
	(0.0719)	(0.0748)	(0.0938)
Asian	-0.334***	-0.317**	-0.0555
	(0.120)	(0.144)	(0.170)
White	Reference	Group	
Female	0.114**	0.142**	0.140**
	(0.0481)	(0.0571)	(0.0626)
Free or reduced-priced lunch eligible	0.650***	0.466***	0.450***
	(0.0646)	(0.0689)	(0.0776)
Teacher Controls			
Female	0.105	0.151	0.112
	(0.138)	(0.141)	(0.155)
Latinx	-0.108	-1.075**	-0.386
	(0.490)	(0.473)	(0.689)
Asian	-0.761***	-0.395	-0.460
	(0.250)	(0.259)	(0.308)
Black	-0.356***	-0.231*	0.00827
	(0.113)	(0.137)	(0.204)
White	Reference	Group	
At-least Masters	-0.0175	-0.0122	-0.0361
	(0.0553)	(0.0650)	(0.0837)
Number of Years as School Teacher	-0.00157	-0.00289	-0.00122
	(0.00262)	(0.00303)	(0.00366)
School Controls			
Number of students enrolled in school	-0.000392***	-0.000237*	0.000621
	(0.000133)	(0.000144)	(0.00124)
School District Composite Poverty Level	0.00506	0.000920	0.00191
	(0.00374)	(0.00423)	(0.0300)
Year	-0.209***	-0.0295	-0.101**
	(0.0230)	(0.0354)	(0.0425)
2013.year			0.291***

Table 5 (cont'd)

			(0.0730)
SchID_1	8.85e-05**	2.61e-05	
	(3.91e-05)	(3.93e-05)	
Constant	419.2***	54.95	
	(46.27)	(71.31)	
Observations	28,657	19,670	14,337

Note: Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table 6

Logit Regression Coefficients of Conflict as Predictor of Chronic Absenteeism

	Model 1	Model 2	Model 3
	Base	With Lag	With Fixed Effects
Key Independent Variable			
Conflict	0.110***	0.0898***	0.0775**
	(0.0286)	(0.0334)	(0.0373)
Student Controls			
Lagged Absenteeism		0.756***	0.609***
		(0.0221)	(0.0246)
Black	-0.209**	-0.227**	-0.0293
	(0.0997)	(0.111)	(0.144)
Latinx	0.0837	0.149**	0.178*
	(0.0713)	(0.0741)	(0.0930)
Asian	-0.268**	-0.267*	-0.0334
	(0.121)	(0.143)	(0.170)
White	*Reference*	*Group*	
Female	0.0870*	0.127**	0.113*
	(0.0485)	(0.0573)	(0.0626)
Free or reduced-priced lunch eligible	0.660***	0.469***	0.460***
	(0.0649)	(0.0687)	(0.0773)
Teacher Controls			
Female	0.0757	0.116	0.0772
	(0.136)	(0.141)	(0.154)
Latinx	-0.0539	-0.979**	-0.369
	(0.483)	(0.476)	(0.693)
Asian	-0.750***	-0.396	-0.451
	(0.251)	(0.253)	(0.303)
Black	-0.351***	-0.225	-0.0110
	(0.113)	(0.138)	(0.203)
White	*Reference*	*Group*	
At-least Masters	-0.0135	0.00133	-0.0336
	(0.0553)	(0.0648)	(0.0835)
Number of Year Been School Teacher	-0.00192	-0.00399	-0.00132
	(0.00261)	(0.00300)	(0.00367)
School Controls			
Number of students enrolled in school	-0.000383***	-0.000239*	0.000661
	(0.000134)	(0.000143)	(0.00124)

Table 6 (cont'd)

School District Composite Poverty Level	0.00451	0.000707	0.00158
	(0.00375)	(0.00420)	(0.0295)
Year	-0.193***	-0.0325	-0.0887**
	(0.0229)	(0.0379)	(0.0421)
SchID_1	9.13e-05**	4.05e-05	
	(3.91e-05)	(3.93e-05)	
2013.year		0.345***	0.288***
		(0.0652)	(0.0732)
Constant	386.1***	60.16	
	(46.05)	(76.32)	
Observations	28,658	19,673	14,337

Note: Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table 7

Linear Probability Model Coefficients of Closeness as Predictors of Absenteeism

	Model 1	Model 2	Model 3
	Base	With Lag	With Fixed Effects
Key Independent Variable			
Closeness	-0.0181***	-0.0123***	-0.0128***
	(0.00321)	(0.00303)	(0.00340)
Student Controls			
Lagged Absenteeism		0.0740***	0.0766**
		(0.0284)	(0.0306)
Lag_Absent_Squared		-0.0266***	-0.0274**
		(0.0103)	(0.0110)
Lag_Absent_Cubed		0.00483***	0.00457***
		(0.00112)	(0.00120)
Black	-0.0168*	-0.0173**	-0.00247
	(0.00891)	(0.00761)	(0.00976)
Latinx	0.00516	0.00837	0.0113
	(0.00695)	(0.00619)	(0.00760)
Asian	-0.0235***	-0.0181**	-0.00957
	(0.00778)	(0.00701)	(0.00945)
White	*Reference*	*Group*	
Female	0.00922**	0.00981**	0.0106**
	(0.00411)	(0.00395)	(0.00447)
Free or reduced-priced lunch eligible	0.0542***	0.0310***	0.0290***
	(0.00529)	(0.00465)	(0.00547)
Teacher Controls			
Female	0.0178	0.0104	0.00796
	(0.0110)	(0.00923)	(0.0104)
Latinx	-0.00439	-0.0531***	-0.00338
	(0.0488)	(0.0161)	(0.0187)
Asian	-0.0511***	-0.0194*	-0.0255*
	(0.0119)	(0.0115)	(0.0146)
Black	-0.0309***	-0.0156*	0.000702
	(0.00891)	(0.00863)	(0.0124)
White	*Reference*	*Group*	
At-least Masters	-0.00288	-0.00136	-0.00287
	(0.00482)	(0.00451)	(0.00560)
Number of Year Been School Teacher	-0.000151	-0.000207	-3.86e-05
	(0.000226)	(0.000206)	(0.000246)

Table 7 (cont'd)

School Controls			
Number of students enrolled in school	-3.75e-05***	-1.72e-05*	2.95e-05
	(1.11e-05)	(9.75e-06)	(5.42e-05)
School District Poverty Level	0.000451	9.15e-05	-0.000916
	(0.000347)	(0.000316)	(0.00323)
Constant	0.145***	-0.00297	-0.00357
	(0.0186)	(0.0274)	(0.0746)
Observations	28,657	19,670	19,670
R-squared	0.015	0.112	0.075

Note: Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table 8

Linear Probability Model Coefficients of Conflict as Predictors of Absenteeism

	Model 1	Model 2	Model 3
	Base	With Lag	With Fixed Effects
Key Independent Variable			
Conflict	0.0105***	0.00735***	0.00594**
	(0.00280)	(0.00266)	(0.00288)
Student Controls			
Lagged Absenteeism		0.0740***	0.0764**
		(0.0284)	(0.0306)
Lag_Absent_Squared		-0.0268***	-0.0274**
		(0.0103)	(0.0110)
Lag_Absent_Cubed		0.00485***	0.00458***
		(0.00112)	(0.00120)
Black	-0.0179**	-0.0182**	-0.00245
	(0.00902)	(0.00778)	(0.00990)
Latinx	0.00761	0.0102*	0.0128*
	(0.00692)	(0.00618)	(0.00757)
Asian	-0.0188**	-0.0150**	-0.00705
	(0.00782)	(0.00698)	(0.00940)
Female	0.00769*	0.00880**	0.00888**
	(0.00414)	(0.00399)	(0.00452)
Free or reduced priced-lunch eligible	0.0547***	0.0314***	0.0298***
	(0.00531)	(0.00463)	(0.00546)
Teachers Controls			
Female	0.0149	0.00839	0.00612
	(0.0109)	(0.00918)	(0.0103)
Latinx	-0.00144	-0.0503***	-0.00243
	(0.0486)	(0.0160)	(0.0188)
Asian	-0.0509***	-0.0193*	-0.0256*
	(0.0119)	(0.0115)	(0.0145)
Black	-0.0303***	-0.0150*	0.000745
	(0.00889)	(0.00859)	(0.0123)
Masters	-0.00251	-0.00101	-0.00280
	(0.00482)	(0.00450)	(0.00559)
Numbers of Year Been School Teacher	-0.000185	-0.000230	-5.70e-05
	(0.000225)	(0.000206)	(0.000246)
School Controls			
Number of students enrolled in school	-3.65e-05***	-1.69e-05*	2.87e-05
	(1.12e-05)	(9.79e-06)	(5.41e-05)
School District Poverty Level	0.000401	6.06e-05	-0.000848
	(0.000347)	(0.000315)	(0.00321)

Table 8 (cont'd)

Constant	0.0533***	-0.0646**	-0.0661
	(0.0165)	(0.0252)	(0.0736)
Observations	28,658	19,673	19,673
R-squared	0.014	0.112	0.075

Note: Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table 9

Poisson Regression of *Closeness as Predictor of Absenteeism*

	Model 1	Model 2	Model 3
	Base	With Prior	With Controls
Key Independent Variable			
Closeness	-0.0640***	-0.0557***	-0.0555***
	(0.00281)	(0.00356)	(0.00978)
Student Controls			
Lagged Absenteeism		0.273***	0.260***
		(0.00194)	(0.00583)
Black			-0.0708***
			(0.0248)
Latinx			0.00202
			(0.0188)
Asian			-0.212***
			(0.0328)
Female			0.109***
			(0.0152)
Free or reduced-priced lunch eligible			0.0341***
			(0.0122)
Teacher Controls			
Female			0.0258
			(0.0312)
Latinx			-0.196***
			(0.0750)
Asian			-0.168***
			(0.0590)
Black			-0.0642**
			(0.0307)
At-least Masters			0.00846
			(0.0150)
Number of Year Been School Teacher			-8.95e-05
			(0.000712)
School Controls			
Number of students enrolled in school			-4.61e-05
			(3.59e-05)
School District Poverty Level			0.000638
			(0.000967)
Year			-0.0169*
			(0.00870)
School ID			1.32e-06

Table 9 (cont'd)

			(9.76e-06)
Constant	1.930***	1.035***	35.04**
	(0.0121)	(0.0166)	(17.52)
Observations	49,522	32,139	19,670

Note: Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table 10

Poisson Regression of Conflict as Predictor of Absenteeism

	Model 1	Model 2	Model 3
	Base	With Lag	With Controls/FE
Key Independent Variable			
Conflict	0.0585***	0.0451***	0.0421***
	(0.00241)	(0.00312)	(0.00772)
Student Controls			
Lagged Absenteeism		0.273***	0.261***
		(0.00194)	(0.00581)
Black			0.0325***
			(0.0122)
Latinx			-0.0773***
			(0.0252)
Asian			0.0109
			(0.0187)
Female			-0.196***
			(0.0327)
Free or reduced-priced lunch eligible			0.109***
			(0.0152)
Teacher Controls			
Female			0.0195
			(0.0312)
Latinx			-0.180**
			(0.0744)
Asian			-0.167***
			(0.0589)
Black			-0.0609**
			(0.0309)
At-least Masters			0.0104
			(0.0149)
Number of Years Been School Teacher			-0.000195
			(0.000713)
School Controls			
Number of students enrolled in school			-4.47e-05
			(3.59e-05)
School District Composite Poverty Level			0.000477
			(0.000972)
Year			-0.0124
			(0.00866)

Table 10 (cont'd)

School ID			1.57e-06
			(9.72e-06)
Constant	1.562***	0.725***	25.76
	(0.00444)	(0.00814)	(17.44)
Observations	49,529	32,146	19,673

Note: Robust standard errors in parantheses. *** p<0.01, ** p<0.05, * p<0.1

Table 11

Regression coefficients of Racial Incongruence as Predictors of Closeness

	Model 1	Model 2	Model 3	Model 4
	Base	With Interaction	With Prior	With Controls/FE
Black Student	-0.0878***	0.0454	-0.00856	-0.0343
	(0.0153)	(0.0310)	(0.0338)	(0.0425)
White teacher	0.0668***	0.123***	0.0956***	0.0659**
	(0.0188)	(0.0216)	(0.0248)	(0.0295)
Key Variable: Interaction Term				
Black student X White teacher		-0.174***	-0.0849**	-0.0607
		(0.0341)	(0.0382)	(0.0452)
Student Controls				
Lagged _ Closeness			0.321***	0.277***
			(0.00837)	(0.00941)
Hispanic Student				-0.0533***
				(0.0146)
Asian Student				-0.119***
				(0.0228)
Female Student				0.196***
				(0.00914)
Free or reduced-priced lunch eligible				-0.0799***
				(0.0120)
Reading Scores				0.0764***
				(0.0103)
Absences				-0.0239***
				(0.00464)
Teacher Controls				
Female Teacher				0.225***
				(0.0345)
Masters				0.00752
				(0.0130)
Number of Years Been a School Teacher				0.00131*
				(0.000669)
School Controls				
				0.00179**

Table 11 (cont'd)

School District Poverty Level				
				(0.000727)
Number of Students Enrolled in school				2.38e-05
				(2.77e-05)
Year				-0.0721***
				(0.00856)
School ID				-1.44e-05*
				(7.85e-06)
Constant	4.239***	4.187***	2.788***	147.8***
	(0.0185)	(0.0209)	(0.0449)	(17.23)
Observations	44,068	44,068	29,406	20,200

Note: Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table 12

Regression coefficients of Racial Incongruence as Predictors of Conflict

	Model 1	Model 2	Model 3	Model 4
	Base	With Interaction	With Prior	With Controls/FE
Black Student	0.377***	0.276***	0.186***	0.0917**
	(0.0202)	(0.0318)	(0.0311)	(0.0371)
White teacher	0.0167	-0.0259	0.0226	0.0164
	(0.0179)	(0.0194)	(0.0179)	(0.0213)
Key Variable: Interaction Term				
Black student x White teacher		0.132***	0.0483	0.0906**
		(0.0373)	(0.0374)	(0.0441)
Student Controls				
Lagged_Conflict			0.526***	0.478***
			(0.00832)	(0.00971)
Hispanic Student				-0.0738***
				(0.0136)
Asian Student				-0.0881***
				(0.0157)
Female Student				-0.168***
				(0.00937)
Free or reduced-priced lunch eligible				0.0753***
				(0.0112)
Reading Scores				-0.101***
				(0.0111)
Absences				0.0167***
				(0.00461)
Teacher Controls				
Female Teacher				-0.147***
				(0.0252)
Masters				-0.0209*
				(0.0119)
Number of Years Been a School Teacher				0.000890
				(0.000598)
School Controls				
School District Poverty Level				0.00152**
				(0.000626)
				-4.60e-05**

Table 12 (cont'd)

Number of Students Enrolled in school				
				(2.18e-05)
Year				0.00527
				(0.00765)
School ID				7.67e-06
				(6.83e-06)
Constant	1.554***	1.593***	0.720***	-9.561
	(0.0172)	(0.0184)	(0.0210)	(15.38)
Observations	44,073	44,073	29,416	20,205
R-squared	0.026	0.027	0.297	0.310
Adj R Squared	0.0261	0.0266	0.296	0.309

Note: Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table 13

Alternate models for effects of Racial Incongruence on Closeness - By subgroups

	Model 1	Model 2	Model 3
	Base	With Prior	With Controls/FE
Race-match Groups			
blackstudent_blackteacher	-0.105***	-0.122***	-0.0889**
	(0.0272)	(0.0276)	(0.0373)
blackstudent_whiteteacher	-0.168***	-0.122***	-0.0944***
	(0.0170)	(0.0169)	(0.0202)
whitestudent_blackteacher	-0.0530	-0.0196	-0.00263
	(0.0425)	(0.0529)	(0.0664)
White student White teacher	Reference	Group	
Student Controls			
Lagged Closeness		0.315***	0.283***
		(0.00953)	(0.0112)
Female Student			0.202***
			(0.0104)
Free or reduced priced-lunch eligible			-0.0954***
			(0.0131)
Teacher Controls			
Female Teacher			0.231***
			(0.0380)
Masters			-0.00660
			(0.0149)
Number of Years Been a School Teacher			0.00169**
			(0.000767)
School Controls			
School District Poverty Level			5.76e-05*
			(3.30e-05)
Number of Students Enrolled in school			0.00138*
			(0.000789)
Year			-0.0507***
			(0.00971)
School ID			-1.54e-05
			(9.38e-06)
Constant	4.349***	2.939***	104.8***
	(0.00730)	(0.0431)	(19.55)

Table 13 (cont'd)

Observations	30,641	20,574	14,370
R-squared	0.008	0.099	0.146
Adj R Squared	0.00835	0.0987	0.145

Note: Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table 14

Alternative Models of Effects of Racial Incongruence on Conflict - By subgroups

VARIABLES	Model 1 Base	Model 2 With Prior	Model 3 With Controls
Race-match Groups			
blackstudent_blackteacher	0.273***	0.143***	0.0529
	(0.0293)	(0.0288)	(0.0355)
blackstudent_whiteteacher	0.387***	0.222***	0.162***
	(0.0239)	(0.0199)	(0.0241)
whitestudent_blackteacher	0.0105	-0.0583	-0.0809
	(0.0464)	(0.0441)	(0.0509)
Whitestudent_Whiteteacher	Reference	Group	
Student Controls			
Lagged Conflict		0.531***	0.487***
		(0.00950)	(0.0112)
Female Student			-0.185***
			(0.0116)
Free or reduced priced-lunch eligible			0.125***
			(0.0133)
Teacher Controls			
Female Teacher			-0.184***
			(0.0304)
Masters			-0.00952
			(0.0143)
Number of Years Been a School Teacher			0.000300
			(0.000708)
School Controls			
School District Poverty Level			-4.51e-05*
			(2.67e-05)
Number of Students Enrolled in school			0.00243***
			(0.000741)
Year			-0.0232***
			(0.00855)
School ID			4.58e-06
			(8.66e-06)
Constant	1.588***	0.743***	47.63***

Table 14 (cont'd)

	(0.00889)	(0.0144)	(17.22)
Observations	30,645	20,582	14,375
R-squared	0.029	0.304	0.314
Adj R Squared	0.0292	0.304	0.314

Note: Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table 15

Regression estimates of Relationship Moderation predicting Chronic Absenteeism comparing with White Student – White Teacher

	Model 1	Model 2		Model 3
	Base	With Interactions	Avg. Marginal Effects	With Fixed Effects
Race-match variables				
Black student – White teacher	0.219***	0.186	0.012	0.478*
	(0.0806)	(0.229)	(0.015)	(0.265)
Black student – Black teacher	-0.213	-0.481	-0.031	-0.980
	(0.130)	(0.750)	(0.050)	(0.870)
White student – Black teacher	-0.207	0.734	0.048	0.454
	(0.177)	(0.939)	(0.001)	(1.039)
White student – White teacher Reference Group				
Key variables of interest: Relationship and Moderation				
			0.008**	
Conflict		0.118***		0.122**
		(0.0456)	(0.003)	(0.0500)
Conflict * Blackstudent_Whiteteacher		-0.222**	-0.015**	-0.254**
		(0.100)	(0.006)	(0.109)
Conflict *Blackstudent_Blackteacher		0.171	0.011	0.233
		(0.177)	(0.012)	(0.199)
Conflict * Whitestudent_Blackteacher		-0.360	-0.023	-0.464
		(0.408)	(0.027)	(0.449)
Student Controls				
Lagged Absenteeism		0.785***		0.635***
		(0.0270)		(0.0299)
Female		0.0806		0.105
		(0.0703)		(0.0785)
Free or reduced-priced lunch eligible		0.487***		0.493***
		(0.0805)		(0.0922)
Teacher Controls				
White		0.411		-0.219
		(0.592)		(0.599)
Female		0.00738		-0.0126
		(0.185)		(0.201)
Masters level education attained		-0.0738		-0.151
		0.411		-0.219

Table 15 (cont'd)

Years a school teacher		-0.000867	-0.000809
		(0.00359)	(0.00454)
School Controls			
Number of students enrolled in school		-0.000243	0.00132
		(0.000180)	(0.00141)
School District Poverty Level		0.00279	-0.0285
		(0.00500)	(0.0453)
Additional Controls			
Year		-0.0370	-0.110**
		(0.0446)	(0.0529)
School		7.49e-05	
		(4.70e-05)	
Constant	-2.249***	68.37	
	(0.0371)	(89.81)	
Observations	29,803	13,566	9,482

Note: Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table 16

Regression estimates of Relationship Moderation predicting Chronic Absenteeism comparing with Black Student – Black Teacher

	Model 1	Model 2		Model 3
	Base	With Interactio -ns	Avg Marginal Effects	With Fixed Effects
Race - Match Variables				
Black Student - White Teacher	0.400***	0.865**	0.055**	1.037**
	(0.131)	(0.431)	(0.463)	(0.525)
White Student - White Teacher	0.179	0.721*	0.046*	0.602
	(0.122)	(0.393)	(0.025)	(0.510)
White Student - Black Teacher	-0.0274	1.048	0.067	1.244
	(0.209)	(0.810)	(0.052)	(0.946)
Black Student – Black Teacher (Reference Group)				
Conflict		0.247	0.015	0.340**
		(0.160)	(0.010)	(0.172)
Conflict * Blackstudent_Whiteteacher		-0.333*	-0.021*	-0.479**
		(0.179)	(0.011)	(0.192)
Conflict * Whitestudent_Whiteteacher		-0.128	-0.008	-0.232
		(0.164)	(0.011)	(0.176)
Conflict * Whitestudent_Blackteacher		-0.509	0.032	-0.690
		(.0433)	(.027)	(0.466)
Conflict * Black Student _ Black Teacher (Reference Group)				
Student Controls				
Lagged Absenteeism		0.787***		0.628***
		(0.0246)		(0.0272)
		(0.433)		(0.466)
Female Student		0.0720		0.0914
		(0.0660)		(0.0746)
Free or reduced-priced lunch eligible		0.496***		0.491***
		(0.0714)		(0.0868)
Teacher Controls				
Female Teacher		-0.00364		-0.0824
		(0.174)		(0.192)
Masters		-0.101		-0.102
		(0.0726)		(0.0963)
Number of years been a schoolteacher		0.000371		-0.00193
		(0.00328)		(0.00427)

Table 16 (cont'd)

School Controls			
Number of students enrolled		-0.000187	0.000683
		(0.000159)	(0.00126)
2013.year			0.166*
			(0.0993)
2014.year			-0.281***
			(0.101)
Constant	-2.429***	-5.939***	
	(0.117)	(0.471)	
Observations	29,803	16,504	11,348

Note: Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.

APPENDIX B. STUDENT-TEACHER RELATIONSHIP SCALE – SHORT FORM

Child: _____ Teacher:_____
Grade:_____

Please reflect on the degree to which each of the following statements currently applies to your relationship with this child. Using the scale below, circle the appropriate number for each item.

Definitely does not apply 1	Not really 2	Neutral, not sure 3	Applies somewhat 4	Definitely applies 5

1.	I share an affectionate, warm relationship with this child.	1	2	3	4	5
2.	This child and I always seem to be struggling with each other.	1	2	3	4	5
3.	If upset, this child will seek comfort from me.	1	2	3	4	5
4.	This child is uncomfortable with physical affection or touch from me.	1	2	3	4	5
5.	This child values his/her relationship with me.	1	2	3	4	5
6.	When I praise this child, he/she beams with pride.	1	2	3	4	5
7.	This child spontaneously shares information about himself/herself.	1	2	3	4	5
8.	This child easily becomes angry with me.	1	2	3	4	5
9.	It is easy to be in tune with what this child is feeling.	1	2	3	4	5
10.	This child remains angry or is resistant after being disciplined.	1	2	3	4	5
11.	Dealing with this child drains my energy	1	2	3	4	5
12.	When this child is in a bad mood, I know we're in for a long and difficult day.	1	2	3	4	5
13.	This child's feelings toward me can be unpredictable or can change suddenly.	1	2	3	4	5
14.	This child is sneaky or manipulative with me.	1	2	3	4	5
15.	This child openly shares his/her feelings and experiences with me.	1	2	3	4	5

Scoring Guide

The factors and corresponding items are listed below:

1. Closeness 1, 3, 4R, 5, 6, 7, 9, 15
2. Conflict 2, 8, 10, 11, 12, 13, 14

Scoring Subscale scores are the mean of included items. Item 4 is reverse scored. ECLSK:2011 reports that internal consistency reliability of (Cronbach's alpha) Closeness and Conflict scores between the four years to range from .86 to .89 and .88 to.90 respectively.