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School Racial Climate and the Academic Achievement of African American High School Students: The Mediating Role of School Engagement

Charity Brown Griffin
University of South Carolina - Columbia

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by

Charity Brown Griffin

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Accepted by:

Shauna M. Cooper, Major Professor

E. Scott Huebner, Committee Member

Bret Kloos, Committee Member

Matthew Irvin, Committee Member

Lacy Ford, Vice Provost and Dean of Graduate Studies

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ABSTRACT

African American students in K-12 education experience pervasive disparities in academic outcomes across all areas of the schooling experience. In order to understand the factors that promote academic achievement among individuals who face adversity, researchers have sought to examine how school environmental factors hold influence over students' academic adjustment. Drawing from an integrative model of development for ethnic minority children and a process model of engagement, this investigation explored whether three dimensions of school engagement, behavioral, emotional and cognitive, mediated relationships between school racial climate and academic performance and educational aspirations. These relationships were explored in a sample of 139 (79 girls, 60 boys) African American adolescent youth recruited from a high school in the southeastern region of the United States. Findings revealed an indirect effect of perceptions of racial fairness on academic achievement indicators though behavioral and cognitive engagement. Behavioral and cognitive engagement also mediated relationships between youths' perceived peer discrimination and academic achievement indicators. Interestingly, the mediating role of emotional engagement in these relationships was found to be dependent on the predicted achievement outcome. No significant indirect effects of teacher discrimination on academic achievement through school engagement dimensions were found. Study limitations, future research directions and implications are discussed.

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CHAPTER 1

INTRODUCTION

Although racial/ethnic disparities in the academic domain have decreased (National Center for Education Statistics (NCES), 2003), the achievement gap persists within schools and is evident in student outcomes (U.S. Department of Education, National Assessment of Education Progress, 2006, 2009). Current statistics demonstrate that racial disparities between African American and White students in K-12 education, regardless of socioeconomic status, are present in all areas of the schooling experience, including performance on standardized tests of reading and math achievement, participation in special education and gifted programs, rates of discipline, graduation and dropout rates, and college attendance rates (Coutinho & Oswald, 2000; Education Trust, 2003; NCES, 2003; Orfield, Losen, Wall, & Swanson, 2004). In particular, African American students have lower average reading, mathematics and science scores compared to their White peers (Campbell et al. 1999, 2001). Also, African American students are overrepresented in special education programs and are disproportionately subject to disciplinary proceedings. In particular, while African American students represent only 17% of the student population nationwide, they account for over one-third of all suspensions and are twice as likely to be designated as having an intellectual disability or being emotionally disturbed (Coutinho & Oswald, 2000; Harvard Civil Rights Project [HCRP], 2000). Additionally, African American students have significantly lower high school completion rates than their White counterparts, where only approximately 50% of African- American

students graduate from high school as compared to the 75% completion rate for White students (Orfield et al., 2004). These disparities significantly impact the percentage of African American students that go on to attend four-year colleges and those who are able to find sustained employment. There are also significant societal costs and consequences, where a high school dropout earns on average $10,000 less per year than a high school graduate (Amos, 2008) and $28,236 less per year than a college graduate (Bureau of Labor Statistics, 2007). In addition, educational outcomes are also associated with involvement in the criminal justice system, where the overwhelming majority (68%) of inmates in state and federal prison have not earned a high school diploma (Bureau of Justice, 2006). Thus, poor educational attainment outcomes significantly limit the life chances and future opportunities for African American students. These bleak consequences have prompted researchers to examine the factors associated with African American adolescents' academic achievement.

In order to understand the factors that promote academic achievement among individuals who face adversity, researchers have sought to examine how school environmental factors hold influence over student's academic adjustment. In particular, recent theoretical models have emphasized that the academic achievement of African American students is an interaction of their race-specific experiences within the school setting (e.g., Aronson, Quinn & Spencer, 1998; Ogbu, 1978, 1994; Mickelson, 1990; Steele & Aronson, 1995). Also, this empirical work suggests that racial differences in student outcomes may also derive from students' racially based perceptions of, experiences in, and responses to their school environments, in other words, through perceptions of school racial climate (Mattison & Aber, 2007). School climate literatures

suggest that being in a hostile school racial climate can reduce Black students' sense of connection to school, even if they value the outcomes of education (Booker, 2006). Though there is some indication that the racial climate of a school correlates highly with academic achievement and is considered an important concept when studying school systemic interactions, the mechanisms by which school racial climate might influence academic outcomes for students is only partially understood.

With this in mind, in addition to focusing on the role of school racial climate in African American adolescents' academic achievement, the current study examined adolescents' school engagement as a potential mediating variable. With regard to school engagement mediating the association between school racial climate and academic achievement, there is some support for the direct association between indicators of school racial climate and school engagement among adolescent youth (e.g., Dotterer, McHale, & Crouter, 2009; Mattison & Aber, 2007; Phelan, Yu & Davidson, 1994) and between school engagement and academic achievement among adolescent youth (e.g., Appleton, Christenson, Kim & Reschly, 2006; Dotterer & Lowe, 2011; Finn, 1989, 1993; Irvin, 2012; Patrick, Ryan & Kaplan, 2007; Skinner & Belmont, 1993; Wang & Holcombe, 2010; Wang & Eccles, 2012). Specifically, research has provided evidence that students who feel they are treated fairly and equally by staff, regardless of their racial or ethnic identity, are more likely to trust in and value the opinions and behaviors of staff (Nichols & Good 1998; Walberg & Genova, 1983). Additional evidence suggests that these positive perceptions of fairness may lead students to engage in school (Mattison & Aber, 2007). Furthermore, research has indicated that students' level of engagement is consistently and positively related to school achievement, as measured by participants'

grade point averages (e.g., Shernoff & Schmidt, 2008), standardized test scores (e.g., Connell, Spencer & Aber, 1994) and educational aspirations (Wang & Eccles, 2012). The present study seeks to illuminate the underlying processes of the relationship between African American youths' perceptions of school racial climate and academic achievement. In particular, the current investigation proposed that dimensions of school engagement were central pathways through which perceptions of school racial climate influence academic achievement as measured by grade point average, standardized test scores and educational aspirations.

The project addressed a key empirical gap in the school climate literature by capturing relationships between African American adolescents' perceptions of school racial climate and engagement with the academic process. An additional contribution of this research was a multidimensional conceptualization of school engagement. Although recent research highlights the multidimensional nature of school engagement (Fredricks, Blumenfeld, & Paris, 2004; Jimerson, Campos, & Greif, 2003), we know very little about the cognitive dimension, and all three components of school engagement have rarely been examined in the same study. To address this limitation, the current investigation was grounded in a multidimensional approach to the study of school engagement as a potential mediator, which views school engagement as an umbrella for emotional, behavioral, and cognitive engagement. Additionally, this study aimed to increase awareness among educators, policymakers, and researchers about the implications of norms and values placed around race, and interracial relations within the school environment. Furthermore, examining school-level factors provides insight into how adolescents may negotiate challenging school environments while also

empowering educators by informing them as to what modifiable factors might impact African American youth's academic performance and promote success.

The following literature review is grounded in an integrative theoretical framework (Garcia-Coll, Lamberty, Jenkins et al., 1996) as well as a process model of engagement (Skinner, Wellborn & Connell, 1990) seeking to explain the importance of context and race in understanding African American youths' development. The first section of this review discusses the relevant literature on school climate including its importance in the lives of adolescent youth. The next section reviews literature on school racial climate as well as the literature on the influence of school racial climate on adolescent educational outcomes. This discussion is followed by a review of literature surrounding school engagement. In addition to discussing how school engagement is defined and conceptualized, this section also discusses the potential role of school engagement as a mediator by establishing links with indicators of school racial climate and academic achievement. The goals of the proposed study, methodology, and data analytic strategy are then presented.

CHAPTER 2

LITERATURE REVIEW

2.1 Theoretical Framework

Researchers have noted that both school engagement and academic achievement are environmentally and contextually influenced (Battistich, Solomon, Kim, Watson & Schaps, 1995; Brooks-Gunn, Klebanov, & Duncan, 1996; Steinberg, Dornbusch, and Brown, 1992). Indeed, many theorists have argued that a knowledge base placing development in a broad ecological context is essential for understanding child and adolescent development (Bronfenbrenner, 1977; Bronfenbrenner & Morris, 1998; Harrison, Wilson, Pine, Chan, & Buriel, 1990; McLoyd, 1990). Although the ecological model is useful in providing a framework for examining how the school environment might affect youths' development it is not without limitations. In particular, some researchers posit that these frameworks are in limited in that they fail to incorporate and emphasize essential factors for understanding development of ethnic minority youth and lack attention to crucial aspects of the context in which ethnic minority children's development takes place (Garcia-Coll et al., 1996; Spencer, Dupree, & Hartmann, 1997). Thus, some theorists propose that a conceptual framework that incorporates and emphasizes essential factors for understanding the growth and development of ethnic minority children is critical to addressing this omission.

Several extant theoretical frameworks have highlighted the central role of race-related experiences in shaping developmental trajectories among ethnic minority youth

(e.g., Garcia-Coll et al., 1996; Ogbu, 1978, 1981; Spencer et al., 1997). The current investigation draws on Garcia-Coll and colleagues' integrative model (1996) for the study of ethnic minority child development, which emphasizes the importance of race and race-related experiences in the development of minority children. The proposed integrative model differs from previous ecological frameworks in that it introduces considerations of race-related experiences at the core rather than at the periphery and suggests that they are central to youths' outcomes, particularly in contexts such as schools because of the saliency of this environment in the development of ethnic minority children. In this integrative model, the effects of social position factors such as race are mediated through social stratification processes such as racial inequality and discrimination in environments such as schools. These social position factors affect the nature of the developmental processes that operate and the eventual competencies that result. According to Garcia-Coll et al., (1996), these are "nonshared" experiences with mainstream populations and define the unique pathways of development for children of color (p. 1896).

The present study examined how race-related experiences, in particular, perceptions of school racial climate affect school engagement and academic achievement in a sample of African American adolescents. However, given that a primary goal of the current investigation was to understand the potential mediating role of dimensions of school engagement in relationships between school racial climate and academic achievement, the current investigation also draws from process models of engagement. In particular, Skinner, Wellborn and Connell (1990) discuss engagement in terms of a process model that explores relationships among context, self, action and outcomes. Their

model begins with the social context of the school. More specifically, Skinner et al. (1990) suggests that perceptions of the environment and perceived control in that environment, defined as "an individual's expectations about whether he or she has any control over academic success and failures" (p.22), affect engagement which leads to subsequent academic performance. Skinner and colleagues (1990) also suggest that the relationship between the social context and academic achievement outcomes is not direct but is mediated instead by how social context and perceived control affects students' levels of engagement.

According to this process model, the learning environment, including interactions with teachers and peers, is a major determinant of children's perceived control in the academic domain (Skinner et al., 1990). African American youths may perceive less control in the school context as a result of their ethnic minority status, growing awareness of negative stereotypes in the academic domain and experiences with discrimination. By using the integrative framework and a process model of school engagement as a theoretical lens, the current investigation draws attention to the crucial aspects of the context in which ethnic minority children's development takes place, in particular perceptions of racial climate as well as the process by which context may affect academic achievement outcomes. Although previous literature has consistently suggested that the social position of race is integral in understanding the educational experiences of African American youth (e.g., Mickelson, 1990; Ogbu, 1978; Steele, 1995), few studies have empirically examined the process by which perceptions of school racial climate might affect academic achievement.

2.2 The Importance of School Climate

School climate refers to the psychological impact of the organizational environment on children and adults within the school and encompasses norms, goals, values, relationships, organizational structure, and methods of teaching and learning (Cohen & Geier, 2010, p. 1; National School Climate Council, 2007). These school characteristics shape the experience of all individuals within the school and determine whether they feel supported, valued, respected, and safe. Although researchers present competing ideas about the most important dimensions of school climate, most agree that climate is determined by perceptions of safety, relationships within the school, goals related to teaching and learning, and the learning environment, which encompasses school structure and feelings of connectedness to school (Cohen & Geier, 2010). Research in the area of positive youth development parallels school climate research in its emphasis on school connectedness. When individuals within a school feel connected to each other, students experience positive academic outcomes (Kuperminc, Leadbeater, & Blatt, 2001; Loukas, Suzuki, & Horton, 2006; Blum, McNeely & Nonnemaker, 2002; Ruus, Veisson, Leino, Ots, Pallas, Sarv et al., 2007; Whitlock, 2006). The quality of a school's climate is characterized by four levels of interactions: 1) interactions among students, 2) interactions between school personnel and students, 3) interactions among school personnel, and 4) interactions between the school, families, and community (Richman, Bowen & Woolley, 2004). A growing body of research has examined interactions among students as important in shaping their perceptions of school climate (Loukas & Robinson, 2004) and has demonstrated significant associations between these interactions and achievement outcomes (e.g., Mounts & Steinberg, 1995; Nakamoto &

Schwartz, 2009). However, among the four levels of interactions that define a school's climate, perhaps the most important and extensively studied are interactions between students and school personnel. Students perform better in schools in which there is a positive relationship between students and school staff members, especially teachers. Positive student-teacher relationships are associated with academic achievement (Waxman, Anderson, Huang, & Weinstein, 1997). Also, middle and high school students who report receiving support from teachers are engaged in school (Brewster & Bowen, 2004; Powers, Bowen, & Rose, 2005; Rosenfeld, Richman, & Bowen, 2000). Taken together, this literature suggests that students' school environment has an important bearing on how they learn and behave in that context (Koth, Bradshaw, & Leaf, 2008). Still, although school climate has been recognized as a significant contributor to adolescent outcomes, including academic achievement (Esposito, 1999; Kuperminc, Leadbeater, Emmons, & Blatt, 1997; Roeser & Eccles, 1998; Zullig, Huebner & Patton, 2011), racial climate has been under-examined as a component of school climate (Green, Adams, & Turner, 1988; Mattison & Aber, 2007).

2.3 Racial Climate and Schooling

School racial climate, that is, school settings' norms and values around race and interracial interactions (Green, Adams, & Turner, 1988) taps those aspects of the broader school climate that reflect how race and perceptions of race matter in schooling. Surprisingly, racial climate has been the focus of a number of studies at the college level (see e.g., Cabrera, Nora, Terenzini, Pascarella & Hagedorn, 1999), but only a few studies at the secondary school level (e.g., Byrd & Chavous, 2011; Mattison & Aber, 2007). Research suggests that White students and ethnic minority students at the same institution

often experience different racial climates (Chavous, 2005). In general, White students tend to report more positive perceptions of intergroup relationships and diversity norms at their institutions than do African Americans (e.g., Ancis, Sedlacek, & Mohr, 2000). Some research suggests that students may be similar in their views about particular aspects of the environment, but they may differ regarding other aspects of the racial climate. Loo and Rolison (1986) for instance, found that minority students (e.g., African Americans, Mexican Americans, and Asian Americans) and White students were in agreement regarding the existence of sociocultural difficulties among students. However, White students perceived that there were greater levels of university support for minorities than ethnic minority students perceived. Findings such as these suggest that ethnic minority students may experience school in ways that are distinct from their White counterparts. In particular, as emphasized in the integrative model (Garcia Coll et al., 1996), the affect of social position factors such as race are often "nonshared" experiences with mainstream populations and help to define the unique development of ethnic minority youth (p. 1896). The current investigation applies the concept of campus racial climate to the high school context to describe the racial dynamics and interactions African American adolescents encounter in secondary schooling contexts.

African American youth can experience school settings in ways that are notably distinct from the experiences of their peers (Fisher, Wallace, Fenton, 2000; Greene, Way, & Pahl, 2006; McLoyd & Steinberg, 1998; Rosenbloom, & Way, 2004). Although children as young as 5 years old are able to notice differential treatment across racial groups (Brown & Bigler, 2004), researchers have found that children's understanding of racial inequality, prejudice and discrimination becomes increasingly complex with age

(Brown & Bigler, 2004; Quintana & Vera, 1999). Additionally, there have been a number of findings indicating that African American youth perceive more racial discrimination than their Hispanic, Asian American, or European American peers (e.g., Romero & Roberts, 1998). For instance in a sample of 3,071 adolescent youth ranging in age from 10-17, Romero and Roberts (1998) found that African American youth perceived more discrimination than their European-American, Mexican-American, and Vietnamese-American counterparts. Research also indicates that African American youth experience this racially biased treatment even in the context of schooling (e.g., Fisher et al., 2000; Greene et al., 2006; Rosenbloom & Way, 2004; Wong et al., 2003). For instance, Rosenbloom and Way (2004) used interviews and participant observations to describe how ethnic minority students in an urban high school experienced discrimination. Findings indicated that when African American students were asked about their experiences with discrimination, they described hostile relationships with adults in positions of authority including teachers in school (Rosenbloom & Way, 2004). Taken together, this body of research provides evidence that understanding the distinct experiences of African American youth in school settings is imperative.

Wong and colleagues (2003) asserted the relevance of considering adolescents' experiences both in classroom interactions with teachers as well as in social interactions with peers. At school, African American adolescents are likely to have White teachers, even in predominantly Black schools (83.7% of U.S. high school teachers are White; U.S. Department of Education, 2009). Also, teachers in general are unlikely to have received extensive training in multicultural education (Ford & Kea, 2009; Ford & Harris, 1996; Hollins & Guzman, 2005). Not surprising then is that African American youths report

racially biased treatment within the classroom. They are more likely, for instance, to contend with negative racial stereotypes and being perceived by teachers as less intelligent (Aronson et al., 1998; Chavous, Rivas-Drake, Smalls & Griffin & Cogburn, 2008; Fisher et al., 2000; Green et al., 2006; Marcus, Gross, Seefeldt, 1991; Wong et al., 2003). In their sample of 177 high school youth, Fisher and colleagues (2000) noted that 32% of African Americans reported being discouraged from taking advanced level courses and being treated unfairly in comparison to 13% of the White youth in the sample. Fisher and colleagues (2000) also found that 46% of African Americans youth reported that they were given a lower grade than they deserved because of their race or ethnicity. Research also provides evidence that African American students are more likely to be disciplined more harshly at school due to race (e.g., Chavous et al., 2008; Cogburn, Chavous & Griffin, 2011; Fisher et al., 2000; Wong et al., 2003). In the same study, Fisher and colleagues (2000) found that when compared with students from other ethnic groups, African American students in particular felt that racial discrimination resulted in their wrongly being disciplined in school by teachers.

Similarly, research indicates that peer interactions at school represent an important milieu for adolescents (Anderman, 2002; Brown, 1990; Buhs & Ladd, 2001; DeRosier, Kupersmidt, & Patterson, 1994; Wentzel & Caldwell, 1997). In particular, peer interactions may serve as a context in which minority youth experience racially motivated social exclusion or harassment (Scott, 2004; Wong et al., 2003). Previous research supports this assertion and indicates that adolescent youth perceive differential treatment from same-age peers (DuBois, Burk-Braxton, Swenson, Tevendale & Hardesty, 2002; Fisher et al., 2000; Wong et al., 2003). Peer racial discrimination manifests in multiple

ways, including intentional or overt social exclusion, teasing, hitting, and unfair treatment based on ethnic group membership (Brown & Bigler, 2005; Chavous et al., 2008; Greene et al., 2006; Rosenbloom & Way, 2004; Verkuyten & Steenhuis, 2005; Wong et al., 2003). The ethnic and racial hierarchies that emerge in classroom-based sociometric research (Graham, Taylor, & Hudley, 1998; Verkuyten & Kinket, 2000), in which ethnic minorities tend to have lower status and are ascribed less favorable characteristics when rated by peers, also suggests that implicit negative group stereotypes operate within same age-peer groups.

Despite the limited number of studies specifically addressing school racial climate among high school youth, a growing body of theory and research on various aspects of secondary schooling suggests that matters of race may affect students' experiences in schools and deserve attention (e.g., Aronson et al., 1998; Ogbu, 1978, 1994; Mickelson, 1990; Steele, 1992, 1995, 1997; Osborne, 1995, 1997; Steele & Aronson, 1995). Although each of these theoretical perspectives differ slightly, they have a common thread among them in that they emphasize that the academic achievement of African American students is an interaction of their race-specific experiences within the school setting. Also, these analyses of how race matters in schooling suggest racial differences in student outcomes may also derive from students' racially based perceptions of, experiences in, and responses to their school environments, in other words, through perceptions of school racial climate. Taken together, prior work suggests that racial climate is likely to be related to high school students' school adjustment. Aspects of school racial climate highlighted in the current investigation included students' perceptions of equitable school policies and practices and differential treatment based on

race. More specifically, school racial climate was operationalized as perceptions of racial fairness and teacher and peer race discrimination experiences.

2.4 Racial Climate and Achievement Outcomes

Much of the empirical work examining the relationship between racial climate and academic achievement has been conducted with college-aged samples. To a significant extent, research attention to racial climate on college campuses followed concerns that a negative climate compromised the achievement and retention of ethnic minority students (Cabrera et al., 1999). For example, perceptions of exposure to prejudice and discrimination have been found to impinge on college student outcomes. In particular, many higher education researchers have found that more hostile campus climates, particularly where students are subject to overt and subtle discrimination, negatively affect the academic achievement of African American students (e.g., Feagin, Vera, & Imani, 1996; Smedley, Myers, & Harrell, 1993). This body of work suggests that ethnic minority students' perceptions of norms around race in schooling contexts have important implications for their achievement outcomes including actual performance (Nettles, 1988; Cabrera et al., 1999). This literature also reaffirms the relevance of research related to racial climate experiences in educational contexts among African American adolescent youth.

Though relatively few in number, research has demonstrated that African American students experiencing school racial climates characterized by frequent intergroup contact, fair treatment, and respect for all races show more positive achievement (Green et al., 1988) and motivation (Brand, Felner, Shim, Seitsinger, & Dumas, 2003; Ryan & Patrick, 2001). The broad literature focused on teacher-student

relationships among adolescent youth indicate that perceptions of strong teacher support and high expectations relate to higher self-efficacy, motivation efforts, and school performance among African American youth (e.g., Honora, 2003; Marcus et al., 1991). Conversely, ethnic minority youth perceiving a lack of such support and low expectations, particularly when based on their racial group, may be at risk for less positive academic outcomes (Irvine, 1986; Murdock, 1999; Roeser, Eccles, & Sameroff, 2000; Wong et al., 2003). With regard to peer interactions, there is evidence of the negative academic impact of general social rejection and peer harassment on African American youth (Graham & Juvonen, 2002; Spencer et al., 1997), as well as that specifically due to race (DuBois et al., 2002; Fisher et al., 2000; Wong et al., 2003).

A small but growing body of literature examining within-school racial discrimination experiences and academic adjustment among adolescent youth also indicate that racial discrimination undermines success in the academic domain (e.g., Fisher et al., 2000; Chavous et al., 2008; Wong et al., 2003). In particular, adolescents who perceive more discrimination, compared with those who perceive less discrimination or none at all, have lower grades (Wong et al., 2003), lower academic self-concept (Eccles, Wong, & Peck, 2006) and less academic curiosity and persistence (Fisher et al., 2000). In a recent study of 334 African American high school students, Brown and Jones (2004) found that perceptions of bias within the school context were related to both lower academic values and academic utility. Another finding from this investigation was that perceptions regarding fairness and equality (e.g., equal treatment for all students) in school were related to educational outcomes, in that students who perceived that school and classroom practices were fair to all students, were more likely to have positive

educational outcomes. Additionally, in one of the few studies to examine these relationships longitudinally, Wong and colleagues (2003) found that experiences with teacher and peer discrimination at school lessened achievement motivation and academic outcomes as well as the increased likelihood of problem behaviors in African American adolescents. Additional research has also demonstrated the deleterious impact on race discrimination experiences on academic-related outcomes (e.g., Burchinal, Roberts, Zeisel, & Rowley, 2008; Eccles et al., 2006; Neblett, Philip, Cogburn & Sellers, 2006; Powell & Arriola, 2003; Smalls, White, Chavous, & Sellers, 2007; Thomas, Caldwell, Faison & Jackson, 2009). Taken together, this research provides some evidence that discrimination, prejudice and other disadvantages in school settings is associated with negative educational outcomes among African American adolescents. Indeed, researchers have posited that the stress youth experience within a context should affect their engagement within that setting (DuBois et al., 2002). With this in mind, the current investigation explored whether relationships between school racial climate and academic achievement were mediated by youths' school engagement.

2.5 *Definitions and Conceptualizations of School Engagement*

More recently, there has been growing interest in the construct of school engagement because it is presumed to be malleable and responsive to variations in the environment (Fredricks et al. 2004). Although uses of the engagement construct have proliferated, definitional clarity has been elusive (Fredricks et al., 2004). In particular, theoretical and research literatures on engagement generally reflect little consensus about definitions and contain substantial variations in how engagement is operationalized and measured. In particular, many researchers have noted that there is considerable

inconsistency in the concepts and terminology used across studies (Appleton, Christenson, & Furlong, 2008; Fredricks et al., 2004; Furlong, Whipple, St. Jean, Simental, Soliz & Punthuna, 2003; Jimerson et al., 2003).

Although numerous definitions and models are apparent, these concur that engagement is a multidimensional construct encompassing several distinct components (Appleton et al., 2008; Appleton et al., 2006; Finn, 1989, 1993; Finn & Rock, 1997; Fredricks et al., 2004; Jimerson et al., 2003; Martin & Marsh, 2006). Though researchers agree on the multidimensionality of school engagement, there is some disagreement with regard to the types of engagement. Engagement is typically described as having two or three components. Researchers adopting a two-component model often include a *behavioral* and an *emotional* or *affective* dimension (Finn, 1989; Marks, 2000; Newman, Wehlage, & Lamborn, 1992; Willms, 2003), with both dimensions foundational to understanding engagement. *Behavioral engagement* refers to the actions and practices that students direct toward school and learning; it includes positive conduct (e.g., attending class and completing schoolwork; Finn & Rock, 1997), involvement in learning and academic tasks (e.g., effort and concentration; Fredricks et al., 2004), and participation in extracurricular activities (e.g., athletics or school governance; Finn, Pannozzo, & Voelkl, 1995). Behavioral engagement is considered crucial for achieving positive academic outcomes and preventing dropout (Fredricks et al., 2004). *Emotional engagement* represents a student's affective reactions and sense of connectedness to school (Finn, 1989; Skinner & Belmont, 1993) Included in emotional engagement are feelings of belongingness (Osterman, 2000), safety, comfort, and pride in the institution (Maddox & Prinz, 2003), and relationships with teachers and peers (Jimerson et al.,

2003). This dimension of engagement is presumed to create ties to an institution and influence willingness to do the work (Fredricks et al., 2004). More recent reviews of this literature resulted in a tripartite conceptualization that includes a *cognitive* dimension which draws on the idea of investment (Fredricks et al., 2004; Jimerson et al., 2003). *Cognitive engagement* refers to a self-regulated and strategic approach to learning in which students use metacognitive strategies to plan, monitor, and evaluate their cognition (Connell & Wellborn, 1991; Zimmerman, 1989). This dimension also incorporates thoughtfulness and willingness to exert the effort necessary to comprehend complex ideas and master difficult tasks (Fredricks et al., 2004). Both cognitive engagement and behavioral engagement involve effort and may be seen as overlapping. Their distinction lies in defining effort as simply doing the work (behavioral engagement) versus effort that results from motivation to truly learn and master the material (Fredricks et al., 2004). Another way of understanding the difference is through effort based on the notion of having to do schoolwork versus wanting to do schoolwork.

Also, in many ways, the concepts included in the three types of engagement overlap with constructs that have been studied previously. For example, as outlined in their review paper (see Fredricks et al., 2004), research on behavioral engagement is related to research on student conduct and on-task behavior (e.g., Finn, 1993; Finn & Rock, 1997), research on emotional engagement is related to that on student attitudes (e.g., Osterman, 2000; Maddox & Prinz, 2003) and student interest and values (Eccles, Adler, Futterman, Goff, Kaczala, Meece et al., 1983), and empirical work on cognitive engagement is related to that on motivational goals and self-regulated learning (Zimmerman, 1990). According to Fredricks, "because there has been considerable

research on how students behave, feel, and think, the attempt to conceptualize and examine portions of the literature under the label 'engagement' is potentially problematic; it can result in a proliferation of constructs, definitions, and measures of concepts that differ slightly" (Fredricks et al., 2004, p. 60).

The current investigation utilized the tridimensional conceptualization by Fredricks and colleagues (2004) including behavioral, emotional and cognitive engagement dimensions. These engagement indicators are considered particularly important for adolescents during the secondary school years because they correspond to the developmental needs of adolescents for competency, autonomy, and relatedness in school (Fredricks et al., 2004). Indeed, many scholars have posited that the patterns of engagement across these three dimensions have long-term effects on students' academic achievement (Fredricks et al., 2004) and current research has provided evidence for the need to assess the differentiated role of these three dimensions of school engagement (e.g., Lewis, Huebner, Malone & Valois, 2011; Wang & Eccles, 2012). For the current investigation, behavioral engagement was conceptualized as attentiveness and compliance, emotional engagement as school belonging and school values, and cognitive engagement as cognitive strategy use and self-regulated learning.

2.6 School Engagement as a Mediator?

The importance of student engagement with school is recognized by educators, policy makers, and researchers alike. Many educators characterize low engagement in schooling as one of the most immediate and persistent problems exhibited by students (e.g., Finn, 1989; Finn & Voelkl, 1993). They also note that the problem of decreased engagement is particularly acute during the middle and high school years (Wigfield,

Eccles, Schiefele, Roeser, & Davis-Kean, 2006). Fortunately, school engagement is presumed to be malleable and responsive to variations in the environment (Fredricks et al., 2004), therefore recent research also has explored not only outcomes, but predictors of school engagement. Until recently, (e.g., Dotterer & Lowe, 2011; Patrick et al. 2007; Reyes, Brackett, Rivers, White & Salovey, 2012; Wang & Holcombe, 2010), the correlates and consequences of school engagement are rarely examined within the same model. The current investigation contributes to this growing body of research by exploring both predictors and outcomes of school engagement. Specifically, the current study examined whether school engagement mediated the link between school racial climate and academic achievement.

Examining school engagement as a mediator permits an understanding of *process* and gives insight into *how* school contextual influences such as racial climate might affect academic achievement. Indeed, the possibility that school racial climate is associated with adolescent youths' academic achievement in school through mediating variables such as engagement is consistent with school engagement frameworks positing that engagement is a mediator between contextual influences (i.e., facilitators) and desired learning outcomes such as academic achievement (Appleton et al., 2006; Fredricks et al., 2004). With children spending approximately 15,000 hours of their lives between childhood and adolescence in schools, there is no doubt that the social dynamics that occur within this context have tremendous implications for children's development (McKown, 2005). Thus, schools can be conceptualized as an important context that directly influences student behavior by contributing to the development of competencies that increase the likelihood of academic achievement. If school engagement is positively

associated with youths' achievement outcomes (e.g., Appleton et al., 2006; Finn, 1989, 1993; Wang & Eccles, 2012), it is plausible that school engagement may facilitate associations between contextual factors such as racial climate and learning outcomes such as academic achievement.

In general, previous research has suggested school climate differences (e.g., teacher-student relationships, peer social relations) between students who like and dislike their schooling experience (Huebner & Gilman, 2006; Zullig, Huebner, Patton, 2011). Accordingly, a growing body of research has begun to link school environments, school engagement, and academic achievement. Patrick et al. (2007) examined relationships among classroom social environment, engagement, and achievement in an almost exclusively White sample (98.3%) of 5th grade early adolescents. The researchers found that classroom social environment including teacher support, student support, and promotion of interaction was positively related to cognitive (self-regulated learning) and behavioral (classroom participation) engagement. In turn, behavioral engagement was positively related to math grades. Further evidence of the connections between social environment, school engagement, and academic achievement comes from a recent study of middle school students (Wang & Holcombe, 2010). In their short-term longitudinal study using a multiethnic sample of adolescents, Wang and Holcombe (2010) found that school social environment (autonomy, teacher support, performance goals, mastery goals, and discussion) in 7th grade predicted emotional (school identification), behavioral (school participation), and cognitive (self-regulation strategies) engagement in 8th grade, and engagement in turn was significantly related to 8th grade GPA. Also, Dotterer and Lowe (2011) tested whether school engagement mediated the link between classroom

context and academic achievement among a majority white (77%) sample of 5th grade students. Results indicated that psychological and behavioral engagement mediated the link between classroom context and academic achievement for students without previous achievement difficulties. More recently, Reyes and colleagues (2012) examined the link between classroom emotional climate and academic achievement, including the role of student engagement as a mediator in a predominately ethnic minority sample (76%) of 5th and 6th grade students. Results indicated that the positive relationship between classroom emotional climate and grades was mediated by engagement. These studies provide support for the role of school engagement as a mechanism linking school environment to academic achievement. Still, more empirical research is needed to examine these relationships among African American high school students. Further empirical support of connections between school racial climate and engagement, and next, engagement and academic achievement is reviewed below.

Relationship Between School Racial Climate and School Engagement. The larger engagement literature has noted numerous factors affecting the engagement of adolescents. Indeed, in an effort to explain variation in school engagement, investigators have examined background or status variables such as race/ethnicity, socioeconomic status, and gender. Despite some literature indicating variation in school engagement is based on background or status variables (e.g., Johnson, Crosnoe & Elder, 2001; Voelkl, 1997), relatively few studies have investigated associations between school racial climate and engagement, particularly among African American high school youth. For instance, though the broader school climate literature suggests that being in a hostile school racial climate can reduce African American students' sense of connection to school even if they

value the outcomes of education (Booker, 2006), school racial climate has been the focus of a number of studies at the college level (see e.g., Cabrera et al. 1999), with only a few studies at the secondary school level. Research at the collegiate level using a diverse sample of first-year students attending predominately White institutions has indicated that student's perception of either a positive or negative racial climate of their school program may encompass lasting effects as it relates to successful matriculation through graduate school (Johnson, Soldner, et al., 2007). For instance, African American students who perceived the racial climate of their program as negative reported feeling discouraged, frustrated, exhausted, and intimidated which resulted in feeling that they could not perform well academically (Solorzano, Ceja, & Yosso, 2000).

At the secondary level, in general, research has provided evidence that students who feel they are treated fairly and equally by staff, whatever their racial or ethnic identity, are more likely to trust in and value the opinions and behaviors of staff (Nichols & Good 1998; Walberg & Genova, 1983), which may lead them to engage in school (Mattison & Aber, 2007). Additional research supports this notion by examining individual difference variables and has found that frequent positive emotions during school are associated with higher levels of student engagement and negative emotions with lower levels of engagement (Reschly, Huebner, Appleton & Antaramian, 2008). Also, students who feel they are singled out or treated differently in the classroom often report a higher sense of alienation (Cabrera & Nora 1994). Such discrimination has been found to be particularly detrimental for African American students, whose culturally-based behaviors may not be well received by staff, leaving them feeling unfairly treated due to their racial or ethnic culture (Cabrera & Nora, 1994). In their study examining the

relationship between school racial climate and students' self-reports of academic and discipline outcomes, Mattison and Aber (2007) found that African American students had more negative perceptions of racial climate compared to Whites, which, in turn were associated with lower grades and more detentions and suspensions. More recently, Dotterer and colleagues (2009) found that experiences with teacher and peer racial discrimination was negatively related to emotional and cognitive engagement in their sample of African American middle and high school students. Similarly, Phelan et al., (1994), in a qualitative investigation, found that perceived racial/ethnic discrimination was related to decrease in school participation among a sample of ethnic minority high school students. Other research has also demonstrated the deleterious impact of race discrimination experiences on academic engagement among ethnic minority youth (Smalls et al., 2007; Verkuyten & Thijis, 2004). Taken together, this research provided evidence that schools where peers, teachers and staff create a school climate that communicates racial fairness and less experiences of discrimination, may increase student engagement in school and improve the overall quality of education.

Relationships Between Dimensions of School Engagement and Academic Achievement. Researchers have identified positive correlations between school engagement and academic achievement (e.g., Appleton et al., 2006; Dotterer & Lowe, 2011; Finn, 1989, 1993; Irvin, 2012; Patrick et al., 2007; Skinner & Belmont, 1993; Wang & Holcombe, 2010; Wang & Eccles, 2012). For instance, Connell et al. (1994) employed a combined measure of emotional engagement (e.g., being bored, being happy) and behavioral engagement (e.g., paying attending, completing school work) and found that engagement was associated with higher scores on standardized achievement tests

among African American early adolescents. In other research, Shernoff and Schmidt (2008) used a composite measure of engagement comprised of enjoyment, concentration, and interest. indicated that engagement was positively related to high school students' self-reported grades. The use of combined measures, however, makes it hard to disentangle the independent contribution of different types of engagement to achievement (Guthrie & Wigfield, 2000; Fredricks et al. 2004; Wang & Holcombe, 2010). Outlined below is some of the relevant literature on the positive associations between engagement and academic achievement for each dimension of engagement, behavioral, emotional, and cognitive.

Behavioral Engagement. Several studies have demonstrated a positive correlation between behavioral engagement and achievement-related outcomes (e.g., classroom grades, standardized tests, grades) for middle and high school students (Connell et al., 1994; Marks, 2000; Skinner, Wellborn, & Connell, 1990; Connell & Wellborn, 1991). For instance, students who adhere to the school rules and avoid disruptive behaviors get better grades and aspire for higher education (Akey, 2006; Wang, Selman, Dishion, & Stormshak, 2010; Wentzel, Battle, Russell, & Looney, 2010). Also, Finn (1989) found that amount of participation in the tasks and activities of the school related to important outcomes such as academic achievement and persistence with academic work. In later work, Finn (1993) found that successful students differed from unsuccessful peers by attending class and arriving on time; being prepared for class; taking part in, as opposed to disrupting, the activities of the classroom; completing more homework; and being more active in extracurricular activities. This research provided additional evidence that levels of participation predicted variation in achievement. Additional research has also

indicated that declines in school participation are associated with declines in academic achievement as measured by grade point average (Kaplan, Peck, & Kaplan, 1997; Klem & Connell, 2004; Wang & Eccles, 2012) and standardized test scores (Sciarra & Seirup, 2008). Studies specific to African American adolescents have demonstrated similar relationships between behavioral engagement and academic achievement. For instance, in a sample of high school students, Sirin and Sirin (2005) found that school participation emerged as a significant predictor of academic performance after controlling for students' background factors. Additional work has supported the promotive role of behavioral engagement in African American adolescent youths' academic achievement (e.g., Connell et al., 1994).

Emotional Engagement. Research into the importance of affective connections at school has examined students' sense of belonging, identification with school, and sense of relatedness. Researchers have examined the importance of affective connections to others by considering the need to belong as a fundamental human motivation (Baumeister & Leary, 1995; Osterman, 2000). This notion is rooted in Maslow's (1987) conceptualization that humans, like other animals, have the need "to herd, to flock, to join, and to belong" (p. 20). Focusing on belonging within a school setting, several studies conducted with students in middle and high school from various racial and ethnic groups found students who emotionally engage in school and develop a sense of belonging in school are more likely to succeed in school than those who disidentify with school (Goodenow, 1993; Osterman, 2000). Other bodies of literature have indicated that affective connections at school are promotive of academic achievement (e.g., Connell et al., 1994; Gonzalez & Padilla, 1997; Dotterer & Lowe, 2011; Goodenow, 1993; Hagborg,

1998; Irvin, 2012; Irvin, Meece, Byun, Farmer & Hutchins, 2010; LeCroy & Krysik, 2008; Pittman & Richmond, 2007; Roeser, Midgley & Urdan, 1996; Smerdon, 2002; Valeski & Stipek, 2001; Voelkl, 1996, 1997). Likewise, Fine's (1991) research on predominately African American and Latino high school students who dropped out of school provided qualitative support for the importance of identification with school. Her work showed one of the primary reasons for dropping out was that some adolescents simply did not emotionally engage in school. To reiterate, Finn's seminal work on his two-dimensional model of student engagement demonstrated the promotive role of identification on academic achievement for students considered "at risk" for school failure because of their SES and racial background (Finn, 1989, 1993; Finn & Rock, 1997). Taken together, empirical evidence supports the notion that emotional engagement serves a promotive role for the academic achievement of African American adolescent youth.

Cognitive Engagement. To date, achievement benefits have been found when students are rated as going beyond, doing more work than is required, or initiating discussions with the teacher about school subjects (Fincham, Hokoda, & Sanders, 1989). Additionally, research on instructional discourse also demonstrates the achievement benefits of cognitive engagement. Nystrand and Gamoran (1991) documented that substantive engagement (similar to cognitive engagement) in the classroom was positively related to scores on an achievement test developed to measure students' in-depth understanding and synthesis. Numerous studies from the field of learning also have shown the achievement benefits of strategy use. Children who use metacognitive strategies, such as regulating their attention and effort, relating new information to

existing knowledge, and actively monitoring their comprehension, do better on various indicators of academic achievement (Boekarts, Pintrich & Zeidner, 2000; Zimmerman, 1990). More recently, several studies have demonstrated positive associations between youths' cognitive engagement and academic achievement indicators such as GPA and future educational plans, in multiethnic samples including African American adolescent youth (e.g., Sciarra & Seirup, 2008; Wang & Eccles, 2012; Wang & Holombe, 2010). Taken together, there is evidence from a variety of literatures to suggest that cognitive engagement positively influences achievement outcomes.

2.7 The Present Study

In line with the integrative model of development which emphasizes the importance of race and race-related experiences in the development of minority children (Garcia-Coll et al., 1996), as well as a process model of school engagement (Skinner et al., 1990) which highlights the process by which the social context affects academic achievement outcomes, this investigation seeks to examine how school racial climate relates to adolescents' engagement and academic achievement. An important distinction about this study was that it also explored the process by which youths' perceptions of racial climate might influence academic achievement outcomes. In particular, the current investigation explored whether three dimensions of school engagement, behavioral, emotional and cognitive, mediate relationships between school racial climate and academic performance and educational aspirations (see Figure 2.1). Furthermore, these relationships were explored in sample of high school adolescent youth. For many youth, adolescence is a period marked by ecological transitions. However, for African American adolescents, this developmental period can be further complicated by their growing

awareness and increasing experiences with racism and discrimination. Thus, youths' perceptions of school racial climate may have important implications for African American adolescents' engagement and subsequent academic achievement. Also, high school marks a pivotal transition when youth move from small, attentive primary school environments; to the larger less personalized more complex and more challenging high school context (Roderick, 2003). Because high school years are an important developmental period for adolescents given both the crucial nature of that time in the academic trajectory of students and the accumulating risk factors at this stage of development, this investigation will target African American high school students. The specific research questions and hypotheses for the current investigation are discussed below.

Research Question 1: How do African American youth perceive racial climate in schooling contexts?

In this investigation, aspects of school racial climate highlighted included youths' perceptions of racial fairness and teacher and peer school-based race discrimination experiences. Although children as young as 5 years old are able to notice differential treatment across racial groups (Brown & Bigler, 2004), researchers have found that children's understanding of racial inequality, prejudice and discrimination becomes increasingly complex with age (Brown & Bigler, 2004; Quintana & Vera, 1999). Additionally, there have been a number of findings indicating that African American youth perceive more racial discrimination than their Hispanic, Asian American, or European American peers (Fisher et al., 2000; Romero & Roberts, 1998). Consistent with the assertion that racial discrimination experiences are a social reality for African

American adolescents (Brown, 2008; Garcia Coll, et al., 1996; Simons, Murry, McLoyd, Lin, Cutrona & Conger, 2002), it was expected that youth will perceive race discrimination from both teachers and peers and will report more negative perceptions of racial fairness.

Research Question 2: What are the levels of school engagement for African American youth across varying dimensions?

Many of the studies of context and engagement are conducted with White middle-class samples (Fredricks et al., 2004). Due to the changing demographics in schools and the obstacles that many minority youth face in school, research has called for the study of engagement among ethnic minority youth. Indeed, many questions still remain regarding the level of engagement for African American youth across varying dimensions. For example, studying a nationally representative sample of adolescents in grades 7 through 12, Johnson, Crosnoe, and Elder (2001) found that African American students reported lower levels of school attachment (sense of belonging), but were more likely to pay attention and complete homework (indicators of behavioral engagement) than their White and Hispanic counterparts. Voelkl (1997), however, reported that African American students had higher levels of school identification (sense of belonging and valuing school) than White students. Given the equivocal nature of results from this literature, the current investigation explored levels of behavioral, emotional and cognitive engagement among African American high school youth. Due to the exploratory nature of this analysis, there were no specific hypotheses regarding the levels of engagement across these dimensions.

Research Question 3: Are socio-demographic factors associated with varying dimensions of school engagement?

A peripheral goal of this study was to explore whether socio-demographic covariates including gender, age, socioeconomic status (free/reduced lunch status used as a proxy) were associated with behavioral, emotional and cognitive engagement for African American high school youth. As studies have linked a range of socio-demographic factors to multiple dimensions of school engagement (e.g., Elmore & Huebner, 2010; Reschly, Huebner, Appleton & Antaramian, 2008), it was expected that gender, age and socioeconomic status will be associated with behavioral, emotional and cognitive engagement. The exploratory nature of these analyses precluded more specific research hypotheses regarding associations between the covariates and varying engagement dimensions.

Research Question 4: An important distinction about this study was that it also explored the process by which youths' perceptions of school racial climate might influence academic achievement outcomes. An overarching goal of this investigation was to explore the potential mediating role of behavioral, emotional and cognitive engagement in relationships between school racial climate and academic achievement. This study objective was addressed in four specific research questions below:

Research Question 4a: What relationships exist between African American youths' perceptions of school racial climate and academic achievement?

A goal of the current study was to examine direct relationships between African American youths' perceptions of school racial climate and academic achievement. Given that previous research has demonstrated the deleterious impact of racial-related stressors

such as negative perceptions of racial fairness and discrimination experiences on academic-related outcomes (e.g., Wong et al., 2003; Chavous et al., 2008), it was expected that increased perceptions of teacher and peer discrimination would be negatively associated with grade point average, standardized test scores, and academic aspirations whereas decreased perceptions of racial fairness would be associated with decreased academic achievement.

Research Question 4b: How are African American youths' perceptions of school racial climate associated with varying dimensions of engagement?

Relatively few studies have investigated associations between school racial climate and engagement, particularly among African American high school youth. At the secondary level, in general, research has provided evidence that students who feel they are treated fairly and equally by staff, whatever their racial or ethnic identity, are more likely to trust in and value the opinions and behaviors of staff (Nichols & Good 1998; Walberg & Genova, 1983), which may lead them to engage in school (Mattison & Aber, 2007). Additional work has provided support of the deleterious impact of school-based race discrimination experiences on academic engagement among ethnic minority youth (Dotterer et al., 2009; Smalls et al., 2007; Verkuyten & Thijis, 2004). Given this empirical evidence, it was expected that youths' perceptions of a school climate that is racially unfair with increased experiences of discrimination would be associated with decreased student engagement. The exploratory nature of these analyses precluded more specific research hypotheses regarding associations between the varying engagement dimensions.

Research Question 4c: What relationships exist between varying dimensions of school engagement and African American youths' academic achievement?

This investigation also examined associations between varying dimensions of school engagement and African American youths' academic achievement. Researchers have identified positive correlations between multiple dimensions of school engagement and school success (Appleton et al., 2006; Fredricks et al., 2004). It was expected that increased behavioral engagement as indicated by attentiveness and compliance with school rules, would be associated with increased academic performance and educational aspirations. It was also expected that students who were emotionally engaged should have increased academic performance and increased interest in attending college (Eccles & Roeser, 2009; Hughes, Luo, Kwok, & Loyd, 2009). Finally, increased use of metacognitive strategies such as connecting new information to existing knowledge was expected to increase the students' academic performance and educational aspiration (Eccles & Roeser, 2009).

Research Question 4d: Do varying dimensions of school engagement mediate relationships between youths' perceptions of school racial climate and academic achievement?

The current investigation explored whether three dimensions of school engagement, behavioral, emotional and cognitive, mediated relationships between school racial climate and academic achievement. More recently, there has been a growing body of literature providing support for the mechanism linking school environment to academic achievement such that school environment is related to school engagement which, in turn, is related to academic achievement (e.g., Dotterer & Lowe, 2011; Patrick

et al., 2007; Reyes et al., 2012; Wang & Holcombe, 2010). Given that this small body of work has demonstrated the potential mediating roles of behavioral, emotional and cognitive engagement in these relationships, it was expected that all three dimensions of engagement would mediate relationships between youths' perceptions of school racial climate and academic achievement such that decreased perceptions of racial fairness and increased perceptions of teacher and peer race discrimination would be associated with decreased academic achievement by way of youths' low engagement. Exactly the opposite should occur for those students who had increased perceptions of racial fairness and decreased perceptions of teacher and peer race discrimination. These students were expected to have high academic achievement and high educational aspirations by way of increased engagement across dimensions.

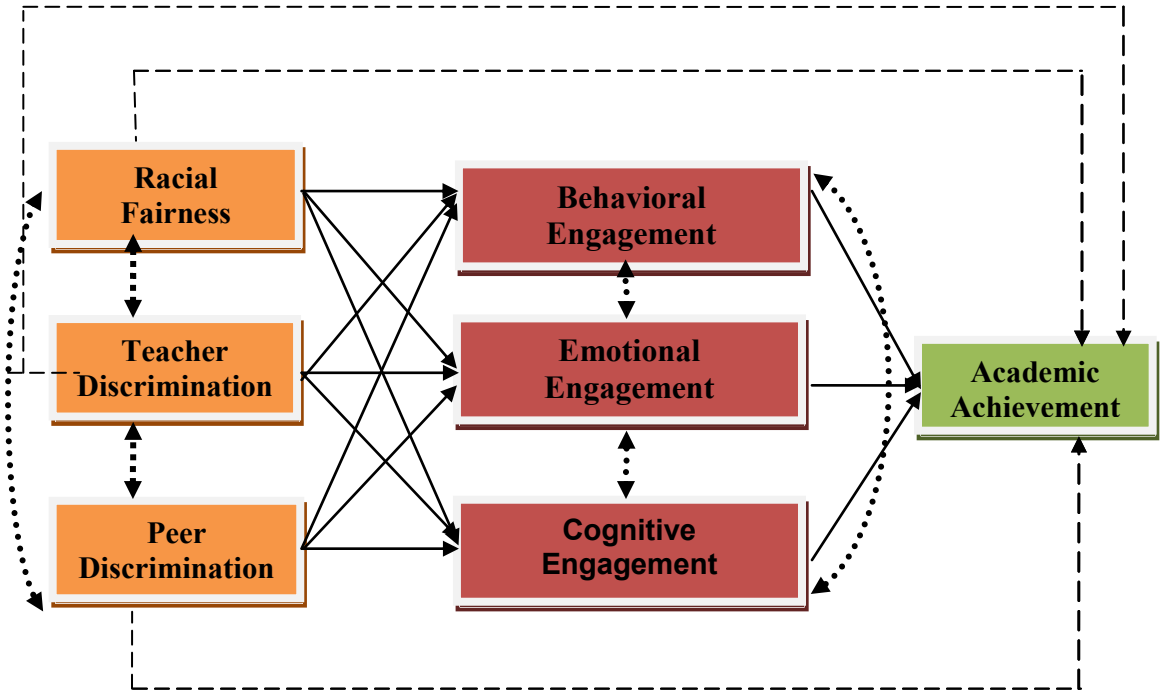

Figure 2.1 How Engagement Mediates the Association Between School Racial Climate and Academic Achievement: A Conceptual Model. *Note:* Conceptual path model illustrating direct and indirect associations between school racial climate and academic achievement. The hypothesized model is identical for all outcome models; therefore, only one figure is shown but three individual models (educational aspirations; core GPA; standardized test scores) were examined separately for the sample. Model covariates are not presented in the conceptual diagram but will be included in data analysis.

Direct Relationships (hypothesized relationship)
Indirect Relationships (hypothesized relationship)
Indicates relationships allowed to covary

CHAPTER 3

METHODOLOGY

3.1 Participants

The data presented in this study are part of a cross-sectional study that focused on the school experiences of African American adolescents in a high school located in the midlands of South Carolina. One hundred thirty-nine African American students in 9th to 12th grade were included in the study sample. Students ranged in age from 14 – 19 years, with 16.27 (*SD*=1.55) years being the mean age for the entire sample. Approximately 57% of the sample was female. Parents of students reported marital status, parent level of education, and youth reported on their household primary caregiver. As shown in Table 3.1, 52% of students resided in the home with their mother only. Fifty-seven percent of mothers and 40% of fathers reported having at least some college education. Seventy-four percent of students were eligible for free or reduced lunch, making it less representative of the high school student population in the district as well as the school site (approximately 65% and 50% of high school students are eligible for free and reduced lunch, respectively). Demographics for the study sample are presented in Table 3.1. Additional information regarding the school, district, and city context is detailed below. Next, a discussion of the racial climate of the city and surrounding county from a historical perspective is presented.

3.2 Setting Characteristics

School and District Context

This study utilized data from a high school in a school district located in the midlands of South Carolina. The target school serves grades 9 to 12, with many students advancing from two local feeder middle schools. The school's enrollment is 958 students, 48% White, 44% (n = 459) African American (n = 422), 6% Hispanic (n = 58) and 2% (n = 19) two or more races. About 56% of the students are eligible for free or reduced lunch. According to the State of South Carolina Annual School Report Card, the school had a dropout rate of 2%, an 89% four-year graduation rate and an 89% college acceptance rate in the 2012 school year. Data also indicated that only 58% of students obtained scores of 70 or above on all state mandated End-of-Course tests in the 2012 school year as compared with 68% of students in similar high schools in the state (i.e., high schools with poverty indices of no more than 5% above or below the index for the target school). Currently, the school has 63 teachers, 89% of who are White, 7% of whom are African American/Black and 4% of whom are another race/ethnicity (i.e., Latino or Multi-racial).

The school district in which the high school is located serves 10,301 students across 20 schools. The community is economically mixed with many of its members ranging from working to middle class. Approximately 65% of students are eligible for free or reduced lunch based on number of persons in the household compared to income levels. In terms of racial/ethnic diversity of enrolled students, the school district is 65% White, 29% African American, 0.1% Native American, 0.5% Asian, 4% Hispanic, and 2% from two or more races.

City Context

The city in which data were collected is a small southeastern city with a population of 6,838 (U.S. census, 2010) and is part of the metropolitan statistical area of a neighboring medium-sized city. This community has 2,874 households out of which 24% have children under the age of 18 living with them (U.S. census, 2010). The median income for a household is $36,209 and the median income for a family is $53,056 (U.S. Census, 2010). In terms of economic diversity, approximately 13% of families and 16.9% of the population is below the poverty line, including 25% of those under age 18 (U.S. census, 2010). The racial makeup of the city is 61% White, 37 % African American, 0.1% Native American, 0.5% Asian, 0.1% Pacific Islander, 1% Hispanic/Latino, 0.6% from other races, and .8% from two or more races (U.S. census, 2010).

3.3 Data Collection Procedure

Institutional Review Board (IRB) approval for consents/assents, surveys, data collection and analysis procedures was obtained from the University of South Carolina Office Of Research Compliance (see Appendix B). Students were recruited from one high school in a district that the principal investigator has collaborated with as an advanced doctoral practicum student. In particular, the principal investigator approached the principal at the participating high school and explained the study purpose and procedure, after which permission for recruitment and data collection was granted (see Appendix A).

In small group meetings (15-20 students), the principal investigator along with a trained research assistant described the purpose of the study, outlined what participation would entail, and invited students who met the inclusion criteria to participate. During the

group meeting, letters and consent forms (see Appendices C and D) were distributed to students and sent home. These letters asked parents to consent to their child's participation in the study and to indicate the following demographic information: racial and ethnic background of parents and target child, educational background, parental marital status, number of adults and children living in the home and eligibility for free or reduced lunch. Permission to access students' standardized test scores and grade point averages was also requested on the consent form. It was emphasized that participation was strictly voluntary and non- participation would have no effect on school grades. Additional recruitment letters were used to increase the final response rate. Four-hundred fourteen adolescent participants meeting the inclusion criteria were recruited for the study in order to attain an adequate sample for the proposed analysis. The overall response rate was approximately 33%. Additionally, 99% of the returned consent forms gave parent consent for participation in the study.

Data collection occurred in the schools in small groups (8 to 12 participants) at locations and times that are convenient for the student's class schedule as well as school personnel. Two trained research assistant read instructions and some items aloud if needed, and answered questions of clarification as necessary. Questionnaires were completed with paper and pencil in a single session of about 20–30 minutes. After completion, participants were given a small gift ($10.00 gift card) for their participation in the study. Grades and standardized achievement scores were obtained from school record data for those participating students whose parents granted consent.

3.4 Measures (see Appendix E)

Mean values were calculated for each scale. When calculating the mean value on scales, items were reversed coded as necessary so that higher scores indicate more of the characteristic named in the label. A summary of study variables is presented in Appendix E. Also, reliability analysis was also conducted to examine the internal consistency of items in each scale. Means, standard deviations, and reliabilities for the study variables are displayed in Table 4.1.

School Racial Climate

Racial Fairness. The Racial Climate Survey-High School Version (RCSHSV) (Aber et al., unpublished manuscript cf. Mattison & Aber, 2007), is a multidimensional assessment tool that measures high school students' perceptions of their school's racial climate. The RCSHSV consists of seven demographic questions, 62 statements regarding students' perceptions of their school, and a 3-item experience of racism section. This study used one of the six school racial climate subscales. The Racial Fairness subscale measured students' perceptions that all students are treated fairly and contained six items. Sample items for this scale include: "At my school, students are disciplined fairly regardless of race" and "Black students are treated fairly at my school." Responses to items are on a 5-point scale ranging from 1 = *strongly disagree* to 5 = *strongly agree*. Previous research with the scales (e.g., Mattison & Aber, 2007) showed high scale reliability with a diverse sample of high school youth including African American adolescents (α = .88 for Racial Fairness). The scale showed similarly high scale reliability for the current investigation (α = .92).

Racial Discrimination. Youths' racial discrimination experiences were assessed using a self-report measure developed by the Maryland Adolescent Development in Context Study (MADICS) primary investigators (see Eccles et al., 2006, & Wong et al., 2003). The scale is made up of two subscales, a peer/social discrimination subscale as well as a teacher/classroom discrimination subscale. The Teacher/Classroom discrimination scale included five items evaluating students' experiences of race-based discrimination in class settings by teachers in the past year (e.g., being disciplined more harshly, graded harder because of race). The Peer Discrimination subscale included three items that assessed youths' perceptions of negative peer treatment due to their race with three items (e.g., getting into fights, being picked on, not being picked for teams or activities). Responses to items were on a 5-point scale ranging from 1 = *never* to 5 = *everyday*. Previous research with the scales (Chavous et al., 2008) showed high scale reliability with African American high school students (α = .85 and .88 for peer and classroom discrimination, respectively). Cronbach's alpha analysis for the current study indicated adequate reliability for both subscales (α = .80 and .77 for teacher/classroom and peer discrimination, respectively).

School Engagement

School Engagement. School engagement was measured by a scale developed by Wang and colleagues (2011). Wang and colleagues developed this measure using a second-order multidimensional factor model of school engagement based on theoretical conceptualizations of school engagement provided in the extant literature (e.g., Fredricks et al., 2004). The measure consists of 23 items assessing three dimensions of school engagement: Behavioral, Emotional, and Cognitive. Previous research has provided

evidence to support the second-order engagement factor structure with behavioral, emotional, and cognitive dimensions using confirmatory factor analyses (Wang et al., 2011). Also, prior research has indicated that these scales have strong psychometric properties, including internal consistency, criterion-related validity, and measurement invariance across gender and race or ethnicity (Wang & Holcombe, 2010; Wang et al., 2011).

Behavioral engagement. Behavioral engagement was measured with seven items assessing youths' attentiveness to academic tasks and compliance with school and classroom rules. Sample items include "How often do you have trouble paying attention in classes?" and "How often have you been sent to office?" Responses for each item were rated along a 5-point scale, ranging from 1 (*almost never*) to 5 (*almost always*). Previous research has demonstrated the composite reliability coefficients for attentiveness to be adequate ($\alpha = .70$; Wang et al., 2011). The Cronbach's alpha for this scale indicated adequate reliability ($\alpha = .76$).

Emotional engagement. Emotional engagement was measured with eight items assessing youths' sense of school belonging and their valuing of school education. Sample items include: "In general, I feel like a real part in this school" and "I learn more useful things from my friends and relatives than I learn in school." Responses for each item were rated along a 5-point scale, ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Previous research has demonstrated the composite reliability coefficients for school belonging to be adequate ($\alpha = .75$; Wang et al., 2011). The Cronbach's alpha for this scale indicated adequate reliability ($\alpha = .71$).

Cognitive engagement. Cognitive engagement was measured with eight items assessing youths' desires to master academic material and perceived use of self-regulated learning strategies. Sample items include: "How often do you try to relate what you are studying to other things you know about?" and "How often do you try to figure out problems and planning how to solve them?" Responses for each item were rated along a 5-point scale, ranging from 1 (*almost never*) to 5 (*almost always*). All scale items were coded so that the higher scores indicate higher school engagement. Previous research has demonstrated the composite reliability coefficients for cognitive strategy use to be adequate (α = .78; Wang et al., 2011). The Cronbach's alpha for this scale indicated adequate reliability (α = .79).

Academic Achievement

Educational Aspirations. Adolescents' self-reported educational aspirations were measured by one item commonly used in national surveys with adolescent youth (Wang & Eccles, 2012): "If you could do exactly what you wanted, how far would you like to go in school?" This question is rated along a 10-point scale, ranging from 9th to 11th grade, graduate from high school, post–high school vocational or technical training, some college, graduate from a 2-year college with associates degree, graduate from a 4-year college, get a master's degree or a teaching credential, and get a law degree, a Ph.D., or a medical doctor's degree. Higher scores indicate higher level of educational aspiration. Previous research has used this item as an indicator of educational aspirations in a diverse sample of adolescents including African American high school students (e.g., Wang & Eccles, 2012).

Academic Achievement. Adolescents' core grade point averages (GPAs) and standardized test scores on the math and English End-of-Course Examination Program (EOCEP) were used as indicators of academic achievement. Core GPA represents the average of grades in core academic classes (e.g., English, math, science, and social studies), exclusive of any elective course classroom grades. Core GPAs were retrieved from school record data and are reported on a 0.0 – 4.0 scale. The EOCEP tests are multiple choice tests required by the state Education Accountability Act (1998) in each benchmark or gateway course including Algebra I, Math Tech, English I, Physical Science, Biology I, Applied Biology II and US History and Constitution. Test scores are based on the South Carolina Uniform Grading Policy and range from 0 – 100. For the current investigation, EOCEP scores in math and English were retrieved from school record data.

Control Variables:

Demographic Information. As studies have linked a range of socio-demographic factors to the study of variables (e.g., Mandara, Varner, & Richman, 2010), it is essential to collect this information for potential use as model covariates. Parents completed demographic information during the consent process regarding their marital status, level of education, and status regarding eligibility for free/reduced lunch for their child. Each adolescent was also asked to provide information about their gender, age, parental marital status, parental education level, and if they are eligible for the free or reduced-price school lunch program.

3.5 Data Analytic Strategy

Preliminary Analysis

This investigation sought to understand how African American youth perceive racial climate in the school context. Additionally, this investigation explored levels of engagement for African American youth across varying dimensions. As such, frequencies and descriptives (mean, standard deviation, range) were used to assess how youth perceive the school racial climate and to assess the level and type of school engagement reported by African American high school students. Descriptive statistics were also calculated for students' GPA, standardized test scores, educational aspirations about how far they wanted to go in school and socio-demographic variables.

A peripheral goal of this study was to explore whether socio-demographic covariates including gender, age, socioeconomic status (free/reduced lunch status used as a proxy) were associated with behavioral, emotional and cognitive engagement for African American high school youth. Accordingly, bivariate correlations among study variables were computed to examine initial relationships among racial climate, school engagement, academic achievement and socio-demographic variables. All socio-demographic variables related to variables of interest were included as covariates in substantive analyses. Mplus software (Múthen & Múthen, 2012) was used to conduct the study analyses.

Mediation Assumptions

An overarching goal of this investigation was to explore the potential mediating role of behavioral, emotional and cognitive engagement in relationships between school racial climate and academic achievement. Tests for potential violations of mediation

assumptions were completed prior to running the main analysis. Diagnostics were examined by running all analyses with a single imputation. Scatter plots and histograms of residuals were examined for each mediation step and showed residuals were generally normally distributed. Autocorrelation plots were examined to test for independence of residuals and showed autocorrelations were generally within the 95% confidence bands around zero. Plots of residuals versus fitted values to test for homoscedasticity of residuals generally supported the assumption of constant variance. Additionally, bivariate scatterplots were examined to ensure no interaction among the predictors and mediator variables. Lastly, outlier analysis indicated there were no influential outliers in the data that might bias the relationships among the study's variables. Overall, the data were found to be within acceptable limits for proceeding with the planned analyses.

Missing Data Analysis

Missing data can adversely affect power and interpretation of results in statistical analyses. However, statistical techniques can be employed to handle missing data in instances where there is not an excessive amount of data missing (Little & Rubin, 2002). For this investigation, missing data ranged from 1% to 4%. Analysis revealed no systematic relationship between missing and non-missing values among study variables, which suggested that the data was missing at random.

Missing data were dealt with using the full information maximum likelihood (FIML) method. FIML is a maximum likelihood method to obtain model parameter estimates by maximizing the likelihood of all available data (Little & Rubin, 2002). FIML is an appropriate procedure to use because it does not delete cases with missing data and thus minimizes biased parameter estimates that are more likely to occur if

pairwise or listwise deletion procedures are used to compensate for missing data (Enders & Bandalos, 2001). Mplus uses maximum likelihood estimation in all procedures.

Testing for Mediation

To address the study's primary research questions, hypotheses about the relationships among school racial climate, three dimensions of school engagement, and academic achievement were tested. Next, a set of paths for possible mediation – behavioral engagement, emotional engagement, and cognitive engagement as mediators of the associations between students' perceptions of school racial climate and academic achievement, were tested (see Figure 3.1). Mediation analyses involves determination of the significance of the following path coefficients: Path *c* – the path from the independent variable to the dependent variable; Path *a* – the path from the independent variable to the hypothesized mediator; Path *b* – the path from the mediator to the dependent variable; and Path *c'* – the direct path from the independent to the dependent variable by way of the mediator (Baron & Kenny, 1986). Recently, the commonly used Baron and Kenny (1986) causal step approach to identify mediation has been criticized for the lack of providing a direct hypothesis test for mediation, flexibility to deal with two or more mediators, and statistical power (see Dearing & Hamilton, 2006, for a review).

Following recommendations by Shrout and Bolger (2002), a bootstrapping procedure was used in the current investigation as an empirical method of determining the significance of mediation because it relatively provides more accurate type I error rates and has greater power in detecting indirect effects. In the bootstrap procedure (see Shrout & Bolger, 2002), 5,000 samples were first created from the original data set by random sampling with replacement. Second, the model was tested with these bootstrap

samples, yielding 5,000 estimates of each path coefficient. Third, the output from these 5,000 estimates of each path coefficient was used to calculate estimates of the hypothesized indirect effect of perceived racial climate constructs on academic achievement through the mediation of school engagement constructs. This was done by multiplying 5,000 pairs of path coefficients *a* and *b*. With this procedure, when the 95% confidence interval (CI) around this parameter does not include zero, the null hypothesis is rejected. When the 95% CI does include zero, the mediation hypothesis is rejected. To perform the bootstrap analyses, Mplus was used, which directly produced bias-corrected bootstrapped confidence intervals for the indirect effects.

Power and Effect Size for Indirect Effects

To reiterate, the indirect effect is the product of two effects. As discussed by (Mackinnon, 2008), one way to determine the effect size is to measure the product of the two effects, each turned into an effect size. The effect size for paths *a* and *b* is a partial correlation; that is, for path *a*, it is the correlation between X and M, controlling for the covariates and any other Xs and for path *b*, it is the correlation between M and Y, controlling for covariates and other Ms and Xs. Following these guidelines, the effect size for the indirect effect would be the product of the two partial correlations (Mackinnon, 2008). For the current investigation, effect sizes for each indirect effect were calculated. According to Shrout and Bolger (2002), the size of the effect can be determined using Cohen's (1988) guidelines for small (.1), medium (.3), and large (.5) effects. However, following recommendations by MacKinnon (2008), because an indirect effect is a product of two effects, these values should be squared (or *rr*). Thus, for the

current investigation a small effect would be .01, a medium effect would be .09, and a large effect would be .25.

Mackinnon (2008) noted that one strategy to compute the power of the test of the indirect effect is to use the joint test of significance. Thus, one computes the power of test of paths *a* and *b* and then multiply their power to obtain the power of the test of the indirect effect. For the current investigation, power to test each indirect effect was calculated using the aforementioned strategy.

Table 3.1 Demographic Characteristics of Study Sample

Total *N* = 139					
	N	**%**		***N***	**%**
Gender			**Parent Marital Status**		
Females	79	57%	Never Married	55	40%
Males	60	43%	Married	59	42%
Free/Reduced Lunch			Divorced	20	14%
Yes	103	74%	Widowed	5	4%
No	36	26%	**Parent Education**		
Age			*Less than High School*		
14	18	13%	Mother	8	6%
15	39	28%	Father	7	6%
16	20	14%	*High School*		
17	19	14%	Mother	51	37%
18	35	25%	Father	65	54%
19	8	6%	*Some College*		
Grade			Mother	34	25%
9	48	35%	Father	26	22%
10	20	14%	*Associate's Degree*		
11	23	16%	Mother	19	14%
12	48	35%	Father	8	7%
Primary Caregiver			*College Degree*		
Mother and Father	45	33%	Mother	14	10%
Mother only	64	52%	Father	10	8%
Father only	2	2%	*Post Graduate Degree*		
Grandparent(s)	13	9%	Mother	11	8%
Other guardian	6	4%	Father	4	3%
# of Honors Classes Enrolled			**# of AP Classes Enrolled**		
0	104	75%	0	131	94%
1	17	12%	1	3	2%
2	8	6%	2	4	3%
3	8	6%	3	1	1%
4	2	1%	**# of School Absences**		
# of Discipline Referrals			0-4	17	12%
0	77	55%	5-10	42	30%
1-2	43	31%	10-20	51	37%
3-4	6	4%	20-30	19	14%
5 or more	13	10%	More than 30	10	7%

Note: Percentages provided indicate the percentage of total data reported and does not take into any account missing data; Honors/AP Class enrollment, school absences and discipline referrals were retrieved from school record data.

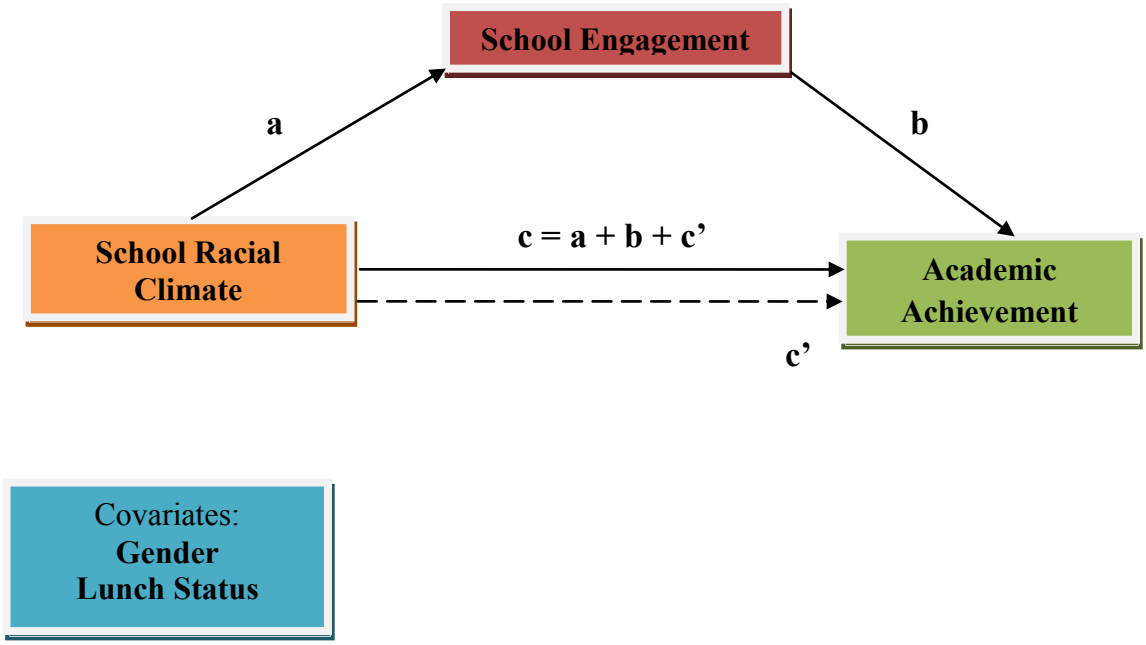

Figure 3.1 Paths for Mediation Analysis. Note: Path c = Total effect; Path a = Path from independent variable to mediator; Path b = Path from mediator to outcome variable; c' = Direct effect; Indirect effect = product of *a* and *b*

CHAPTER 4

RESULTS

The goals of this investigation were to examine: 1) how African American youth perceive racial climate in schooling contexts; 2) the levels of school engagement for African American youth across varying dimensions; 3) the extent to which socio-demographic factors associated with behavioral, emotional and cognitive school engagement; 4) what relationships exist between African American youths' perceptions of school racial climate and academic achievement; and 5) how varying dimensions of school engagement mediate relationships between school racial climate and academic achievement.

A path analysis within an SEM framework was utilized to examine the potential mediating role of dimensions of school engagement in relationships between perceptions of school racial climate and academic achievement indicators. Before presenting findings from the mediation analysis, descriptive analyses will be discussed. First, means and standard deviations as related to the study's research questions will be presented. Second, the bivariate relationships among the variables used in the study are presented.

4.1 Preliminary Analysis

Means and standard deviations were computed for core study variables including indictors of racial climate, varying dimensions of school engagement and indicators of academic achievement (see Table 4.1). For the most part, students reported moderately favorable perceptions of racial fairness in their school environment ($M = 3.32$, $SD = .92$).

Also, students' reports of the frequency with which they had experienced teacher and peer discrimination were below the midpoint (M = 1.60, SD = .73 and M = 1.38, SD = .63, respectively), suggesting that in general, youth did not experience discrimination very frequently. Furthermore, on average, students reported moderate levels of engagement across behavioral (M = 3.83, SD = .79) emotional (M = 3.76, SD = .72) and cognitive (M = 3.54, SD = .76) dimensions. With regard to achievement outcomes, overall, students indicated that they aspired to obtain a 4-year college degree (M = 8.28, SD = 2.05). Also, students, on average, maintained a C+ average in their core academic courses as indicated by school record data (M = 2.78, SD = .72). Lastly, school record data revealed that on average, students received a grade of "D" (as indicated by the South Carolina Department of Education EOCEP grade conversion chart) on the math EOCEP (M = 73.31, SD = 11.63) and English EOCEP (M = 74.17, SD = 12.77) state testing.

Correlation analyses were performed to examine relationships among all study variables (see Table 4.2). Overall, results were inconsistent with hypotheses in that socio-demographic variables were not well related to dimensions of school engagement. In particular, age was not significantly related to behavioral (r = -.13, p = .14), emotional (r = -.04, p = .64) or cognitive (r = -.07, p = .41) engagement. However, whether or not a student received free or reduced lunch (dummy coded such that 0 = No and 1 = Yes) was positively correlated with behavioral (r = .21, p < .05), emotional (r = .27, p <.01) and cognitive (r = .28, p <.001) engagement. Also, an independent samples t-test indicated significant mean differences (t (136) = 2.10, p = .04) between boys and girls levels of

school engagement such that girls (M = 3.97, SD = .79) were more behaviorally engaged than boys (M = 3.68, SD = .77).

4.2 Mediation Analysis

Hypotheses regarding the potential mediating role of behavioral, emotional and cognitive engagement in relationships between school racial climate and academic achievement were examined using a path analysis within an SEM framework. Below, results of tested hypotheses are discussed with respect to the *c*, *a* and *b* paths, and finally the *a* and *b* product (i.e., the indirect effect) (see Figure 3.1). More specifically, the first tested hypothesis directly addresses Path c – the total effect of perceptions of racial fairness on academic achievement outcomes. The next tested hypotheses address both Path a – the paths from perceptions of racial climate to dimensions of school engagement, and Path b – the paths from dimensions of school engagement to achievement indicators. Finally, results are provided regarding the potential mediating role of school engagement in relationships between perceptions of school racial climate and academic achievement. Gender, age and lunch status were included as control variables. Unstandardized coefficients for all paths in each model are presented in Figures 4.1a – 4.1c.

Research Question 4a: What relationships exist between African American youths' perceptions of school racial climate and academic achievement?

A goal of the current study was to examine direct relationships between African American youths' perceptions of school racial climate and academic achievement after controlling for socio-demographic covariates. It was expected that increased perceptions of teacher and peer discrimination would be negatively associated with grade point average, standardized test scores, and academic aspirations whereas decreased

perceptions of racial fairness would be associated with decreased academic achievement. Overall, results were inconsistent with hypotheses such that perceptions of school racial climate were not well associated with academic achievement indicators. In particular, the extent to which students perceived their school environment to be more racially fair and equitable was not associated with core GPA (b = .06, p = .37) or standardized test scores in math (b = .10, p = .94) and English (b = .31, p = .81). However, the relationship between perceptions of racial fairness and educational aspirations was approaching significance (b = .37, p = .07). Also, teacher discrimination was unassociated with educational aspirations (b = -.34, p = .29), core GPA (b = -.05, p = .58) or standardized test scores in math (b = -.84, p = .70) and English (b = -1.02, p =.63). With respect to peer discrimination, the only significant relationship showed a negative association with English standardized test scores (b = -7.82, p < .01). Many researchers highlight that no statistical evidence that X causes Y is needed for establishing mediation (e.g., MacKinnon, Fairchild & Fritz, 2007; Mackinnon et al., 2002). Thus, despite the non-significance of many of these associations, I proceeded to address the remaining research questions for the current investigation by exploring the significance of the *a* and *b* paths.

Research Question 4b: How are African American youths' perceptions of school racial climate associated with varying dimensions of engagement?

The first step for establishing mediation was to determine the effect of perceptions of racial fairness, teacher discrimination and peer discrimination (IVs) on varying dimensions of school engagement (mediators) (path *a*). It was hypothesized that youths' perceptions of a school climate that is racially unfair with increased experiences of discrimination would be associated with decreased student engagement. Findings

revealed that perceptions of a racially fair school environment were significantly related to increased behavioral (b = .17, p < .05), emotional (b = .27, p < .001) and cognitive (b = .20, p < .05) engagement. Results were inconsistent with respect to relationships between teacher and peer discrimination and dimensions of school engagement. In particular, results indicated that perceived peer discrimination experiences in school were negatively related to behavioral (b = -.69, p < .001), emotional (b = -.35, p < .01) and cognitive (B = -.49, p < .01) engagement. However, perceptions of teacher discrimination were unrelated to behavioral (b = .09, p = .45), emotional (b = -.09, p = .44) and cognitive (b = .16, p = .25) engagement.

Research Question 4c: What relationships exist between varying dimensions of school engagement and African American youths' academic achievement?

The second step for establishing mediation was to determine the effect of dimensions of school engagement (mediators) on indicators of academic achievement (DVs) controlling for age, gender and lunch status (path b). It was expected that increased behavioral, emotional and cognitive engagement would be associated with increased academic performance and educational aspirations. Findings revealed that increased behavioral engagement was related to educational aspirations (b = .52, p <.05), core GPA (b = .43, p <.001) and higher standardized test scores in math (b = 5.68, p <.05) and English (b = 5.99, p <.05). Also, increased cognitive engagement was related to increased aspirations about how far students wanted to go in school (b = .61, p <.05), higher core GPA (b = .40, p <.001), and higher standardized test scores in English (b = 3.75, p = <.05). Unexpectedly, cognitive engagement was unrelated to math standardized test scores (b = 2.35, p = .21). Also inconsistent with hypotheses, emotional engagement was

unrelated to educational aspirations (b = .55, p = .14), core GPA (b = -.04, p = .70) and standardized test scores in math (b = -1.55, p = .50). However, the relationship between emotional engagement and standardized test performance in English was approaching significance, (b = -3.70, p = .06).

Research Question 4d: Do varying dimensions of school engagement mediate relationships between youths' perceptions of school racial climate and academic achievement?

The overarching goal of the current investigation was to explore whether three dimensions of school engagement, behavioral, emotional and cognitive, mediated relationships between school racial climate and academic achievement. It was expected that all three dimensions of engagement would mediate relationships between youths' perceptions of school racial climate and academic achievement such that decreased perceptions of racial fairness and increased perceptions of teacher and peer race discrimination would be associated with decreased academic achievement by way of youths' low engagement. Exactly the opposite was expected to occur for those students who had increased perceptions of racial fairness and decreased perceptions of teacher and peer race discrimination. These students were expected to have high academic achievement and high educational aspirations by way of increased engagement across dimensions.

The third step for establishing mediation was to determine the significance of the indirect effects (estimated by the product of bootstrapped coefficients a and b for each set of paths) of racial fairness, teacher discrimination or peer discrimination on academic achievement indicators through each dimension of school engagement. To reiterate, for

the current investigation, a bootstrapping procedure was used as an empirical method of determining the significance of mediation because it relatively provides more accurate type I error rates and has greater power in detecting indirect effects (Shrout & Bolger, 2002). With this procedure, when the 95% confidence interval (CI) around this parameter does not include zero, the null hypothesis is rejected. When the 95% CI does include zero, the mediation hypothesis is rejected. A summary of findings with respect to each model outcome are detailed below. Bias-corrected bootstrapped estimates and confidence intervals for the indirect effects for each model are shown in Tables 4.3a – 4.3b.

Educational Aspirations

Findings revealed a significant indirect effect of perceptions of racial fairness on educational aspirations through behavioral, (95% CI [.01, .27]; indirect effect = .09), emotional, (95% CI [.00, .36]; indirect effect = .15), and cognitive (95% CI [.02, .30]; indirect effect = .12) engagement. Results also indicated a significant indirect effect of perceptions of peer discrimination on educational aspirations through behavioral, (95% CI [-.76, -.10]; indirect effect = -.35), emotional, (95% CI [-.58, -.01]; indirect effect = -.19), and cognitive (95% CI [-.61, -.10]; indirect effect = -.30) engagement. No significant indirect effects of teacher discrimination on educational aspirations through school engagement dimensions were found (see Table 4.3a).

Core Grade Point Average

With respect to core GPA, findings revealed a significant indirect effect of perceptions of racial fairness only though behavioral, (95% CI [.02, .16]; indirect effect = .07) and cognitive (95% CI [.03, .15]; indirect effect = .08) engagement. Also, results indicated a significant indirect effect of perceived peer discrimination experiences on

core GPA through behavioral, (95% CI [-.42, -.19]; indirect effect = -.29) and cognitive (95% CI [-.35, -.09]; indirect effect = -.20) engagement. Emotional engagement was not a significant mediator in the relationship between neither perceptions of racial fairness and core GPA nor peer discrimination and core GPA (see Table 4.3b). Also, no significant indirect effects of teacher discrimination on core GPA through school engagement dimensions were found (see Table 4.3b).

Standardized Test Scores

End-of-Course Examination Program: English. Several mediation relationships were found with regard to school racial climate, school engagement and EOCEPEP scores in English. In particular, youths' increased perceptions of racial fairness were related to higher EOCEPEP scores in English by way of increased behavioral (95% CI [.21, 2.55]; indirect effect = .97) and cognitive (95% CI [.11, .1.96]; indirect effect = .08) engagement. Results indicated that emotional engagement was not a significant mediator in the relationship between perceptions of racial fairness and English EOCEP scores (see Table 4.3c). However, consistent with hypotheses, youths' perceptions of peer discrimination were related to EOCEP scores in English by way of behavioral (95% CI [-7.54, -1.33]; indirect effect = -3.88) and cognitive (95% CI [-4.52 -.43]; indirect effect = -1.94) engagement. Although findings revealed a significant indirect effect of peer discrimination on English EOCEP scores through emotional engagement, the direction of effect was inconsistent with a priori hypotheses, (95% CI [.10, 3.31]; indirect effect = .1.23). No significant indirect effects of teacher discrimination on English EOCEP scores through school engagement dimensions were found (see Table 4.3c).

End-of-Course Examination Program: Math. Results for math EOCEP scores did not show a similar pattern. Findings revealed significant indirect effects of perceptions of racial fairness, and peer discrimination, on math EOCEP scores only by way of youths' behavioral engagement, (95% CI [.13, 2.38]; indirect effect = .88) and (95% CI [-6.91, -1.18]; indirect effect = -3.54), respectively. No additional significant indirect effects of perceptions of racial fairness on EOCEP math scores or peer discrimination on EOCEP math scores were found (see Table 4.3c). Also contrary to hypotheses, no significant indirect effects of teacher discrimination on math EOCEP scores through school engagement dimensions were found (see Table 4.3c).

Table 4.1 Means and Standard Deviations for Study Sample

Variable	M	SD	Range	A
Racial Fairness	3.32	.92	1.00 – 5.00	.92
Teacher Discrimination	1.60	.73	1.00 – 5.00	.80
Peer Discrimination	1.34	.63	1.00 – 5.00	.77
Behavioral Engagement	3.83	.79	1.00 – 5.00	.76
Emotional Engagement	3.76	.72	1.00 – 5.00	.71
Cognitive Engagement	3.54	.76	1.00 – 5.00	.79
Educational Aspirations	8.28	2.05	1.00 – 10.00	
Core GPA	2.78	.72	0.00 – 4.00	
Math EOCEP	73.31	11.63	0.00 –100.00	
English EOCEP	74.17	12.77	0.00 –100.00	

Note: M = Mean; SD = Standard Deviation; Range = Range of Likert Scale; α = internal consistency of scale

Table 4.2 Correlations Among Study Variables

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. Gender‡																
2. Age‡	.11															
3. Lunch Status‡	-.05	-.06														
4. Racial Fairness	-.06	-.07	.32[c]													
5. Teacher Discrim.	.12	.02	-.21[a]	-.45[c]												
6. Peer Discrim.	.03	.03	-.30[c]	-.40[c]	.69[c]											
7. Behavioral Eng.	-.18[a]	-.13	.21[a]	.39[c]	-.41[c]	-.58[c]										
8. Emotional Eng.	-.12	-.04	.27[b]	.52[c]	-.46[c]	-.52[c]	.66[c]									
9. Cognitive Eng.	-.13	-.07	.28[b]	.38[c]	-.28[b]	-.43[c]	.57[c]	.61[c]								
10. Educational Asp.	-.14	.06	.25[b]	.18[a]	-.31[c]	-.36[c]	.46[c]	.46[c]	.46[c]							
11. Core GPA	-.26[b]	-.15	.02	.18[a]	-.19[a]	-.25[b]	.59[c]	.41[c]	.57[c]	.54[c]						
12. Math EOCEP	-.20	-.05	.05	.20	-.41[c]	-.48[c]	.59[c]	.39[c]	.45[c]	.48[c]	.76[c]					
13. English EOCEP	-.15	-.20	.16	.26[a]	-.35[b]	-.61[c]	.67[c]	.47[c]	.57[c]	.58[c]	.76[c]	.77c				
14. Absences	.13	.09	-.02	-.24[b]	.18[a]	. 29[b]	-.39[c]	-.27[b]	-.30[c]	-.21[a]	-.39[c]	-.46c	-.57[c]			
15. Office Referrals	.06	.14	-.03	-.25[b]	.19[a]	.21[a]	-.46[c]	-.42[c]	-.37[c]	-.29[b]	-.41[c]	-.35b	-.34[b]	.39[c]		
16. Honors Courses	-.16[a]	-.23[b]	-.09	.09	-.11	-.06	.28[b]	.14	.15	.21[a]	.50[c]	.64c	.56[c]	-.29[b]	-.20[a]	
17. AP Courses	-.07	.22[a]	-.20[a]	-.10	-.06	-.03	.08	.06	.07	.10	.23[b]	.42c	.22[a]	-.11	-.11	.11

Note: [‡]Indicates control variables; Gender was coded 0 = *female* and 1 = *male*; Received free/reduced lunch was coded 0 = *no free/reduced lunch* and 1 = *received free/reduced lunch;* Teacher Discrim. = Teacher Discrimination; Peer Discrim. = Peer Discrimination; Behavioral Eng. = Behavioral Engagement; Emotional Eng. = Emotional Engagement; Cognitive Eng. = Cognitive Engagement; Educational Asp. = Educational Aspirations; Absences = Number of Class Absences in 2012–2013 school year (retrieved from school record data); Office Referrals = Number of Discipline Referrals in 2012–2013 school year (retrieved from school record data); Honors Courses = Number of Honors Courses Enrolled in 2012–2013 school year (retrieved from school record data); and AP Courses = Number of AP Courses Enrolled in 2012–2013 school year (retrieved from school record data).

[a]$p < .05$. [b]$p < .01$. [c]$p < .001$.

Table 4.3a Estimates & Confidence Intervals for the Indirect Effects Predicting Educational Aspirations

Independent Variable	Mediator	Estimate	Bias-Corrected 95% Confidence Intervals Lower	Upper
Racial Fairness	Behavioral	.12*	.01	.27
	Emotional	.15*	.00	.36
	Cognitive	.09*	.02	.30
Total Indirect		.36*	.15	.57
Teacher Discrimination	Behavioral	04	-.03	.22
	Emotional	-.05	-.24	.02
	Cognitive	.10	-.90	.15
Total Indirect		.10	-.21	.37
Peer Discrimination	Behavioral	-.35*	-.76	-.09
	Emotional	-.19*	-.58	-.01
	Cognitive	-.30*	-.61	-.10
Total Indirect		-.85*	-1.29	-.46

Note: Based on 5,000 bootstrap samples. With the bootstrapping procedure, when the 95% confidence interval (CI) around the parameter does not include zero, the null hypothesis is rejected. Asterisks indicate statically significant effects.

Table 4.3b Estimates & Confidence Intervals for the Indirect Effects Predicting Core Grade Point Average

Independent Variable	Mediator	Estimate	Bias-Corrected 95% Confidence Intervals Lower	Upper
Racial Fairness	Behavioral	.07*	.02	.16
	Emotional	-.01	.00	.36
	Cognitive	.08*	.03	.15
Total Indirect		.15*	.04	.25
Teacher Discrimination	Behavioral	.04	-.04	.12
	Emotional	.00	-.01	.04
	Cognitive	.07	-.02	.17
Total Indirect		.10	-.04	.26
Peer Discrimination	Behavioral	-.29*	-.42	-.19
	Emotional	.01	-.04	-.09
	Cognitive	-.20*	-.35	-.09
Total Indirect		.48*	.68	- .29

Note: Based on 5,000 bootstrap samples. With the bootstrapping procedure, when the 95% confidence interval (CI) around the parameter does not include zero, the null hypothesis is rejected. Asterisks indicate statically significant effects.

Table 4.3c Estimates & Confidence Intervals for the Indirect Effects Predicting Standardized Test Scores

Independent Variable	Mediator	Estimate	Bias-Corrected 95% Confidence Intervals Lower	Upper
EOCEP Math				
Racial Fairness	Behavioral	.88*	.13	2.34
	Emotional	-.32	-1.63	.74
	Cognitive	.48	-.08	1.50
Total Indirect		1.04	-.09	2.38
Teacher Discrimination	Behavioral	.44	-.32	1.77
	Emotional	.10	-.17	1.15
	Cognitive	.38	.08	1.83
Total Indirect		.93	-.26	2.83
Peer Discrimination	Behavioral	-3.54*	-6.91	-1.18
	Emotional	.42	-.89	2.42
	Cognitive	-1.15	-3.42	.23
Total Indirect		-4.27*	-7.28	-1.97
EOCEP English				
Racial Fairness	Behavioral	.97*	.21	2.55
	Emotional	-.93	-2.28	.05
	Cognitive	.80*	.11	1.96
Total Indirect		.84	-.43	2.29
Teacher Discrimination	Behavioral	.49	-.32	1.85
	Emotional	.30	-.14	1.54
	Cognitive	.64	-.09	2.29
Total Indirect		1.42	-.12	3.55
Peer Discrimination	Behavioral	-3.88*	-7.54	-1.33
	Emotional	1.23*	.10	3.31
	Cognitive	1.94*	-4.52	.43
Total Indirect		-4.58*	-7.98	-2.03

Note: Based on 5,000 bootstrap samples. With the bootstrapping procedure, when the 95% confidence interval (CI) around the parameter does not include zero, the null hypothesis is rejected. Asterisks indicate statically significant effects.

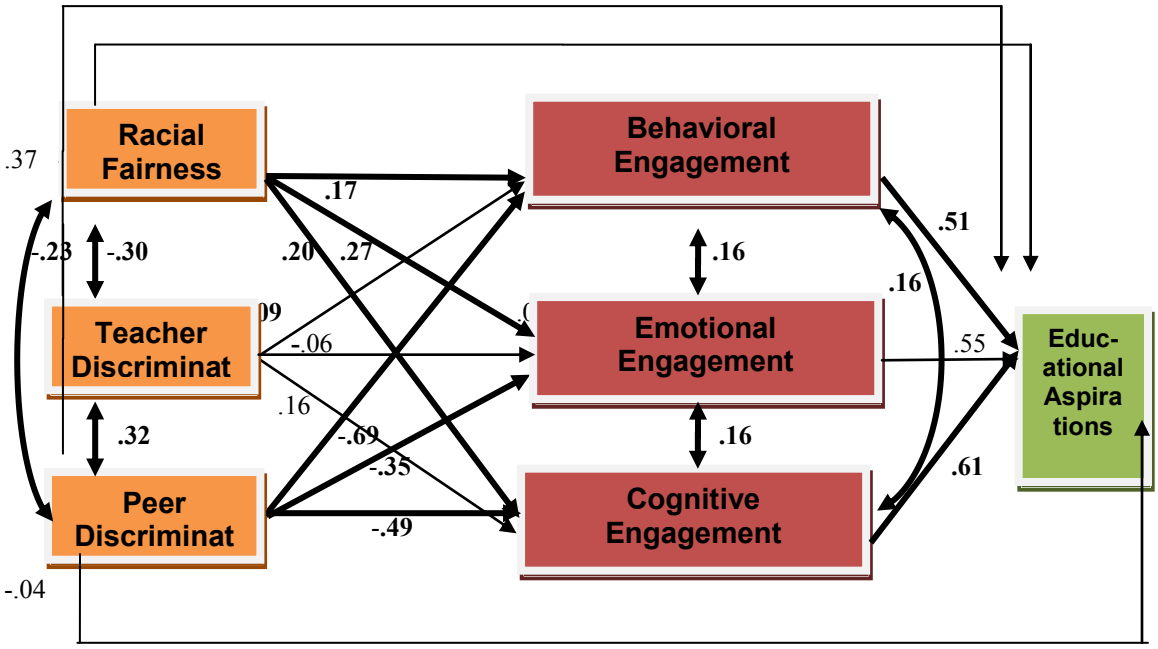

Figure 4.1a Direct and Indirect Associations Between School Racial Climate and Educational Aspirations. Note: The numbers in the figure represent unstandardized regression coefficients derived from a bootstrap procedure. Bold estimates and lines indicate statistically significant paths at the .05 level or lower.

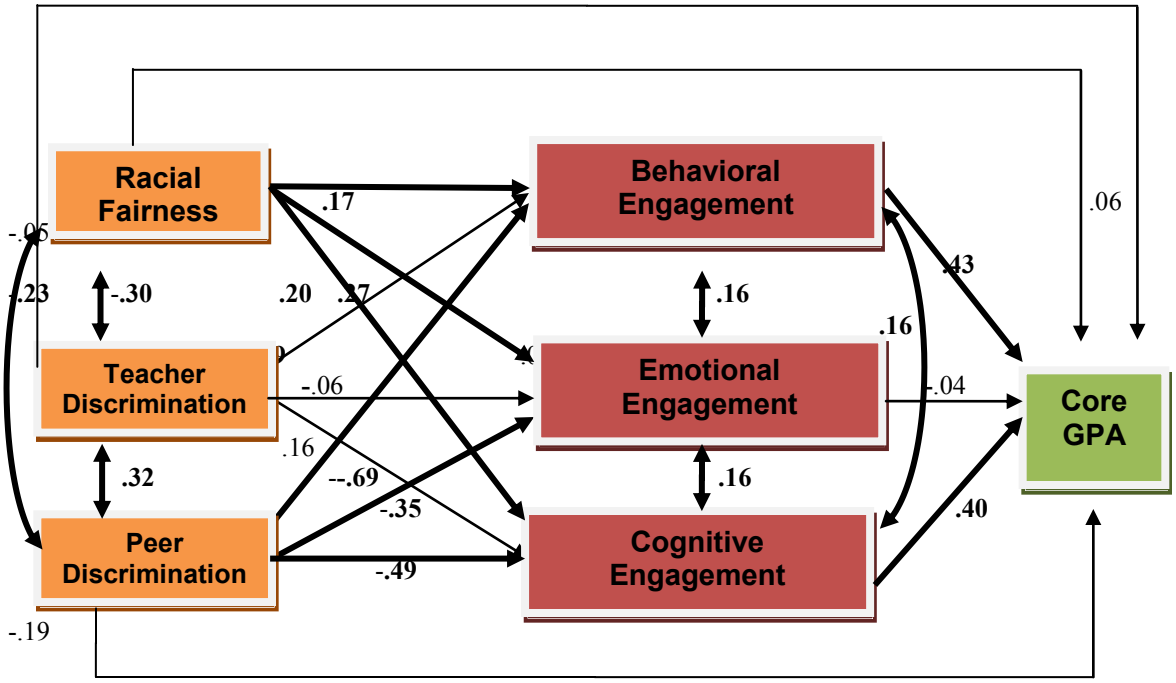

Figure 4.1b Direct and Indirect Associations Between School Racial Climate and Core GPA. Note: The numbers in the figure represent unstandardized regression coefficients derived from a bootstrap procedure. Bold lines indicate statistically significant paths at the .05 level or lower.

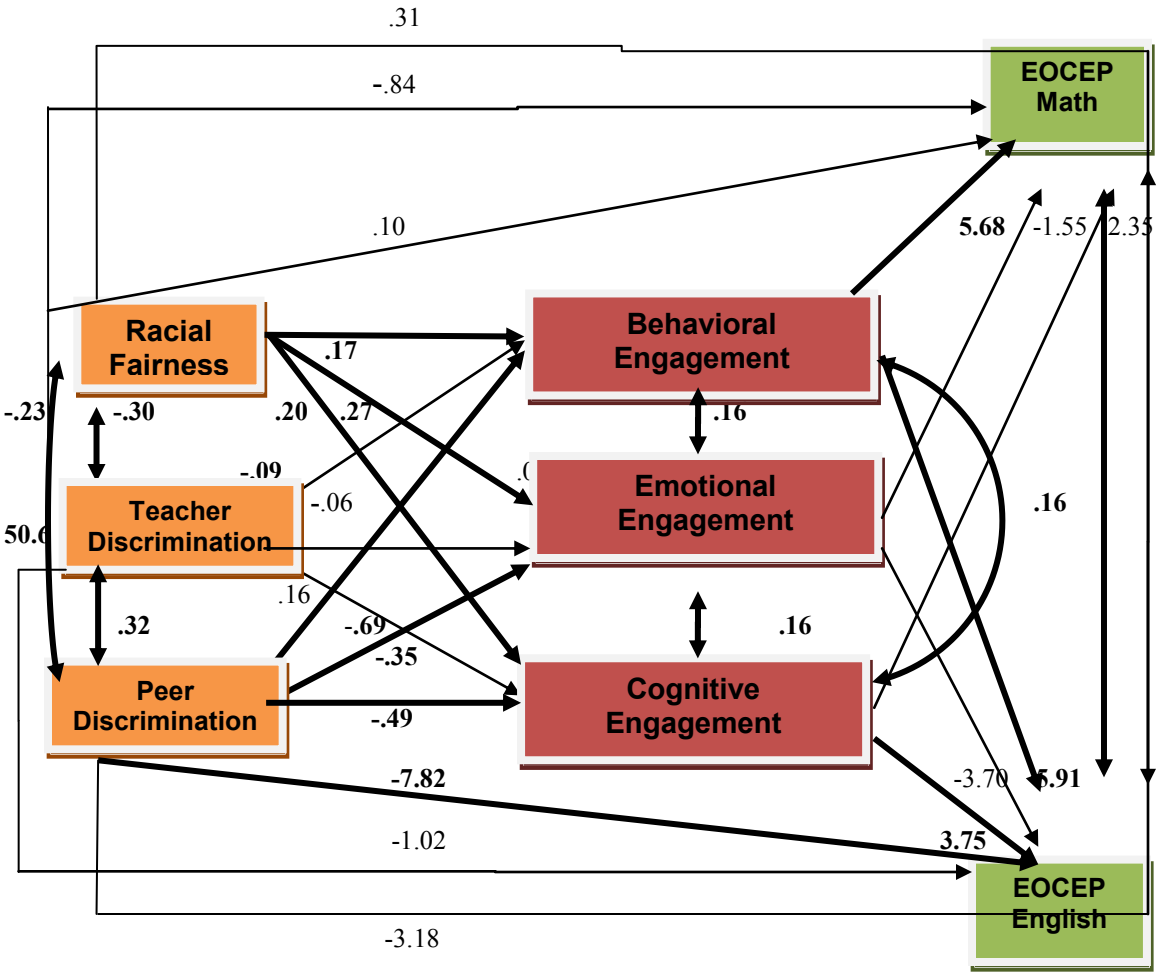

Figure 4.1c Direct and Indirect Associations Between School Racial Climate and Standardized Test Scores. Note: The numbers in the figure represent unstandardized regression coefficients derived from a bootstrap procedure. Bold lines indicate statistically significant paths at the .05 level or lower.

CHAPTER 5

DISCUSSION

African American students in K-12 education experience pervasive disparities in academic outcomes across all areas of the schooling experience. In order to understand the factors that promote academic achievement among individuals who face adversity, researchers have sought to examine how school environmental factors hold influence over student's academic adjustment. Recent theoretical models have emphasized that the academic achievement of African American students is an interaction of their race-specific experiences within the school setting (e.g., Aronson, Quinn & Spencer, 1998; Ogbu, 1978, 1994; Mickelson, 1990; Steele & Aronson, 1995). Also, empirical work suggests that racial differences in student outcomes may also derive from students' racially based perceptions of, experiences in, and responses to their school environments, in other words, through perceptions of school racial climate (Mattison & Aber, 2007). Though there is some indication that the racial climate of a school correlates highly with academic achievement and is considered an important concept when studying school systemic interactions, the mechanisms by which school racial climate might influence academic outcomes for students is only partially understood.

With this in mind, in addition to focusing on the role of school racial climate in African American adolescents' academic achievement, the current study examined adolescents' school engagement as a potential mediating mechanism. Five main goals guided this investigation. First, this investigation explored how African American youth

perceived racial climate in the schooling contexts. Next, the levels of school engagement for African American youth across varying dimensions were explored. A peripheral goal of this study was to explore whether socio-demographic covariates including gender, age, socioeconomic status (free/reduced lunch status used as a proxy) were associated with behavioral, emotional and cognitive engagement for African American high school youth. Also, this investigation explored what relationships existed between African American youths' perceptions of school racial climate and academic achievement. Lastly, an overarching goal of this investigation was to explore the potential mediating role of behavioral, emotional and cognitive engagement in relationships between school racial climate and academic achievement.

Overall, the results showed partial evidence of the mediating role of dimensions of school engagement in relationships between perceived racial climate and academic outcomes. Findings revealed an indirect effect of perceptions of racial fairness on academic achievement indicators though behavioral and cognitive engagement. Behavioral and cognitive engagement also mediated relationships between youths' perceived peer discrimination and academic achievement indicators. Interestingly, the mediating role of emotional engagement in these relationships was found to be dependent on the predicted achievement outcome. However, no significant indirect effects of teacher discrimination on academic achievement through school engagement dimensions were found. A summary of the major findings as related to the study's specific goals is provided below.

5.1 African American Students' Perceptions of Racial Climate

Researchers have found that youths' understanding of racial inequality, prejudice and discrimination becomes increasingly complex with age (Brown & Bigler, 2004; Quintana & Vera, 1999). The cognitive changes in adolescence, such as the development of formal operational reasoning, can help youth interpret their racially-based experiences in school in new ways (Seaton, 2009). Therefore, it is important to consider this developmental period as distinct from other times in youths' lives. Surprisingly, racial climate has been the focus of a number of studies at the college level (see e.g., Cabrera et al., 1999), but only a few studies at the secondary school level (e.g., Byrd & Chavous, 2011; Mattison & Aber, 2007). The current study sought to address this limitation by exploring how African American high school youth perceive the school racial climate.

Overall, youth reported moderately favorable perceptions of racial fairness in their school environment. This finding was inconsistent with expectations that youth would report unfavorable perceptions of racial fairness given their ethnic minority status. It could be the case students perceived their schooling environment in positive ways and did not experience or perceive inequalities or differential treatment resulting from their race. Indeed, some research suggests that not every African American youth experiences race-related stressors in the schooling context (e.g., Dotterer et al., 2009). Furthermore, these results may shed light on how schools are improving at negotiating racial differences and supporting positive interactions across race. Many schools have multicultural education programs, and equal educational opportunities for students from diverse racial, ethnic, and cultural groups, is a focus of many schools. Policies and

practices like these might help create more racially fair school environments (Mattison & Aber, 2007).

Still, results from the current investigation provided evidence of the occurrence of racially unfair treatment for African American youth in the schooling context. In particular, findings did support my original hypothesis that youth will perceive race discrimination from both teachers and peers. More specifically, adolescents in the sample, on average, reported that they experienced racial discrimination somewhat infrequently (below the midpoint). The frequency of reported experiences with discrimination in the school context is consistent with previous research among African American adolescent youth (Chavous et al., 2008; Dotterer et al., 2009; Wong et al., 2003). Despite the low frequency of these experiences, the overwhelming majority of the sample reported experiencing some racial discrimination within the schooling context in the past year. This suggests that racial discrimination represents a normative developmental risk factor for many adolescents of color (Garcia Coll et al., 1996; Spencer et al., 1997).

These findings have many implications for African American youths' development, particularly in the academic domain. For instance, school staff, most of whom are White and tend to have few experiences with racial/ethnic diversity, may not understand the cultural values that African American students bring into school and, as a result, may ignore or devalue them (Mattison & Aber, 2007). This devaluing may manifest in several ways including stereotypic understandings and expectations of African American students, school curricula that excludes attention to the histories of racial/ethnic minorities, and misinterpretations of African American student behavior and

communication (Gay, 2000; Ogbu, 1992). Understanding the features of school contexts that convey messages about race as well as students' understanding of those contexts will help schools address racial differences and race relations in productive ways.

5.2 School Engagement among African American Students

A significant contribution of the current investigation was the multidimensional conceptualization of school engagement. Although recent research highlights the multidimensional nature of school engagement (Fredricks et al., 2004; Jimerson et al., 2003), we know very little about the cognitive dimension, and all three components of school engagement have rarely been examined in the same study (Wang & Holcombe, 2010; Wang & Eccles, 2012). Furthermore, many questions still remain regarding the levels of engagement for African American youth across varying dimensions given that much of the research among this population has focused on between-group comparisons (e.g. comparisons of European American adolescents to African American adolescents; e.g., Johnson et al., 2001; Voelkl, 1997). When the research focuses solely on comparing African American students to White students, many within-group differences based on gender, socioeconomic background, and developmental characteristics are overlooked (Fisher et al., 1997; Graham, 1992).

With this in mind, the current investigation explored the levels of school engagement among African American youth as well as associations between socio-demographic variables and dimensions of school engagement to further understand within-group differences. First, findings revealed that on average, students reported moderate levels of engagement across behavioral, emotional and cognitive dimensions. Contrary to prior research which has found mean differences across varying dimensions

of school engagement within African American adolescent samples (e.g., Johnson et al., 2001; Voelkl, 1997) these findings suggest that in general, there were similarities in levels of engagement across dimensions. Researchers argue that many African American students perform worse in school than their White and Asian American counterparts because they are less likely to believe that school is important or beneficial to their future and therefore they invest less effort in school (e.g., Mickelson, 1990). Results from the current investigation contribute to the existing body of literature by providing evidence African American youth engage in school in a number of ways including school participation, having affective attitudes and identification with the school as well as a psychological and strategic investment in learning.

A peripheral goal of the current study was to examine variation in school engagement by examining associations with socio-demographic variables such as gender, age and socioeconomic status. Overall, results regarding relationships among socio-demographic variables and dimensions of school engagement were inconsistent with my hypotheses such that socio-demographic variables were not well-related to dimensions of school engagement. First, there was no association found between youths' age and dimensions of school engagement. This finding is surprising given that research has documented substantial declines in students' engagement with schooling across the adolescent years (Hauser-Cram, Warfield, Stadler & Sirin, 2007; Marks, 2000). This erosion of engagement has also been found to be especially severe for ethnic minority and low socioeconomic groups (for a review, see Wigfield, Eccles, Schiefele, Roeser & Davis-Kean, 2006). It is not clear why dimensions of school engagement were not associated with age at the bivariate level for this investigation. It could be that these

adolescents' developmental stage might explain the nonexistence of this association. In particular, given that the current study sample consisted of high school students, it could be that declines in student engagement have already occurred and are manifested through practices like tracking and course placement as well as student outcomes. Eccles et al. (1993) suggest that a mismatch between adolescents' developmental needs and their school environment contributes to declines in their academic engagement as they transition to middle school. This prominent theoretical framework suggests that the period of early adolescence might serve as a unique risk for these declines rather than mid-to-late adolescence (for a review, see Wigfield, Eccles, Schiefele, Roeser, & Davis-Kean, 2006). Prospective studies should seek to understand individual trajectories of school engagement across varying dimensions among African American adolescent youth.

Notably, findings demonstrated an association between gender and behavioral engagement such that girls were more behaviorally engaged than boys. That girls were more behaviorally engaged than boys is consistent with literature highlighting gender differences in school engagement (e.g., Connell et al., 1994; Johnson et al., 2001; Sirin & Sirin, 2005; Voelkl, 1997). For instance, boys have higher rates of suspension, see homework as less useful and are more reluctant to do complete extra work during class (MacDonald, Saunders, & Benfield, 1999). On the other hand, Johnson et al. (2001) found that girls were more engaged behaviorally than boys in both middle and high school. Taken together, findings from the current investigation as well as others provide support for the notion that there are notable gender differences in the actions and practices that African American adolescent youth direct toward school and learning

including positive conduct, and participation in and involvement with learning and academic tasks.

Another notable finding was the relationship between socioeconomic status, as measured by eligibility for free or reduced lunch, and school engagement. Findings indicated positive associations such that lower SES youth reported increased levels of engagement across all dimensions. It is not yet clear why economically disadvantaged youth reported increased school engagement given evidence suggesting that economic deprivation among children is a risk factor for achievement difficulties (McLoyd, 1998; Sameroff & Gutman, 2004; Skinner, Elder, & Conger, 1992). However, it could be that kids who have fewer economic opportunities may be more motivated to engage in school because they view education as a facilitator of upward economic mobility (Hardaway & McLoyd, 2009). For instance, some research indicates that less economically advantaged African American report higher academic importance values (Chavous et al., 2008). Still, much of the previous research on associations between engagement and SES has been equivocal. For instance, SES as measured by parents' educational attainment, has been positively linked to school engagement (Johnson et al., 2001). When measuring socioeconomic status in terms of students' participation in a free-lunch program, however, Voelkl (1997) found no connections between SES and school engagement. In general, one reason why previous work reports mixed findings regarding participant characteristics and school engagement may be due to the difference in measurement of school engagement. Such a possibility highlights the importance of conceptualizing and operationalizing school engagement in a multidimensional way: the conclusions we draw may depend in part, on how school engagement is measured. Nonetheless, these findings

have important implications for understanding variation in African American youths' school engagement and underline the importance of viewing school engagement in relation with students' background characteristics.

5.3 Racial Climate and Educational Outcomes

A growing body of research on racial minority adolescents' experiences with racial discrimination suggests the relevance of examining adolescents' school race-related experiences and taking a within-group focus in examining the effects of these experiences on academic outcomes (Chavous et al., 2008). A goal of the current investigation was to examine whether school racial climate was associated with African American students' educational aspirations about how far they wanted to go in school and academic performance. By and large, results were inconsistent with hypothesis and perceptions of school racial climate were not well associated with academic achievement indicators after controlling for gender and age. In particular, the extent to which students perceived their school environment to be more racially fair and equitable was not associated with core GPA or performance on the math and English standardized tests. However, the association between perceptions of racial fairness and educational aspirations was approaching significance. It could be that a negative school racial climate has implications for how African American students perceive the relevance of education in their lives and how far they want to go in school. Assertions by Ogbu (1981), Mickelson (1990), and Taylor et al. (1994) support this finding, in that discrimination and unfair treatment in the academic domain, whether observed or experienced directly, can be associated with African American students' devaluing of the importance of education.

For the most part, perceptions of school-based discrimination from teachers and peers were unassociated with African American youth's achievement indicators. The only significant relationship showed a negative association between peer discrimination and English standardized test scores. In the schooling context, unfair treatment and discrimination based on race may result from ideologies centered around negative perceptions of African American youths' academic abilities. Steele (1997) asserted that African American students may feel anxiety from the possibility of confirming negative racial stereotypes regarding their intellectual capabilities. Steele further suggests that stereotype threat generally affects African American students who are academically engaged because confirmation of a negative stereotype threatens a domain in which they are significantly investigated. Given that research has suggested that stereotype threat may negatively affect performance on standardized tests (McKown & Weinstein, 2003; Steele & Aronson, 1998), it is not surprising then that negative associations between peer discrimination and standardized test scores in English were found in the current investigation.

Previous research suggests that fostering a school environment that treats students from all races fairly and is accepting of racial differences is positively associated with achievement outcomes. Also, there is a burgeoning body of research showing the deleterious impact of racial discrimination and racially-based unfair treatment on academic outcomes (e.g., Chavous et al., 2008; Fisher et al., 2000; Neblett et al., 2006; Wong et al., 2003). Although by and large evidence for direct associations between youths' perceptions of racial climate and academic achievement were minimal for the current sample, it could be that African American youths' perceptions of racial fairness

are associated with academic achievement through process variables. With this in mind, questions remained regarding potential indirect associations in these relationships.

5.4 The Mediating Role of School Engagement

The overarching goal of the current investigation was to explore whether three dimensions of school engagement, behavioral, emotional and cognitive, mediated relationships between perceptions of school racial climate and academic achievement indictors. From a developmental perspective, research suggests that stressors youth experience within a context should affect their adaptation and engagement within that setting (DuBois et al., 2002). Thus, I expected that unfair treatment based on race and school-based race discrimination experiences would have a particularly strong influence on engagement with academics which in turn would be associated with youths' academic performance. Overall, evidence showed support for the mediating roles of behavioral, emotional and cognitive engagement. Findings also provided additional support for the notion of engagement being an important component of students' school experience because of its relationship to achievement.

Notably, youths' perceptions of racial fairness were indirectly associated with youths' educational aspirations through increased behavioral, emotional and cognitive engagement. Students' who perceived their school environment to be racially fair reported participating in classroom activities and having positive conduct more often, feeling a stronger sense of belonging to their school and used self-regulated learning strategies more often, which in turn aspired them to go further in school. Similarly, I found evidence of an indirect effect of perceptions of racial fairness on core GPA though behavioral and cognitive engagement, but not emotional engagement. These findings may

suggest that students are more engaged and willing to perform when they feel their effort will be fairly rewarded (Byrd & Chavous, 2011). Interestingly, associations among African American youths' perceptions of racial fairness and standardized test scores were inconsistent across the academic content domain. In particular, I found evidence of an indirect effect on perceptions of racial fairness on English standardized test scores through behavioral and cognitive engagement whereas behavioral engagement was the only mechanism that linked perceptions of racial fairness to math standardized test performance. Overall, these findings provide support of the benefits of perceiving a fair and equitable school environment for youths' engagement and academic performance, although causality and the direction of the effects is not clear from this study given the design.

Previous research and theoretical findings have suggested that discrimination at school can have particularly damaging consequences because it can lead to disengagement with academics and feelings of alienation from others (Steele, 1997). Supporting this notion, several indirect associations of peer discrimination on achievement outcomes through school engagement dimensions were found in the current investigation. In particular, youth who reported being picked on or socially excluded due to race by their peers reported decreased behavioral, emotional and cognitive engagement, which in turn was associated with lower aspirations for how youth wanted to go in school. Also, while decreased behavioral and cognitive engagement linked associations between increased peer discrimination and decreased core GPA, evidence did not provide support for the mediating role of emotional engagement in this relationship. Furthermore, results were inconsistent with respect to relationships among

peer discrimination, dimensions of school engagement and standardized test scores. In particular, youth who perceived discrimination from their peers more often also reported decreased behavioral, emotional and cognitive engagement which in turn was associated with lower English standardized test scores. However, only behavioral engagement was a link between peer discrimination and math standardized test scores.

These findings highlight the notion that there are reasons to be concerned with peer discrimination experiences among African American youth, particularly in the secondary school context. Indeed, the structure of high school may exacerbate students' experiences with peer discrimination. More specifically, the structure of high school often has students interfacing with many peer groups. By nature, these increased interactions with peers increase the probability of having more potentially discriminatory experiences. Also, the secondary school context provides classroom and social structures (e.g., more racial cleavage in classes and peer groups) that can result in heightened racial salience, more awareness of racial group stereotypes, and social exclusion (Rosenbloom & Way, 2004; Seidman, Allen, Aber, Mitchell, & Feinman, 1994). Also, feelings of support and acceptance from peers fulfill adolescents' need for relatedness and also promote their motivation, engagement, and achievement in school (Wang, 2009; Wang & Holcombe, 2010). In adolescence, when peer groups are hierarchically organized within school settings and adolescents strive not only to fit in with their peers but to attain a position at the top of the peer hierarchy (LaFontana & Cillessen, 2010), peer discrimination may take on particular importance in as much as it indicates an outsider status or even a low peer status for the recipients (Bellmore, 2011). Further, negative messages about one's ethnic group membership may be particularly harmful in

adolescence when individuals are forming their ethnic identities (Phinney, 1990). Peer discrimination during adolescence, then, is particularly consequential because it involves a collision between two key developmental features of adolescence—feeling left out at the time when fitting in with peers peaks in importance and potentially forming a negative opinion of one's self at the time when one's ethnic identity is developing. Overall, there is compelling evidence suggesting that discrimination from peers in school hinders African American student achievement both directly by limiting academic opportunities, and indirectly through effects on multiple dimensions of school engagement.

For both perceptions of racial fairness and peer discrimination, only behavioral and cognitive engagement mediated relationships predicting core GPA whereas all three dimensions of engagement mediated relationships predicting educational aspirations. This pattern is partially consistent with previous research documenting the importance of school participation (behavioral engagement) and self-regulated learning strategies (cognitive engagement) over and above that of the emotional dimension of school engagement for youths' academic performance (Wang & Eccles, 2011). In particular, Wang and Eccles (2011) used individual growth modeling to identify distinct trajectories of behavioral, emotional, and cognitive engagement during adolescence, and to examine the relationships between these pathways and the change in academic outcomes over time. Results indicated that the three school engagement dimensions contributed differently to academic outcomes over time such that behavioral and cognitive engagement were positively linked to GPA and educational aspirations whereas emotional engagement was only found to be linked with educational aspirations (Wang &

Eccles, 2011). It could be the case that for African American youth, the emotional dimension of school engagement serves a more integral role in terms of motivating students to pursue a higher degree (Eccles & Roeser, 2009). Also, although students may feel emotionally connected to school, if they are not actively participating in school or do not use self-regulation learning strategies, they are less likely to get very good grades. This finding also contradicts a number of studies which demonstrate that students' identification with school is related to academic performance (e.g., Voelkl, 1997). One hypothesis that can help explain this inconsistency is that school belonging has no direct association with academic achievement, and that its association operates indirectly through the effects of behavioral or cognitive engagement (Archambault, Janosz, Morizot, & Pagani, 2009). Future research examining the mediating effects of school engagement would provide a better understanding of these underlying processes.

Unexpectedly, no significant indirect effects of teacher discrimination on academic achievement through school engagement dimensions were found. This finding is surprising given the number of studies demonstrating the deleterious impact of discrimination by adults in school on African American youths' educational outcomes (Brown & Jones, 2004; Chavous et al., 2008; Dotterer et al., 2009; Neblett et al., 2006; Smalls et al., 2007; Wang, Willett, & Eccles, 2011). It may be that perceiving discrimination from teachers motivates youth to succeed to disprove stereotypes (Eccles et al, 2006). Alternatively, perceiving teacher discrimination may be associated with other processes not assessed in the current investigation.

Nonetheless, these results provide evidence that teacher and peer discrimination experiences function as distinctive risk factors for academic adjustment and in differing

ways (Chavous et al., 2008). Recent research on discrimination during adolescence has acknowledged the significance of knowing who the perceived perpetrators are and of examining multiple developmental domains (Benner & Graham, 2013). Findings from the current investigation suggest that discrimination from peers is a more powerful predictor than teacher discrimination, and might be so, given the importance of peer acceptance during adolescence. Thus, the current investigation contributes to the extant literature by providing some evidence that the mechanisms through which discrimination experiences affect African American youths' educational aspirations and academic performance may differ on the basis of the domains in which it is experienced within the broader school context. Overall, the current investigation provides an additional understanding about potential student responses to school-based race-related stressors by moving beyond general descriptions of societal racism and demonstrating the prevalence of racial-specific experiences with the school setting as well as how these experiences impact academic achievement outcomes by way of school engagement. Findings also provide compelling evidence that these racially unfair and discriminatory experiences, even when infrequent, can have a significant and negative effect on important academic outcomes.

5.5 Limitations and Future Directions

Although there are several strengths upon which the present study can build, future research should address some limitations of the present study. A strength was that the current investigation was able to use school-reported achievement data rather than self-reported grades or standardized test scores to connect school racial climate perceptions and engagement dimensions with objective criteria. However, both

perceptions of racial climate and school engagement measures were based on self-report. Researchers have typically used students' self-reports of school climate in order to focus on how students' themselves derive meaning from their own *perceptions* of the school learning environment. In fact, a growing number of studies have shown that students' perceptions of their school experiences are critical components in understanding their developmental outcomes (e.g., Roeser, Eccles, & Sameroff, 2000; Wang et al., 2010). However, the present data mainly relies upon self-report information from students to assess perceptions of the school environment and school engagement, which raises an important validity concern. Students may be influenced by social demands to answer in a socially desirable direction either about their own behavior or about their teachers' or peers' behavior, thus introducing bias into the results. For instance, students may report increased levels of emotional or cognitive engagement in order to be more socially desirable. Thus, the future use of multiple sources of information (teachers, principals, parents) and multiple methodologies (interviews, observations, surveys) can provide a more robust, valid method of identifying school racial climate effects and levels of school engagement (Roeser & Eccles, 1998).

In addition, the interpretation of mediating mechanisms is also limited by self-report data collected at one point in time. The interpretation of mediating mechanisms implies a temporal dimension suggesting that relationships between youths' perceptions of school racial climate, engagement and achievement are a process that unfolds over time. Although the existing literature led to the framing of the current investigation's conceptual model, I was unable to conclusively test this hypothesis with cross-sectional survey data. A more robust test of mediating mechanisms would utilize longitudinal data

to examine changes in students' perceptions of racial climate and these outcomes over time. Longitudinal models could also unravel whether school racial climate reciprocally influences school outcomes over time or whether the temporal sequence is from school climate to engagement to achievement outcomes. In addition, longitudinal studies will help to determine how behavioral, emotional and cognitive engagement evolves over time (e.g., Hughes, Kwok, Luo & Loyd, 2007). School engagement will likely mean something different or take different forms for adolescents at different stages through high school (Fredricks et al., 2004). Inquiry along these lines might identify that these dimensions of engagement relate with one another differently at certain ages for adolescents.

Another methodological limitation of this investigation was that the level of stress associated with youths' perceptions of racial climate was not captured. Not only are adolescents' racially-based experiences within the confines of school are important, but the extent to which negative perceptions of school racial climate cause some level of stress is also an important piece to this puzzle. Future investigations should seek to learn about the stress that adolescents might experience as a result of perceptions of a school climate that is racially unfair with increased race discrimination experiences, as well as how this stress contributes to school engagement and academic performance. Furthermore, little is known about the internal processes that produce distress in response to racially unfair and discriminatory environments among African American adolescent youth (Thompson Sanders, 2006). A number of researchers have proposed that there is variability within African Americans in terms of their functioning in response to daily hassles associated with racism (Clark, Anderson, Clark & Williams, 1999), and that

negative outcomes associated with racism-related stress may be mitigated with the use of adaptive coping strategies (Gaylord-Harden, Burrow & Cunningham, 2012). Future research should also consider how the use of racism-specific coping strategies in response to racism-related stress in the schooling context might mitigate negative academic outcomes among African American adolescent youth.

There are also some unique characteristics that may affect the generalizability of this investigation. First, for the current investigation, I was only able to sample youth in one school. This limitation meant that results from the current investigation may not generalize to other settings (e.g., suburban, urban, private, or parochial schools). Nevertheless, as I was interested in the individual level of analysis rather than comparisons between schools, my results still provide useful information about the significance of school racial climate perceptions in relation to African American adolescents' academic-related outcomes. Also, many of the adolescents in this sample were from predominately lower-middle and lower class backgrounds (74% of the sample was eligible for free or reduced lunch). It is possible that these examined relationships may look somewhat differently when students are from higher socioeconomic backgrounds. Furthermore, it is possible that the racial composition of the school could affect the generalizability of these findings. In particular, the high school from which these data were collected was comprised of a diverse student body (44% African American) which allowed for frequent intergroup contact. However, the high school had a low percentage of minority teachers (11%). It is possible that both the perceptions of school racial climate and the effects of these perceptions could have been different in schools with less or more minority presence in the student body and/or teaching staff.

In addition to those already discussed, there are some additional suggestions for future research. Although not a focal point of this study due to the small sample size, future research should examine the role that gender plays in the examined relationships. Research has indicated that one of the most widely discussed areas of gender disparities among African American males and females has been education (Noguera, 2003; Williams, Davis, Cribbs, Saunders, & Williams, 2002). Specifically, research suggests that academic differences between African American males and females begin early and persist through the entirety of their academic careers (Williams et al., 2002). For example, research has found that African American boys are more likely to have lower GPAs (e.g., Williams et al., 2002), more suspensions (e.g., Williams et al., 2002), and have lower expectations for future educational attainment (e.g., Wood, Kaplan, & McLoyd, 2007) when compared with their female counterparts. Although they continue to outperform their male counterparts in academic achievement (Garibaldi, 2007), studies have indicated that African American girls also have distinct school-related challenges which may have important implications for their school engagement and performance outcomes (Morris, 2007). Furthermore, findings from the current investigation indicate associations between gender, behavioral engagement and academic performance at the bivariate level. Taken together, it is evident that the social context of gender has complex effects on the educational outcomes of African American adolescents. With this in mind, future investigations should explore whether these mediating relationships vary by adolescent gender.

In addition, while this study focuses on the individual's perception of school climate and its relationship to school engagement and academic performance outcomes, it

is important not to lose sight of the fact that school racial climate likely also functions as a setting level variable. Given that this data came from only one school, it was not possible to view climate this way in this study. Future research should aim to address school racial climate from this perspective by drawing a larger sample of schools. Data analytic techniques such as hierarchical linear modeling (HLM) allow for both individual- and setting-level predictors to be examined simultaneously (Raudenbush & Bryk, 1992). Given that students are nested within schools, multi-level modeling can be utilized to examine the relationship between engagement and school outcomes (e.g., grades, standardized test scores, educational aspirations) and (a) individual level factors (i.e., perceptions of school racial climate); and (b) school factors (i.e., school climate for racial diversity and characteristics of the setting environment).

5.6 Implications and Conclusions

Despite some limitations, the results of this study have several important implications for educators and school practitioners who serve African American high school students. In particular, findings from the current investigation underscore the need for school-based prevention directed at school racial climate in high school. For teachers and administrators, this study reaffirms the importance of creating school environments that are supportive and encouraging, with particular attention to racialized dynamics of the schooling process (Wang, Brinkworth, & Eccles, 2013). Teacher training programs and school institutions would benefit from both acknowledging and actively safe guarding against racial biases in key elements of practice, including teacher expectations, course placements, discipline practices and student–teacher interactions (Conchas & Rodriguez, 2007). These prevention strategies would be particularly responsive to

African American adolescents' risk for disengagement from school. Teacher preparation programs should also educate teachers as to how discriminatory and non-inclusive behaviors and bias transpire in the classroom as well as suggest potential strategies for dealing with these issues (Ladson-Billings, 1995). Helping teachers to be made aware of their bias within the classroom certainly has implications for how students also perceive and behave toward African American students.

Finally, the students themselves need to understand the effects that any form of racial discrimination may have on their peers' schooling experience, and they should work individually and collectively to create social networks that are more open and accepting. To do so, students will need to be both conscientiousness and courageous in holding themselves and their peers accountable. In the end, the academic success of African American students will be determined in part by the collective response of parents, teachers, and students to racial discrimination in schools. Although findings from this study are important and perhaps empowering for educators as they inform as to what modifiable factors might be promotive of or serve as risks to African American youths' school engagement and achievement, other factors might be especially difficult to change. For example, school racial climate may be tied to the history of the community in which school exists (Goetz & Breneman,1988). In this case, a multi-level intervention approach addressing not only school factors but also community factors may be required.

Nonetheless, the current investigation complements and extends previous research on the complex processes by which characteristics of the school environment relate to school engagement and achievement outcomes among African American youth. Findings provide empirical evidence to support the notion that African American youths' race-

specific school experiences are an important contributor to their levels of school engagement. These results also suggest that school racial climate might be critical for African American adolescents' achievement outcomes because of its relationship with school engagement. Thus, in testing a mediational model, where the impact of school racial climate on achievement outcomes is channeled through school engagement, this investigation strengthens the ascertain that with proper school climate supports African American adolescents can experience enhanced engagement and achievement.

Also, with a thorough understanding of how positive elements of the school racial climate might serve as a protective factor against further disengagement problems, schools can establish effective prevention and learning environments to support African American adolescents' school engagement and academic adjustment. This investigation also provides a much needed evidence-based that helps policy-makers design appropriate policies targeted at African American adolescents' schooling experience. Overall, the current investigation reveals essential empirical knowledge about the experiences of African American students in schooling institutions and contributes to clarifying associations between their perceptions of school racial climate, engagement and educational outcomes.

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APPENDIX A – PRINCIPAL/SCHOOL STAFF MEMBER LETTERS OF SUPPORT

CAMDEN HIGH SCHOOL
1022 EHRENCLOU DRIVE
CAMDEN, SOUTH CAROLINA 29020
(803) 425-8930 (Phone)
(803) 424-2861 (Fax)

Daniel Matthews
Principal

Lesley Corner
Asst. Principal

Tylisa Hill
Asst. Principal

Accie Collins
Asst. Principal

September 28, 2012

To Whom It May Concern:

I am submitting this letter to affirm Camden High School's participation in the Youth Experiences in School Project (Y.E.S.) Project. Charity Brown Griffin, the principal investigator of the research study and a doctoral student in the School Psychology Program at the University of South Carolina, will be recruiting and administering surveys to 150 African American students during the 2012-2013 school year. Both recruitment and survey administration will take place at Camden High school with the assistance of school staff. Charity has the support of school administration.

Sincerely,

Daniel Matthews
Principal, Camden High School
Kershaw County School District
(803) 425-8930

CAMDEN HIGH SCHOOL

1022 EHRENCLOU DRIVE
CAMDEN, SOUTH CAROLINA 29020
(803) 425-8930 (Phone)
(803) 424-2861 (Fax)

Daniel Matthews
Principal

Lesley Corner
Asst. Principal

Tylisa Hill
Asst. Principal

Accie Collins
Asst. Principal

September 28, 2012

To Whom It May Concern:

I am submitting this letter to affirm Camden High School's participation in the Youth Experiences in School Project (Y.E.S.) Project. Charity Brown Griffin, the principal investigator of the research study and a doctoral student in the School Psychology Program at the University of South Carolina, will be recruiting and administering surveys to 150 African American students during the 2012-2013 school year. Both recruitment and survey administration will take place at Camden High school with my assistance and with the aid of other school staff.

Sincerely,

Zandra Jeffery-McFadden, MS, SSP, LPES, NCSP
School Psychologist, Camden High School
Kershaw County School District
(803) 425-8930

APPENDIX B – INSTITUTIONAL REVIEW BOARD LETTER OF APPROVAL

October 23, 2012 OFFICE OF RESEARCH COMPLIANCE

Ms. Charity Brown
College of Arts & Sciences
Department of Psychology
Barnwell 552
Columbia, SC 29208

Re: **Pro00020414**
Study Title: *Youth Experiences in School (Y.E.S.) Project: Exploring Relationships Among School Racial Climate, Racial Identity, Engagement and Academic Performance in a Sample of African American High School Students*

Dear Ms. Brown:

The referenced study was reviewed and approved by the University of South Carolina Institutional Review Board (IRB) by Expedited review on 10/19/2012 (category **7**).
Approval is for a one-year period from **10/19/2012 to 10/18/2013**. Approved consent document(s), if applicable, are located under the "Stamped ICF" tab on the Study Workspace screen in eIRB.

University of South Carolina Assurance number: FWA 00000404 / IRB Registration number: 00000204

PLEASE NOTE THE FOLLOWING APPROVAL CONDITIONS

- The research must be conducted according to the proposal/protocol that was approved by the IRB.
- Changes to the procedures, recruitment materials, or consent document must be approved by the IRB prior to implementation.
- *If applicable*, each subject should receive a copy of the approved, date stamped, consent document.
- It is the responsibility of the principal investigator to report promptly to the IRB:
  - Unanticipated problems and/or unexpected risks to subjects
  - Adverse events effecting the rights or welfare of any human subject participating in the project
- Research records, including signed consent documents, must be retained for at least three years after the termination of the last IRB approval.
- No subjects may be involved in any study procedure prior to the IRB approval date, or after the expiration date.For continuing research, an update of the study is required prior to the expiration date. The PI is responsible for initiating the Continuing Review process. At the time a study is terminated (closed) a final report should be submitted to the IRB.

The Office of Research Compliance is an administrative office that supports the USC Institutional Review Board. If you have questions, please contact Arlene McWhorter at arlenem@sc.edu or (803) 777-7095.
Sincerely,

Thomas A. Coggins
Director

cc: Shauna Cooper

APPENDIX C – STUDY INTRODUCTION LETTER TO PARENT

UNIVERSITY OF SOUTH CAROLINA

Youth Experiences in School (Y.E.S.) Project

Dear Parents:

Your child is invited to participate in a study exploring African American youths' experiences in school. My name is Charity Brown and I am a doctoral graduate student at the University of South Carolina, Department of Psychology. This study is for my dissertation work on exploring social experiences and school engagement among African American high school students. I am asking for permission for your child to participate in a survey at school because he/she is an African American high school student. We will be administering questionnaires to approximately 200 students.

If you allow your child to participate, your child will be asked to complete a survey at school lasting between 20 and 30 minutes. During this time, students will answer questions concerning perceptions of school fairness, feelings about school belonging, mental health, self-esteem, and their beliefs about the importance of doing well in school. Some example questions include "I feel happy and safe in this school"; "How often have you been involved in a physical fight?"; "I have been treated unfairly by a teacher or principal based on my race"; "I use alcohol or other drugs to make myself feel better" ; "I often learn a lot from my school work." All students will be told about the study before beginning. We will also tell them that they do not have to answer anything that they do not wish to answer and may stop at any time. **Each child will receive a small gift ($10 gift card) for their time and effort.**

We are also asking for permission to view your child's school records to obtain accurate grades and achievement test scores. We will only examine current year grades and scores. You and your child are free to decide whether or not he or she will be in the study. To get a better picture about students' lives, we would also like to know some demographic information about your family. On the second page, please indicate whether you agree to fill out the demographic questions by circling the appropriate response and filling out questions 1-5 on page 3 of the consent form.

Any information that is obtained in connection with this study and that can be identified with your child will remain confidential and will be disclosed only with your permission. His or her responses will not be linked to his or her name or your name in any written or verbal report of this research paper.

Please read the enclosed consent form carefully and feel free to ask any questions before deciding your child's participation. Afterward, sign the attached form and check the correct box to show whether or not you wish for your child to participate in this study. **Keep one copy of the consent form for your records, and return the other copy to us through your child (your child's guidance counselor or teacher will return it to us).** Thank you very much for your time and consideration!

Sincerely,

Charity Brown Griffin
Primary Researcher
803-777-6981
browncL9@email.sc.edu

Shauna M. Cooper
Assistant Professor
(803) 777-6859
smcooper@sc.edu

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APPENDIX D – PARENTAL CONSENT/CHILD ASSENT/ADULT CHILD CONSENT TO RESEARCH

Youths' Experiences in School (Y.E.S.) Project
Charity Brown Griffin, M.A., Principal Investigator
Consent Form

If the subject is under 18 years of age: The subject will be able to participate only if the parent or legal guardian provides permission and the adolescent (age 12-17) provides his/her assent. In statements below, the word "you" refers to your child who is being asked to participate in the study.

Dear Parent:

You are invited to participate in the **Youths' Experiences in School Project (Y.E.S.)** conducted by Charity Brown, a doctoral candidate in the Department of Psychology. This investigation is exploring African American youths' school-related experiences. Please read this form carefully and feel free to ask any questions before deciding whether you will participation in the Y.E.S. Project.

The Study. The purpose of our study is to explore social experiences and school engagement among African American high school students. In particular, the purpose of this study is to gain a better understanding of factors impacting African American youths' academic outcomes.

Description of Study Procedures. We will be administering survey questionnaires to approximately 150 adolescents. If you agree to participate, you will be asked to complete a survey in a small group session that will last between 20 and 30 minutes. Survey administration will take place at school at a location and time that is convenient for your class schedule and school personnel.

The survey will include questions about perceptions of school fairness, feelings about school belonging, mental health, self-esteem, and your beliefs about the importance of doing well in school. As some questions may be of the sensitive nature (e.g., ways that you cope with stress; perceptions of school fairness), all survey responses will be confidential and identification numbers rather than your name will be placed on the survey. However, we will keep a master list with ID numbers, names and grade/standardized test score data retrieved from the school if you grant us permission to access this information. This will only be available to the primary researchers and will be kept in a locked office. You will not have to answer anything that you do not wish to answer. After participation, you will receive a gift card to thank you for your time.

Risks of Participation. Despite steps that will be taken to protect your privacy, a potential risk is breach of confidentiality. However, only the researcher will have access to the data collected. Also, given the sensitive nature of some of our questions (e.g., ways that you cope with stress, perceptions of school fairness), some questions may be mildly uncomfortable. However, to reduce any possible stress from completing this questionnaire, you will not have to answer anything that you do not wish to answer and may stop at any time.
Benefits of Participation. Although there are no direct benefits of participation in this study, the information gathered from this study lends insight into factors impacting African American youths' school experiences.

Payments. You will receive a $10 gift card for participating in this investigation on site at the time of participation.

Confidentiality of Records. To protect privacy during the group survey administration, students will be seated in a way that classmates cannot see what others write. Additionally, to protect your privacy, we use identification numbers rather than names on the surveys that you will fill out. We will keep a master list with ID numbers, names and grades/standardized test scores (if you grant us permission), but this will only be available to the primary researchers and will be kept in a location separate from the data. All information will be stored in a locked office in the Psychology Department. In any reports of this research, no individual responses from you will be reported.

Voluntary Participation: Participation in this study is voluntary and there is no penalty for not participating. You are free not to participate or to withdraw at any time without penalty. In the event that you do withdraw from this study, the information you have already provided will be kept in a confidential manner. Participation is not related to your regular course work and participation or withdrawal will have no impact on grades.

Contact Information. If you have any additional questions about participation in the Y.E.S. Project, please contact Charity Brown, Department of Psychology, 552 Barnwell College, Columbia, SC, 29208 (browncL9@email.sc.edu; 803-777-6981). If you have any questions about your rights as a participant in the Y.E.S. project, you may contact Thomas Coggins (Ph: 803-777-7095), Office of Research Compliance, University of South Carolina, Columbia, SC 29208. Please sign the attached form and check the correct box to show whether or not you wish to participate in this study. Keep one copy of this letter for your records. Thank you very much for your time and consideration!

I have read (or have had read to me) the contents of this consent form. My signature indicates that I agree to allow my child to be in this study and have been told that my child will be allowed to withdraw from this study at any time. I have been given a copy of this consent form for future reference.

☐ I **DO** give permission to participate in this study by filling out the demographic questions below.
☐ I **DO NOT** give permission to participate in this study by filling out the demographic questions below.

AND

☐ **I DO** give permission for my child to participate in the Y.E.S. Project as described above
☐ I **DO NOT** give permission for my child to participate in the Y.E.S. Project as described above.

AND

☐ I **DO** give the researchers permission to access my child's school records (grades and end-of-course test scores).
☐ I **DO NOT** give the researchers permission to access my child's school records (grades and end-of-course test scores).

_____
Signature of Adult Participant Date

_____
*Name of Minor Child Participant (please print)

_____
Signature of Parent or Guardian (if applicable) Date

_____
Signature of Investigator Date

*For Minors 13-17 years of age: "My participation has been explained to me, and all of my questions have been answered. I am willing to participate."

Signature: _____ Age: _____ Date: _____

To get a better picture about students' lives, we would like to know more about your family.

1. Please complete the highest level of education completed (check one):

	Mother	Father
Less than High School		
High school diploma or equivalent		
High school diploma and additional schooling		
Associate Degree		
Bachelor Degree		
Graduate School/Professional Degree		

2. Racial/Ethnic Background of Parents (check one):

	Mother	Father	Child
African-American/Black non- Hispanic			
White/ Caucasian non- Hispanic			
Hispanic/Latino			
Asian/Asian-American			
Bi/Multi-Racial (fill-in racial groups)			
Other (please specify)			

3. Your Marital Status: (check one)

Never Married_____ Divorced_____

Married_____ Widowed_____

4. How many adults _____ and children _____ are present in the home? _____

5. Does your child receive free or reduced lunch? (check one) Yes_____ No_____

Please be sure to return this page along with the completed consent form.

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APPENDIX E – SUMMARY OF STUDY VARIABLES AND MEASURES

Variable	Summary/Measure	Scale Items (if applicable)

Background Variables

Age: A continuous variable indicating age of respondent.

Gender: A dummy-coded variable indicating gender of respondent.
(0 = female; 1 = male)

Socioeconomic Status: A dummy-coded variable indicating if student receives free or reduced lunch.
(1 = yes; 2 = no)

School Racial Climate

Racial Fairness: A 5-point scale (1 = *Strongly Disagree* to 5 = *Strongly Agree*) measuring students' perceptions that all students are treated fairly.

Todd, Rasmussen, Meinrath, & Mattison (2007)

1. "All students are treated well in my school, even if their grades are good or bad."
2. "All students are treated well at my school, even if they are rich or poor."
3. "Black students are treated fairly at my school."
4. "The Kershaw County School District treats students of all races fairly."
5. "My teachers treat students of all races fairly."
6. "My school treats students of all races fairly."

Teacher Discrimination: A 5-point scale (1 = *Never* to 5 = *Each Day*) measuring experiences of race-based discrimination in class settings by teachers.

Wong, Eccles & Sameroff (2003)

At school, how often do you feel…
1. …like teachers call on your less often than they call on other kids because of your race?
2. …teachers grade you harder than they grade other kids because of your race?
3. …like you get disciplined more harshly by teachers than other kids because of your race?
4. …that teachers think you are less smart than you really are because of your race?
5. …that teachers/counselors discourage you from taking certain classes because of your race?

Peer Discrimination: A 5-point scale (1 = *Never* to 5 = *Each Day*) measuring negative treatment by peers due to race.

Wong, Eccles & Sameroff (2003)

At school, how often do you feel…
1. …that you got into fights because of your race?
2. …you were not associated with because of your race?

…were not picked for particular teams or activities because of your race?

School Engagement

Behavioral Engagement: A 5-point scale (1 = *Almost Never* to 5 = *Almost Always*) measuring students' attentiveness to academic tasks and compliance with school and classroom rules.

1. Wang, Willett & Eccles (2011) How often do you have trouble paying attention in classes?*
2. How often do you get schoolwork done on time?
3. How often do you find that it is hard for you to keep your mind on your work in school?*
4. How often have you hit someone for what they said/did?*
5. How often have you been involved in a physical fight?*
6. How often have you been sent to the office?*
7. How often have you skipped class?*

Emotional Engagement: A 5-point scale (1 = *Strongly Disagree* to 5 = *Strongly Agree*) measuring students' school belonging and valuing of education.

Wang, Willett & Eccles (2011)

1. I feel happy and safe in this school.
2. I would recommend to other kids that they go to my school.
3. In general, I feel like a real part in this school.
4. I have to do well in school if I want to be a success in life.*
5. Schooling is not so important for kids like me.*
6. I learn more useful things from my friends and relatives than I learn in school.*
7. Getting good education is the best way to get ahead in life for the kids in my neighborhood.
8. I often learn a lot from my school work.

Cognitive Engagement: A 5-point scale (1 = *Almost Never* to 5 = *Almost Always*) measuring students' cognitive strategy use and self-regulated learning.

Wang, Willett & Eccles (2011)

1. When you are doing homework or school work, how often do you try to decide what you are supposed to learn, rather than just read the material?
2. How often do you try to relate what you are studying to other things you know about?
3. How often do you try to plan what you have to do for homework before you get started?
4. How often do you make sure you get started on homework early?
5. How often do you try to figure out problems and planning how to solve them?
6. How often do you try to carry out the plans you make for solving problems?
7. How often do you try to bounce back quickly from bad experiences?
8. How often do you try to learn from your mistakes?

(α = .79)

Educational Aspirations: One item assessing students' aspirations about how far they want to go in school. This question is rated along a 10-point scale, ranging from 9th grade to get a law degree, a Ph.D., or a medical doctor's degree.

"If you could do exactly what you wanted, how far would you like to go in school?"

Core Class Grade Point Average: Core GPA represents the average of grades in core academic classes (e.g., English, math, science, and social studies), exclusive of any elective course classroom grades. Core GPAs were retrieved from school record data and are reported on a 0.0 – 4.0 scale.

Standardized Test Scores: End-of-Course Examination Program (EOCEP) test scores in math and English were retrieved from school record data. Scores range from 0.00 – 100.00