Student Perceptions of Racial Climate in Secondary Education: Effects of Climate's Multiple Dimensions on Academic Achievement and Motivation

by

Christy M. Byrd

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Doctoral Committee:

Associate Professor Tabbye M. Chavous, Chair
Professor Percy Bates Jr.
Professor Stephanie J. Rowley
Professor Robert M. Sellers

Dedication

To my mom

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Abstract

School racial climate refers to norms, curricula, and interactions around race and diversity within the school context and can be examined from a variety of perspectives. In the current study, school racial climate is defined as students' subjective experience of the school setting. Existing research shows benefits to student outcomes when they perceive positive interracial interaction and celebration of diversity (e.g., Brand et al., 2003). However, the existing literature has many conceptual and methodological concerns, including being narrowly focused and excluding certain populations.

The dissertation had three goals: 1) to introduce a conceptual framework for examining students' perceptions of school racial climate as a multidimensional construct, 2) to establish the factor structure of a measure based on the theorized dimensions, and 3) to explore how perceptions of school racial climate are associated with academic outcomes.

First, the conceptual framework was based on literature in multicultural education and psychology and included nine dimensions: frequency of interaction, quality of interaction, equal status, support for diversity, cultural socialization, preparation for a racist society, individualism, colorblindness, and stereotypical perceptions. A survey was created to measure each dimension and was administered to a sample of 99 middle and high school students at a predominantly African American public charter school. The participants also completed measures of their demographic characteristics, academic motivation, and racial attitudes. Grade point averages were obtained from school records.

Second, the factor structure of the measure was explored and found to be consistent with the theoretical framework. Third, a path analysis was used to examine the relationships between school racial climate and academic outcomes. Findings revealed that students who perceived positive interracial interactions reported greater feelings of belonging. Additionally, students who reported hearing more messages about ignoring race (colorblindness) reported lower academic self-concepts, while those who reported hearing more messages about overcoming racial barriers reported higher academic self-concepts. Feelings of belonging were associated with greater interest in school and a higher academic self-concept was associated with a better GPA. Overall, the dissertation demonstrated the utility of a multidimensional approach to school racial climate and the importance of climate for adolescents' motivation and achievement.

Chapter 1: Introduction

The History of Race in the U.S.

The history of race in the United States is troubled. Even before the official founding of the nation, residents of the Americas faced conflicts over the rights of people of all races to live and work freely. The American colonies were founded and expanded at the expense of the lands and lives of indigenous peoples. Millions of African people were imported to American shores as slaves to support the growing economic power. Even as the founders of the nation proclaimed that "all men are created equal", the document they drafted denied the basic rights of a significant portion of the population. As the nation continued to grow, laws limiting immigration sought to define the national character as White and Northern European while segregation maintained internal boundaries. Gradually, movements for civil rights abolished legal segregation and legislatively guaranteed basic rights for individuals of any race.

Though all are now created equal under the law, not all citizens of the United States live and work freely. People of color face inequities in nearly every arena of life, from housing to employment to the justice system. According to a recent report (Sullivan, Mwangi, Miller, Muhammad, & Harris, 2012), the median family income of Black and Latino families is less than 60% of White families, while the poverty rate of Blacks and Latinos is double that of Whites. People of color make up 65% of the prison population despite being just 35% of the general population. In education (Farkas, 2003), African American, Latino, and Native American children begin school less prepared than White

and Asian children and learn less every year of school. Minority students are also more likely to attend under-resourced and lower performing schools than White students. Eventually, some youth leave school, and those who do are disproportionately students of color. In 2009, the dropout rate for African Americans was nearly twice that of Whites; the dropout rate for Latinos was more than three times the rate of Whites (National Center for Education Statistics, 2009). Asian students, on the other hand, were the most likely to remain in school, with a dropout rate of just 3.4%. The disparities persist through postsecondary education. For example, the proportion of African American adults (age 25-29) who had completed a bachelor's degree in 2010 was half that of White adults ("The Condition of Education 2010," 2010).

Statistics on the economic and educational status of different racial groups do little to illustrate the psychological costs of institutional and interpersonal discrimination, particularly to minorities. The majority of African American adults report experiencing racial discrimination at least once in their lifetimes, and racial discrimination is proposed as a reason for disparities in health outcomes between African Americans and Whites (Kessler, Mickelson, & Williams, 1999). Discrimination even accounts for disparities in children's and adolescents' mental health and psychological well-being (Pachter & Coll, 2009). In schools, students of color face discrimination from teachers, leaders, and peers, also to the detriment of their well-being (e.g., Huynh & Fuligni, 2010; Wong, Eccles, & Sameroff, 2003). Discrimination at school can have particularly damaging consequences because it can lead to disengagement with academics and feelings of alienation from others (Steele, 1997). With a lack of motivation or connection to school, youth may drop out or otherwise fail to achieve the credentials needed to transition into employment and

productivity. All students face challenges in learning new subject matter and developing interpersonal relationships, but students of color face an additional penalty because of their racial group membership. Some youth are successful despite the challenges of fewer resources and greater bias compared to Whites, but those youth enter an adult world where their race continues to be a predictor of opportunity.

Racism is costly to the dominant group, Whites, in a number of ways as well. The costs are cognitive, social, and behavioral, and include a distorted understanding of history, a distorted sense of danger, and loss of potential relationships (Spanierman & Heppner, 2004). For example, because of pervasive stereotypes of men of color as dangerous, White individuals can experience irrational fears about being in spaces with men of color. Even White individuals who actively work for equity may feel guilt and shame when thinking about their privilege. In terms of behaviors and relationships, some Whites may avoid relationships with people of color, while Whites who do have relationships with people of color may be ostracized by other Whites. In sum, no one is spared from the damaging effects of prejudice and inequity.

The Present and Future of Race

In response to the nation's troubled history with race, a number of perspectives have emerged to determine with what should be done to address past injustices and ensure an equitable future. The nation is growing in racial diversity, so questions of race are sure to continue to dominate the national discourse for many decades to come. These perspectives have implications for both institutional racism and intergroup relations. One perspective is the colorblind or race-neutral perspective, which insists that institutional discrimination is no longer a concern for people of color and therefore race should not be

considered in any area of life except personal taste (e.g., music, clothing; Gallagher, 2003). In this perspective, any current inequalities are the result of personal or cultural deficiencies, and to address the inequities with race-conscious policies is racist against Whites. At the level of interpersonal relationships, friendships and other relationships, such as business associates, should be developed without reference to race, even if that results in racially homogenous networks. This rhetoric and the idea that the U.S. in "post-racial" was heightened after the election of the first Black president. Though it appeals to principles of equality and fairness, colorblindness maintains racial hierarchies by invalidating any resistance to existing societal structures that advantage Whites (Gallagher, 2003).

An alternative perspective to addressing the question of race in society is the multicultural perspective, which recognizes and celebrates group difference. Multiculturalism can take a variety of forms with different implications for existing power structures (Ladson-Billings, 2004; Plaut, 2010). For example, multiculturalism that merely highlights the different foods and traditions of cultures may leave structural inequities untouched, and may actually perpetuate marginalization by reinforcing stereotypes and group boundaries (Plaut, 2010). Multiculturalism also has the potential to alienate Whites when they do not see their group as included (Plaut, Garnett, Buffardi, & Sanchez-Burks, 2011). Yet some forms of multiculturalism critique power structures that disadvantage people of color while remaining inclusive to Whites. By recognizing and valuing the experiences and culture of minorities, multiculturalism removes the superiority and privilege associated with Whiteness, which expands opportunity. By calling on individuals to recognize their biases, multiculturalism can reduce stereotyping

that leads to discrimination in employment, housing, and other areas of life. Multiculturalism can also prompt individuals to intentionally seek out relationships with diverse others and to ensure that they pay attention to issues of culture and difference in their interactions with others. Still, multiculturalism faces challenges from theoretical uncertainty and public opposition (Plaut, 2010). Despite these challenges, multiculturalism has the potential to remake the nation into one of truly equal opportunity.

The two perspectives of colorblindness and multiculturalism also play out in schools as educators attempt to promote the academic success of all students. In the 1950s, *Brown vs. the Board of Education* mandated desegregation of public schools. Yet schools are more segregated now than the decades after the decision and the Civil Rights Movement (Orfield, 2009). In 2009, 85% of White public school students attended schools that were less than 50% non-White. The trend for Black students was the opposite-71% attended schools that were *more* than 50% non-White (National Center for Education Statistics, 2009). Despite the segregation, school districts employing a colorblind approach refuse to enforce desegregation policies such as busing or school assignment with the claim that "race should not matter" (Plaut, 2010). Colorblindness enters the curriculum, as well. In one school, teachers were so effective at not mentioning race that students were surprised to find out the Martin Luther King, Jr., was Black (Schofield, 2006). Many schools have embraced limited forms of multiculturalism and include activities such as cultural festivals and the celebration of Black History Month. These activities are designed to help students form positive relationships across race by appreciating each others' culture in addition to learning about other cultures. Other

schools, and particularly colleges and universities, have attempted to approach multiculturalism more critically with programs and courses that help students to understand oppression and reduce their prejudice (Dessel, 2010; Nagda, Gurin, Sorensen, Gurin-Sands, & Osuna, 2009), which has implications both for students' understanding of institutional oppression and their own interactions and relationships. In the U.S., education is just as entangled in the politics of race as the rest of society.

It is important to consider how schools negotiate racial difference and support positive interactions across race because of the essential role schools play in preparing youth for adult success. Students, of course, are primary stakeholders in this process, yet the perspectives of students, even the oldest ones, are sometimes unheard (M. Hughes, Anderson, Cannon, Perez, & Moore, 1998). Even in exploring students' beliefs about race in relation to their achievement motivation and school engagement, their views of the school itself is often excluded. More often, the perspective of students is sought about perceptions of societal barriers with less attention to more local contexts. For example, one of the most popular ecological theories used to explain African American underachievement posits that members of groups that involuntarily immigrated to the U.S., such as African Americans, form an oppositional culture as a result of observing barriers to their success in mainstream society (Fordham & Ogbu, 1986). Along with neighborhoods, schools are a much more proximal source of barriers (and resources) present in the lives of youth. Local contexts can have a more immediate impact on youths' development and school engagement than youths' abstract values or views of barriers that exist at the structural level (Coll et al., 1996; Mickelson, 1990). In short, understanding the features of school contexts that convey messages to students about race

as well as students' understandings of those contexts will help school address racial difference and race relations in productive ways. Schools might then serve as a model for helping the nation to move forward in reconciling a troubled history.

The Need for Research on Racial Climate in Schools

Research on interactions, norms, and curricula within schools can help describe salient features of the school context and inform how schools can promote the academic and psychological success of students. The ways schools are organized, the material and instruction offered, the types of interactions and relationships, and the common expectations and values within schools are referred to as *school climate* (Cohen, McCabe, Michelli, & Pickeral, 2009). When these elements refer to race or culture is, they are known as *school racial climate* (Chavous, 2005). Usually, and in the current study, researchers examine how the school climate or school racial climate is experienced by school members. School climate research can help educators understand what aspects of the school environment are most relevant to youth outcomes as well as how they are relevant—the processes through which they affect achievement and development.

Types of racial climate research. The current literature on school racial climate covers a number of areas. Some focus specifically on one racial group, seeking to explain their outcomes as a function of specific features of the environment. Often, these features are assumed to be most salient or impactful for that particular group (though other features of the climate may also have effects). For example, research on African American youth may focus on unfair treatment (Dotterer, McHale, & Crouter, 2009) or microaggressions (Solorzano, Ceja, & Yosso, 2000), while research with Asian American youth explores their reaction to model minority stereotypes (Marinari, 2006; Tran &

Birman, 2010). Other research seeks to compare racial groups, either exploring mean level differences in climate or using mean differences in perceptions to explain differences in outcomes. For example, much literature has documented race differences in perceptions of negative climates in colleges and universities (M. Hughes et al., 1998; Hurtado, 1992; V. D. Johnson, 2003; Johnson-Durgans, 1994; Kotori & Malaney, 2003; Mattison & Aber, 2007; Pewewardy & Frey, 2002, 2004). Research has also shown the differential effects of school climate on White and Black students (Chavous, 2005; Green, Adams, & Turner, 1988; Mattison & Aber, 2007). A third strand of research seeks to provide descriptive information on the nature of schools, such as how colorblindness is represented in the curriculum and patterns of interactions (e.g., Gusa, 2010; Lewis & Bluebond-Langner, 2003; Schofield, 2006), and how teachers engage with multicultural education (e.g., de Waal-Lucas, 2006; Greenman & Kimmel, 1995; Schoorman & Bogotch, 2010) or culturally relevant pedagogy (e.g., Howard, 2001; Ladson-Billings, 1995; Young, 2010).

In my literature review, I will focus primarily on studies explaining the effects of school racial climate on outcomes. Research in this area shows the importance of a school racial climate that includes positive interactions between people of different races and positive messages about diversity and youths' cultures (e.g., Brand, Felner, Shim, Seitsinger, & Dumas, 2003; Dotterer et al., 2009; Green et al., 1988; Tan, 1999). Additionally, a large literature on discrimination suggests the negative impact of unfair treatment and racial slights on students of all races, but particularly youth of color (e.g., Dotterer et al., 2009; Fisher, Wallace, & Fenton, 2000; Huynh & Fuligni, 2010; Mattison & Aber, 2007; Wong et al., 2003). Less research, however, provides clear and explicit

descriptions of the processes through which the racial environment of a school impacts student outcomes. Stereotype threat theory (J. L. Smith, 2004; Steele, 1997) and theories of prejudice reduction (Paluck & Green, 2009) are examples of theories that attempt to describe these processes. For example, stereotype threat theory suggests that race-related cues in the environment can activate domain-relevant stereotypes about one's group that can impair performance even when one does not endorse the stereotype. The current study seeks to identify how school racial climate is associated with outcomes and some potential mechanisms.

One consideration is that few studies of school racial climate conceptually distinguish multiple features of a school's racial climate and how particular dimensions may relate to different student outcomes. Consequently, researchers describing the effects of a "positive" or "negative" racial climate may be discussing different racial climate constructs that may in reality show relationships with student outcomes through different processes. Thus, a related second consideration is that even within research exploring the effects of school racial climate and school climate in general, there are a variety of ways to conceptualize and measure climate. Studies can focus on many different areas of a school's the climate that can produce student outcomes in different ways. Additionally, some studies focus on observable characteristics while other studies employ a subjective perspective. Both types of features provide useful information but require different assumptions and have different implications for the interpretation of their reports. For instance, the objective racial composition of a school can inform as to the possible structural opportunities for students to engage in intergroup interaction at school. However, individuals' perceptions of opportunities for intergroup interactions may relate

both to structural/demographic features (e.g., school racial composition) and to perceived social norms and values around intergroup interactions. Studies can also have different individuals reporting on their subjective perceptions of the school (e.g., teachers, students, parents) with different implications. For example, teachers may report on how much the administration provides support, or parents may describe their perceptions of how much achievement is valued in the school. In the next chapter, I will discuss more in-depth these approaches and explain my approach to studying school racial climate.

Because most racial climate research focuses on intergroup relations, most studies of school racial climate, at the K-12 and college level, include samples from schools that are predominantly White or racially mixed. A third consideration is that intergroup interactions are also salient in contexts that are predominantly non-White, regardless of the number of groups, because the majority of teachers and professors in U.S. schools are White (Institute of Education Sciences, n.d.; National Center for Education Statistics, 2009), as are most administrators. This means youth will still engage in intergroup interactions, though fewer of those interactions are with peers. Also, while many colleges are predominantly White, youth in the United States are very likely to attend segregated public schools (Orfield, 2009), so studying these contexts would represent the experiences of most elementary and secondary youth. A focus beyond intergroup relations to how race is represented in the curriculum is also more relevant in majority minority schools than for predominantly White schools. First, schools that are predominantly one race may have a special mission and values to pass on to their students, as many historically Black colleges and universities, for example, do. Second, U.S. mainstream values and attitudes may be just as present in majority minority schools

as they are in predominantly White schools. That is, negative stereotypes about Black people may be just as pervasive in a school with all Black students and all Black teachers as a school that is majority White. Of course, majority minority schools can vary widely with respect to racial representation, and questions of immigration status and socioeconomic status mean that the context can be very complex in terms of racial dynamics. Therefore, it is important to understand the nature of race in these settings as well as predominantly White settings to better inform research, policy, and practice.

School racial climate in adolescence. The current study examines students' perceptions of their school racial climate among youth in early to mid-adolescence. This focus was based in my interest in understanding how variation in youths' experiences of race in their school contexts related to their subsequent responses to the context. Adolescence is a time of intense identity and socioemotional development (Steinberg & Morris, 2001). It is also a period when youth are able to understand the implications of their racial group membership in new ways: Children can identify racial groups from as young as two or three years old and can make attributions to discrimination by age six (C. S. Brown & Bigler, 2005). By middle school, most youth are knowledgeable about societal stereotypes and can interpret others' actions as discriminatory based on those stereotypes (McKown & Strambler, 2009). But cognitive changes in adolescence, such as the development of formal operational reasoning, can help youth to interpret their experiences as part of institutional discrimination and larger social inequities, not just interpersonal conflict (C. S. Brown & Bigler, 2005; Seaton, 2009). Nevertheless, younger adolescents may not have the life experiences or knowledge of history that older adolescents in college or adults may have. Therefore, it is important to consider this

developmental period as distinct from other times in youths' lives. Unfortunately, research on school racial climate has focused more on college students than younger adolescents (Mattison & Aber, 2007). A greater body of research examining general school climate does include children and adolescents (primarily in secondary levels), but many of these studies do not explicitly examine racial interactions or teaching about race and culture (e.g., Zullig, Koopman, Patton, & Ubbes, 2010). Alternatively, the studies may have school climate subscales related to race or diversity made up of items that conflate multiple climate dimensions (e.g., single subscales with items examining intergroup interactions, racial tensions, and multicultural pluralism) (e.g., Brand et al., 2003; Cohen et al., 2009). Finally, these studies often focus on comparing climate perceptions across racial groups rather than within groups (e.g., Johnson-Durgans, 1994), so are not helpful in understanding how climate affects adolescent outcomes.

The growing body of research on racial minority adolescents' experiences of personal 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. Several recent studies with younger African American adolescents examines personal racial discrimination (e.g., Chavous, Rivas-Drake, Smalls, Griffin, & Cogburn, 2008; Neblett, Philip, Cogburn, & Sellers, 2006; Sellers, Copeland-Linder, Martin, & Lewis, 2006; Wong et al., 2003), and show its deleterious impact on social, psychological, and academic outcomes. Furthermore, studies indicate that a significant amount of the discrimination adolescents experience occurs at school (e.g., Chavous et al., 2008; Fisher et al., 2000)

While personal racial discrimination is an impactful experience, when exploring discrimination or negative intergroup interactions in schools, researchers often commit two errors: First, they assume that an individual's experience with discrimination is largely or completely indicative of the context; second, they fail to consider how representation of diverse cultures or the presence of a colorblind ideology can also affect students. Unfair treatment experienced by an individual does not necessarily indicate more general racial bias in the context (or that the student will perceive a general bias). That is, students' experiences of being discriminated against might be perceived as a result of the students' racial group being lower status in the setting. Alternatively, students who are discriminated against may not perceive their treatment as representative of the treatment of their group. Furthermore, unfair treatment is separate from the ideologies around race in the setting, represented in school values and/or curriculum (although unfair treatment can be caused by these ideologies). Studies that do focus on how race is represented in the curriculum (e.g., de Waal-Lucas, 2006; Greenman & Kimmel, 1995; Lewis & Bluebond-Langner, 2003) often do not include students' perceptions of the curriculum or do not consider the effects on a diverse range of outcomes (i.e., academic outcomes rather than prejudice). Finally, rarely are interactions and curricula considered simultaneously.

Another characteristic of existing research on younger adolescents is that it does not systematically examine different features of the racial climate separately. For example, researchers may design an intervention based on a particular theory but will not measure how well different components of the program conform to the theory (Paluck & Green, 2009). A related concern is that researchers may measure specific features of the

climate but combine those items into one scale or latent variable (e.g., Brand et al., 2003; Chang & Le, 2010; e.g., Green et al., 1988; Johnston, Swim, Saltsman, Deater-Deckard, & Petrill, 2007). This is also a concern of the literature on school racial climate more generally.

Dissertation Goals

The purpose of this dissertation research is to understand how adolescents make sense of race in their schools through the examination of their perceptions of their school racial climate. The current study is an initial step in developing a multidimensional framework for studying students' racial climate perceptions. In this study, I explore adolescents' perceptions of different dimensions of their school racial climate and examine how particular dimensions of climate were associated with adolescents' academic outcomes. The study has several specific aims:

First, I introduce a conceptual framework for examining students' perceptions of school racial climate as a multidimensional construct. I provide a conceptual rationale and support for the utility of considering students' perceptions of school racial climate as a valid indicator of climate and important predictor of individual differences in school outcomes. Also, I describe a racial climate framework that distinguishes the aspects of climate that involve norms around intergroup contact (interpersonal interactions) and those involving formal and informal curricular messages youth receive around the meaning of race (perceived curriculum). Within the interpersonal interactions domain are dimensions describing the frequency and quality of interactions across race as well as indicators of whether different racial groups are similarly positioned in the school. Within the perceived curriculum domain are perceived norms and messages about

multiculturalism and the role of race in society as well as perceptions of stereotypes held by school members.

Second, I sought to establish the factor structure of a developed measure of racial climate perceptions based on the scope and content of the theorized dimensions, using exploratory and confirmatory factor analyses.

Third, I considered different mechanisms through which racial climate perceptions may affect adolescent academic adjustment. In this dissertation I draw on self-determination theory (Deci & Ryan, 2008; Ryan & Deci, 2009) which emphasizes the importance of settings that support individuals' experience of competence and relatedness in fostering autonomous motivation in the settings. Thus I examined how variables within the interpersonal interactions and perceived curriculum domains related directly to variables representing competence and relatedness (academic self-concept and school belonging). I also examined whether variables in the two domains related indirectly to school motivation and achievement through their effects on academic self-concept and school belonging.

Contributions

This study adds to the literature on school and racial climate in a number of ways. First, I expand the literature on adolescents' perceptions of school racial climate and the effects thereof by including a sample of middle and high school students. Second, I will separately consider multiple dimensions of school racial climate, including features of racial interactions and the curriculum around race and diversity (including subtle or implicit messages). Finally, my sample is drawn from a predominantly one-race school,

which will add to the literature on intergroup relations in different types of settings and allow me to focus on within-group variation in a minority population.

Chapter 2: Literature Review

In this chapter, I begin by describing the assumptions behind my definition of racial climate and its relevance in relation to my research questions and interests. Then I present my study framework for examining racial climate perceptions, including a discussion of the literatures and frameworks on which I draw in developing my framework. I conclude by outlining my specific research questions and hypotheses.

School Climate Defined

In considering the nature of school racial climate, we must first consider the nature of school climate in general. Climate is a broad construct that includes physical aspects, the patterns of social relationships, and the organizational members' belief systems and shared meanings (Anderson, 1982). Researchers define *school climate* as the sum of practices, norms, values, structures, and relationships that take place in schools (Cohen et al., 2009). In short, climate can include all aspects of a school's environment. The climate of a school can be thought of as the school's "personality", something that is unique to it and endures over time. Additionally, as a human's personality can affect his or her outcomes, the personality of a school can affect school-level outcomes such as average achievement level or satisfaction of staff. These school-level outcomes are the result of the climate's impact on each individual person involved with the school (students, teachers, administrators, even parents). Therefore, though climate reflects a school as a whole, it also reflects many individual experiences.

The systematic study of school climate dates to 1950's organizational research (Cohen et al., 2009; Zullig et al., 2010). Early organizational researchers recognized that individuals' environments affected their behaviors and thus began to explore ways to conceptualize and measure the environments of institutions, including workplaces and schools (Glick, 1985). There are three approaches to school climate that focus on different aspects of schools (Griffith, 1997): First, the *effective schools* approach addresses climate at the level of the whole school. Just as researchers might compare two individuals on personality and how well they function based on their personalities, the effective schools approach compares schools to distinguish characteristics that distinguish effective and ineffective schools. Second, the *organizational climate* approach is interested in individual school members. This approach considers both how the overall climate affects an individual and how individuals might differ in their perceptions of and response to the climate. Third, the *school culture approach*, like the effective schools approach, focuses on the school as a whole. This approach does not necessarily compare schools to each other but rather seeks to describe the personality of a school, particularly in terms of the collective norms, values, and ideologies of school members (Van Houtte, 2005).

Early studies of school climate were characterized by the effective schools approach, which focused on observable, objective features of schools (Zullig et al., 2010). Objective features include the racial composition of a school, the average socioeconomic status, or the assigned curriculum. Objective features can also be measured by other unbiased indicators of the entire school, such as trained observers' ratings of building quality. The other two approaches consider what can be called the

psychological experience of a school. The psychological experience refers to individual perceptions of or experiences with the school environment. The psychological experience of a school differs from objective characteristics because each individual will have a unique perspective and set of experiences within the setting (Griffith, 1997). Therefore, the degree to which individuals will share perceptions can vary. The experience of a school can be directly tied to objective characteristics—for example, students at a school with too few classrooms may perceive the school as crowded. Experiences can also be indirectly tied to objective characteristics—for example, students at a racially diverse school may perceive racial conflict that students at a non-diverse school may not experience. Some experiences may not be tied to objective characteristics at all. For example, poor teacher-student relationships can exist in any school and may not be caused or predicted by features such as the percentage of teachers with terminal degrees, the curriculum, or administrative policies. In short, the psychological experience of a school is a function of both objective features of the school as well as individual characteristics and experiences brought to the setting—a product of the person and the environment (Cohen et al., 2009). Though each approach conceptualizes climate in a different way, all attempt to describe the whole school's "personality" and the implications for the school and its members.

Dimensions of climate. Many factors shape a school's climate. For example, Cohen and colleagues (Cohen et al., 2009) identify four dimensions: safety, teaching and learning, interpersonal relationships, and environmental-structural. Safety refers to both physical and socio-emotional protection from risk, for example, having a crisis plan, having policies against bullying, and students' ability to resolve conflicts. Teaching and

learning include the school's curriculum—the learning objectives, materials and methods used—as well as teacher professional development and school leadership. Relationships includes the ways individuals interact with and connect to each other and their feelings about their connections (e.g., staff feeling appreciated). Finally, environmental-structural aspects include the size of the building, cleanliness, and other physical characteristics. Though researchers vary on the exact dimensions included in any framework, school climate researchers generally view climate from a multidimensional perspective (Anderson, 1982).

The importance of climate. Many theories in education and psychology acknowledge the influence of the environment on the individual (e.g., Deci, Vallerand, Pelletier, & Ryan, 1991; Eccles & Roeser, 2009; Hunt, 1975). School climate in particular has been associated with a number of academic and psychosocial outcomes, such as student learning, health promotion, and risk prevention. One of the most important outcomes associated with organizational and school climate is how connected members feel to each other (Cohen et al., 2009). Positive relationships between students and students feeling that adults care for them is important for adolescent well-being and success (Goodenow, 1993; Osterman, 2000). This means that climate is especially relevant for studying schools and motivational processes having to do with identification and connection with school.

School racial climate. School racial climate is a subcomponent of general school climate based on race and diversity (Chang & Le, 2010). School racial climate includes school features such as racial composition, curriculum, and diversity programming and aspects of the psychological experience such as interpersonal interactions around race

(e.g., Allport, 1954) and perceptions of school values related to race and diversity (Chang & Le, 2010). Some frameworks of general school climate include racial climate as a part of the relationships dimension (e.g., Cohen et al., 2009). Others focus more on race as a separate category composed of both interactions and structures having to do with race (e.g., Brand et al., 2003). Others do not include mention of racial interactions at all. At the same time, some frameworks of racial climate have been developed that do not connect to the larger school climate literature, but instead draw from the study of race relations (e.g., Hurtado, Milem, Clayton-Pedersen, & Allen, 1998). All of these frameworks can fit within the three approaches to climate identified in the general school climate literature in that they focus on school features, psychological experience, or both.

The current study. In the current study I examine school climate from a psychological perspective and as multidimensional. Viewing school climate as a psychological experience is important because objective features are sometimes poor predictors of outcomes. School climate researchers have shifted from examining the relationships between objective characteristics and student achievement, for example, because objective features are not consistently predictive of academic outcomes (Anderson, 1982). Understanding the psychological experience is especially necessary when considering psychological outcomes such as feelings of belonging or perceptions of the self because these processes are based on the intersection of the person and the environment. That is, individual outcomes are based not only on objective reality but on the individual's interpretation of whether the situation is a challenge or meets their goals and needs (Loukas & Robinson, 2004). Another reason the psychological perspective is important is that objective features or observer ratings may not capture how an "insider"

sees the setting (Fraser, 1998; Zullig, Koopman, & Huebner, 2009). An outside observer may not be able to place a single event within the context of other events or may miss the importance of particular features. In short, individual perceptions drive behavior and are the best way to understand how the same context can result in different behaviors (Anderson, 1982; Haynes, Emmons, & Ben-Avie, 1997; Van Houtte, 2005). In sum, school climate can be described in terms of objective school features and in terms of psychological experience. Both are important for understanding the nature of a school. The goal of this dissertation is to predict individual academic outcomes through psychological processes; therefore, I focus on school climate as psychological experience.

I also examine climate from a multidimensional perspective. A multidimensional perspective acknowledges the complexity of the school environment and can take into account how a school can have competing processes in place and competing effects on the individual. For example, a school with a high focus on competitiveness may help successful students feel positively about themselves; however, students' relationships with each other may be undermined. A multidimensional perspective is also more appropriate from a person-environment fit perspective because different features of the environment may be more salient to the individual depending on the individual's characteristics. Considering multiple aspects of the school allows for a more nuanced view of the school context. From a practice perspective, acknowledging multiple aspects of climate and understanding how they operate to affect school members allows educators and policymakers to target specific areas for school improvement.

A multidimensional perspective is especially necessary when examining school racial climate. This approach moves away from simply labeling a climate as "positive" or "negative." What it means to be a good or effective school can vary based on the goals and perspectives of school members. While being "high" on some dimensions is always better than being low, other dimensions must be interpreted in the context of other information. For example, positive intergroup contact is always assumed to be better for academic outcomes and well-being than negative intergroup contact. Similarly, fairness is a desirable school quality. On the other hand, *more frequent* intergroup contact is not always beneficial. Hurtado and colleagues (Hurtado et al., 1998) note that increasing the representation of students of color on a college campus can lead to increased conflict if the administration does not actively address the social dynamics and help all students feel valued. The benefits or disadvantages of intergroup contact are dependent on the nature of that contact. Another example is institutional support for learning about many cultures. While on the surface this appears positive, multicultural curricula that preserve negative stereotypes of marginalized groups or take a "tourist" approach to diversity without focusing on deeper issues may actually be detrimental. Whites may feel resentful that they have to participate in activities or teach about issues they see as irrelevant (e.g., Bell, 2002), and students of color may feel devalued and disconnected from an academic culture that does not represent them (Booker, 2006). In this dissertation, several types of racial messages are presented, and each type of message may be more desirable in certain contexts, and for certain students, than others. A multidimensional approach to racial climate allows for a nuanced description of the student's perspective that does not paint the school as good or bad. Rather, this approach will allow for the question of what works

best for the individual, given the context and the individual's own needs, values, and attitudes.

Finally, many individuals participate in the functioning of a school and are affected by a school. Therefore, when considering climate from a psychological perspective, the "observers" can include nearly any group. In this dissertation, I focus on the students as observers. Students differ from administrators, teachers, and others in their experiences, goals, and what they have at stake (e.g. M. Hughes et al., 1998). First, students in preK-12 education differ from their teachers and administrators in their developmental requirements. The school has the potential to shape children's basic development—physical, cognitive, and emotional—in ways that are not as relevant for adults. The normative transitions that occur during adolescence, in particular, create particular needs that schools must satisfy, such as the need for autonomy (Eccles & Roeser, 2009). Additionally, schools can buffer against the negative effects of risk factors or worsen existing problems. For example, school cohesion can buffer the negative effect of poor emotional self-regulation on depressive symptoms (Loukas & Robinson, 2004). Cohesive school settings may provide more support for students with difficulty controlling negative emotions and lessen their rejection by peers. Schools are also responsible for teaching basic skills and allowing identity and role exploration to prepare for adulthood. Teachers and administrators already possess such basic skills and are acting on their exploration in the form of career choices. In short, students rely on the school to shape their development in ways adults at the school do not.

Second, and related, students have unique goals that they must achieve. The most obvious goal is that students are in school to learn, while adults are in school to work.

Students and adults will share many other goals, such as those related to basic psychological needs, but not all. Third, students are in a subordinate position compared to adults in school. In most schools, adults are responsible for the majority of policies and decisions that affect the experience of being in the school. Fourth, students are more diverse than teachers and administrators, who are mostly White (National Center for Education Statistics, 2009). Most importantly, to understand the mechanisms that impact youths' motivation and outcomes, researchers must take into account how youth process the environment based on their own perceived needs and goals. For these reasons—development, goals, authority, and demographics—and more, students view the school from a unique perspective. This perspective is essential for connecting school climate to students' outcomes but also for understanding basic developmental processes around how student characteristics and setting characteristics influence student outcomes.

School Climate Measured

Just as school climate can be conceptualized in multiple ways, it can also be measured in multiple ways. Organizational and school climate researchers have long raised issues of subjective vs. objective measurement, aggregation, and units of analysis (Anderson, 1982; Glick, 1985; Griffith, 1997; Van Houtte, 2005). I will discuss some concerns here. Table 2.1 summarizes conceptual and measurement distinctions made within the discussion.

Objective vs. subjective measurement. As noted, the effective schools approach differs from the organizational climate and school culture approaches in its focus on the objective features of schools. Therefore, the effective schools approach usually requires objective indicators or subjective indicators rated by trained observers. Though the

organizational climate and school culture approaches are interested in the psychological experience of school, they can be measured with both subjective and objective indicators. For example, to understand a student's experience with discipline, a student can report the number of times he has been in a fight or school records can be used to show the number of times the student has been suspended because of fights. The latter measure is objective because it is reported independent of the student, but it is not an indicator of the school as a whole—it describes an individual experience. Generally, however, research on the psychological experience of schools employs subjective measures.

Unit of analysis. Because the effective schools approach is interested in the overall "personality" of a school, the unit of analysis in effective schools research is always the organization. Therefore, individuals are ignored except to the extent that they provide data about the organization as a whole (for example, the percentage of students eligible for free or reduced lunch). Though the school culture approach examines the psychological experience rather than what makes schools "effective", this approach is also interested in the school as a whole (Van Houtte, 2005). In contrast, the organizational climate approach is interested in climate as a function of the individual. In other words, individuals will differ in their experience of the school (because of differences in their background, beliefs, specific contexts, etc.) and these differences are meaningful. Therefore, in contrast to the effective schools and school culture approaches, the unit of analysis in the organizational climate approach is the individual.

Aggregation. Because of their differences in unit of analysis, organizational climate and school culture research differ in the appropriateness of aggregation. Aggregation will cancel out individual differences in perception so that measures will

reliably reflect characteristics of the organization (Glick, 1985). However, aggregation also assumes that there is little variability in individual perceptions, and that any individual differences are measurement error (Griffith, 1997). Therefore, aggregation is appropriate when the unit of analysis is the organization, as in the school culture approach (Van Houtte, 2005), even when the outcome is an individual measure. Statistics such as intraclass correlation, which describes the proportion of variance between organizations, can be computed to assess whether aggregated measures are appropriate. The sample should also be representative and eliminate sources of bias.

Some studies of racial climate have aggregated individual measures and used them to predict individual outcomes, which is appropriate in a school culture framework. For example, Denson and Chang (2009) investigated the importance of both college students' own participation in cultural awareness workshops as well as the average level of participation at the university for self-efficacy and academic skills. Their approach recognized the effects of one's own behavior as well as institutional norms. An alternative approach is to use objective institution-level measures to predict individual outcomes. For example, French and colleagues (French, Seidman, Allen, & Aber, 2000) compare the ethnic composition of a student's middle and high school as they transition as a way to understand ethnic identity. Benner and Graham (2009) investigate a similar question. In all three studies, the researchers employed "objective" (that is, unbiased by individual experience) indicators of the institution to predict individual outcomes.

Aggregation is not appropriate when the unit of analysis is the individual (the organizational climate approach). Describing the organization as a whole is not as useful in predicting how an individual will behave because aggregated measures do not take into

account the individual's unique experience of the setting based on their background and beliefs. In fact, the purpose of aggregated measures is to disregard those unique characteristics.

Racial climate research from an organizational climate perspective is interested in how individuals' understanding of the context (dependent on their own backgrounds and experiences) is associated with their outcomes. For example, a few studies have investigated how perceptions of racial interactions and institutional support for positive interactions are associated with individual's satisfaction and engagement (Chavous, 2005; Green et al., 1988). These studies are not interested in the organization, per se, but rather in how the individual interacts with the organization. Therefore, these studies use subjective individual measures.

Item content. Van Houtte (2005) makes an additional distinction between research on school culture and research on organizational climate. Because the unit of analysis is the organization in school culture research, and the measures will be aggregated to the organizational level, Van Houtte argues that school culture measures should assess individual's beliefs and attitudes, *not* their perceptions of the school context. When individual beliefs and attitudes are aggregated to the organizational level, the resulting indicator represents the average beliefs of those in the school. Therefore, though the individual is responding to a subjective measure, the aggregated indicator can be considered "objective" because it is unbiased (to the extent that the measure was a valid indicator of individual beliefs). Repeated sampling of the same school should yield similar results. Climate, on the other hand, is measured as perceptions of the school context. As noted before, perceptions are a product of the individual and the environment,

therefore, perceptual measures are biased in that sampling different individuals will yield different results. The differences are desirable in an organizational climate approach because individual differences in perceptions will predict individual differences in the outcome. In other words, it is those individual characteristics that bias the measure that will drive behavior as a result of the context (Anderson, 1982; Loukas & Robinson, 2004; Marchant, Paulson, & Rothlisberg, 2001; Van Houtte, 2005). Therefore, aggregating perceptual measures to the organizational level is problematic because it is not clear how much the aggregated indicator reflects something about the organization or the personalities and past experiences of the individuals in the organization (Van Houtte, 2005).

Unfortunately, school climate researchers, and racial climate researchers in particular, have not always clearly laid out their assumptions or appropriately matched the unit of analysis to the unit of theory. Many researchers report on individual experiences with discrimination as indicators of the school racial climate (e.g., Dotterer et al., 2009; Hurtado & Carter, 1997; Kotori & Malaney, 2003; Mattison & Aber, 2007; Pewewardy & Frey, 2002; see Table 2.1), sometimes in combination with perceptions of the school as a whole. For example, Hurtado and Carter (1997) examined how objectively measured college selectivity and perceptions of racial tension predicted perceptions of belonging in college students. Racial tension was composed of a latent factor with experiences with discrimination and perceptions of racial conflict on campus. Such measures do not clearly distinguish between the experience of the individual and the individual's experience of the setting. That is, a student may encounter discrimination, but how much do they feel their treatment is characteristic of the context?

An individual may take their experience into account when describing the school, but we might expect their description of the collective experience to be different from their description of their personal experience. Frequent reports of discrimination may indicate something about a particular teacher or faculty member without describing the school as a whole—both are important to address but require different remedies. Theoretically, researchers must also consider the different implications of being in a setting with a generally discriminatory culture compared to having a negative relationship with a particular individual.

It is important to point out that an individual measure of discrimination would be appropriate if the experiences of many were aggregated to the school level. Such a measure would indicate something about the overall nature of the school. One individual's report is not sufficient, however. Clearly, discrimination has detrimental effects on individuals (Kessler et al., 1999; Pachter & Coll, 2009) and is an important topic of study, but school climate research must be careful in its assumptions about the meaning of discrimination measures. In my work I have found that individual experiences with racial discrimination are not predictive of individual outcomes when the model also includes perceptions of the overall racial climate (Byrd & Chavous, 2011). This finding suggests unique contributions to be found when individuals focus on the organization rather than themselves.

In my work, I am interested in how the individual's perception of the school context is associated with the individual's outcomes—an organizational climate approach. My work is based on the assumption that individuals have basic psychological needs and that the degree to which environments satisfy those basic needs is a product of

how those needs are expressed and *can* be met based on the individual's characteristics (Deci & Ryan, 2008; Hunt, 1975). Therefore I am interested in the psychological experience of the school and intend to measure school climate at the individual level with subjective measures.

Unidimensional vs. multidimensional measures. General school climate has consistently been measured multidimensionally (Zullig et al., 2010), but a feature of the school climate and school racial climate literature share is their reliance on inductive approaches instead of theory-driven analyses. The research has relied on factor analyses of item pools (e.g., Zullig et al., 2010) to identify the underlying dimensions of school climate. Clearly, the items chosen determine the dimensions found, and as a result, studies vary in what dimensions of school climate they discuss and measure (Griffith, 1997). This can be seen in a school climate measure by Brand and colleagues (Brand et al., 2003). Their final measure includes one scale of racial climate (which they called cultural pluralism) along with several scales of general school climate, such as safety, harsh discipline, and teacher support (see Table 2.2). The four-item racial climate scale includes items on positive intergroup contact, equal opportunity, and learning about different cultures. The study may have uncovered just one factor associated with racial climate because of the positive correlations between 4 items mentioning race or culture (compared to 46 that do not), but this does not mean that racial climate is adequately captured by one dimension. A combined scale may give some indication of the nature of racial interactions and allows the researchers to compare the effects of racial interactions relative to, for example, teacher support. However, this approach is limited because it is unclear exactly what about the racial interaction is being measured. The current study

identifies a number of different ways that race can work in school settings, and one goal of this dissertation is to identify reliable measures of racial climate dimensions that are distinguished from each other.

In sum, I have identified three approaches to conceptualizing school climate and identified the implications of each approach for measurement. I have also discussed the relationship between general school climate and school racial climate. Finally, I have described my approach to the study of school climate, which is consistent with the organizational climate approach.

A Multidimensional Framework for Studying School Racial Climate

In this study, school racial climate refers to norms and values around diversity and race in the school setting (Chang & Le, 2010). This dissertation examines students' perceptions of those norms and values. In this section, I will describe a framework for studying individuals' psychological experience of their school racial climate that delineates two broad, overarching domains: *interpersonal interactions* and *perceived curriculum*.

My review draws on several literatures, including social psychological theories of intergroup contact, the multicultural education literature, and the literature on parental socialization. Figure 2.1 illustrates the conceptual framework. On the interpersonal interactions side are three dimensions: frequency of interaction, quality of interaction, and equal status. On the perceived curriculum side are support for diversity, cultural socialization, preparation for a racist society, individualism, colorblindness, and stereotypical perceptions. Table 2.2 presents the studies cited in the literature review, the dimensions from the current study they address, and item content where applicable.

Interpersonal interactions. The current study's conceptualization of *interpersonal interactions* focuses on intergroup relations and interactions and norms associated with intergroup relations in the school setting. Allport's (1954) intergroup contact theory has been very influential in the literature on school racial climate and multicultural education (Bennett, 2001; Hurtado et al., 1998). Allport's theory developed as a response to racial and ethnic segregation and discrimination in the first part of the 20th century. In his seminal work, Allport theorized about the development of prejudice, the personality characteristics of prejudiced people, and about how prejudice could be overcome at the individual and societal level. He predicted that individual changes in attitudes would lead to societal change and identified ideal contextual conditions that would promote attitude change. The theory since then has been applied to a variety of social identities, such as race, sexual orientation, and nationality; and settings, such as workplaces, schools, and communities.

Allport specified four conditions for situations and settings that would promote reduced prejudice: 1) opportunities for cross-race contact, 2) equal status within the situation, 3) the opportunity to work toward common goals, and 4) support from authorities. A social psychological literature has developed that strives to elaborate the theory's mechanisms and conditions and to extend the theory to different types of contact (e.g., "imagined", Crisp, Stathi, Turner, & Husnu, 2009), primarily through experimental work (Pettigrew, 1998, 2008). Much of the experimental work focuses on Whites and

other dominant groups as perpetrators of prejudice, with less work examining attitude change in non-dominant groups[1].

In education, intergroup contact theory has been used to develop interventions aimed at reducing prejudice in schools (Dessel, 2010; Wittig & Molina, 2000). For example, the PARTNERS program (Hansell, 2000) pairs classrooms at a predominantly White suburban school with classrooms at a predominantly Black urban school to learn about each other's schools and communities. The students engage in cooperative, hands-on learning along with reflection and discussion to develop their intercultural competence. Research in education has also investigated how the conditions are associated with positive psychological and academic outcomes for students (e.g., Green et al., 1988).

A weakness in the contact literature is that the role of each condition has not been separately established. Many interventions based on contact theory are designed with Allport's conditions in mind but do not explicitly measure or test them. Even basic (non-applied) research studies seldom test all of the conditions. For example, a study looking at mediators of intergroup contact measured the frequency and positivity of contact but not perceptions of equal status, administrative support, or common goals (Stathi & Crisp, 2010). A recent meta-analysis of prejudice reduction studies (including educational and community interventions) found that the conditions were "not essential" (Pettigrew & Tropp, 2006, p. 766) to produce effects on prejudice reduction; rather, the conditions were more *facilitative* than necessary. A broader review of the literature that included non-experimental and qualitative investigations (Paluck & Green, 2009) concluded that

[1] Studies examining non-dominant groups have found contact under Allport's conditions to be less effective for members of non-dominant groups, likely because they already have regular intergroup contact (Pettigrew & Tropp, 2006).

the current literature on prejudice reduction is unable to explain what is essential because of weak designs that did not clearly distinguish the conditions or provide appropriate control groups that could provide evidence of the role of different conditions. For the study of racial climate, the lack of clarity about the effects of the conditions means it is difficult to determine what exactly is meaningful about the racial climate in the contexts created in the interventions and studies. Therefore it is also difficult to speculate about how these programs might be related to academic or other psychosocial outcomes.

Just as few studies of prejudice reduction measure Allport's (1954) conditions, even fewer studies looking at academic outcomes explicitly measure the conditions. One study (see Table 2.2) developed and validated a scale to measure the four dimensions from student's perspectives (Green et al., 1988). The authors validated the scale with a group of middle school students. Another study adapted Green et al.'s scale with a sample of college students (Chavous, 2005). Both studies found the items measuring each condition loaded onto separate factors, providing support for the multidimensionality of school racial climate. The studies also showed that school racial climate, measured through Allport's dimensions, was associated with academic outcomes such as academic efficacy and sense of community. However, Green and colleagues used a combined measure to test the relationship with academic outcomes. Only Chavous showed that each of the four conditions could predict outcomes independent of the others.

In the college student development literature, a rich set of studies have developed around a model based on Allport's theory. Hurtado's framework (Hurtado, Griffin, Arellano, & Cuellar, 2008; Hurtado et al., 1998) includes four dimensions: The *historical legacy of inclusion/exclusion* refers to the institution's history of race relations or race

representations; *structural diversity* refers to the numerical representation of different races on campus; the *psychological dimension* refers to perceptions of intergroup relations, the university's commitment to diversity, discrimination, and personal attitudes regarding race relations; finally, the *behavioral dimension* considers how much students interact across race and the nature of those interactions. The model also acknowledges two external domains: governmental policy, programs, and initiatives; and sociohistorical forces. Despite the multidimensionality of the framework, the majority of studies using Hurtado's framework focus on the psychological dimension, especially "hostile climate" (negative interpersonal interactions) and discrimination (Hurtado et al., 2008). As previously stated, perceptions of individual discrimination are not an adequate indicator of context, but researchers have included both types of measures in their studies (M. Hughes et al., 1998; e.g. Hurtado & Carter, 1997; Kotori & Malaney, 2003; Mattison & Aber, 2007; Pewewardy & Frey, 2002; Whitmire, 2004; see Table 2.2). For example, Kotori and Malaney (2003) asked Asian American and White students to report the extent to which they think racial harassment exists on campus as well as how often they have experienced harassing behavior. It is important to consider the school racial climate beyond the individual's experience with discrimination because a hostile climate can exist even when the individual does not experience explicit discrimination—others in the individual's group may be targeted. It is also important to measure and understand whether *positive* interactions are occurring. Most adolescents report very few instances of discrimination. For example, in Wong et al.'s (2003) study of African American 8th graders, the mean levels of discrimination from teachers and peers was 1.70 and 1.49, respectively, which corresponded to between "never" and "a couple of times a year."

However, just because students experience only few negative discriminatory experiences does not indicate that they are experiencing a *positive* school racial climate. Information about both is important. For instance, a student experiencing racial discrimination that she views as consistent with a racially hostile school climate (that is, she views unfair treatment as a normative experience) may show different responses and adaptation than a student experiencing similar personal discrimination but who experiences her overall school racial climate as supportive (that is, she views her group as treated fairly in general).

Studies using Hurtado's framework have investigated differences in perceptions of the school racial climate between Black and White students and how perceptions are associated with differential outcomes such as satisfaction, grades, and completion (Cabrera, Nora, Terenzini, Pascarella, & Hagedorn, 1999; Hurtado, 1992; Hurtado & Carter, 1997; Jenkins, 2001; Kotori & Malaney, 2003). Generally these studies focus on students' perceptions of racial discrimination, unfair treatment, and campus racial tension, and they provide strong support for the negative effects of discrimination and a hostile racial climate. However, because of the issues concerning unit of analysis and the lack of investigation of positive climates, more research is needed to clarify the relationship between intergroup contact (positive and negative) and academic outcomes. In sum, Hurtado's framework has provided another multidimensional framework of racial climate that has not resulted in clear expectations about the meaning of multiple aspects considered simultaneously.

Finally, several qualitative studies have investigated the nature of race relations in educational settings. Many of these studies highlight the importance of patterns of

interpersonal interactions as well as individual encounters. For example, Teranishi (2002) interviewed Asian American students in two high school settings who described hurtful jokes from students of other races. The students also talked about how counselors treated them differently because of their race. Another qualitative study, with African American college students, described the daily microaggressions students encountered from faculty and peers (Solorzano et al., 2000). For both sets of students, the multiple negative interactions had strong impacts on their identities and engagement. These studies suggest that it is important to pay attention to both how often intergroup interactions occur and whether those interactions are positive or negative. This literature is useful in informing the framework for the current study even though it does not attempt to distinguish between different dimensions of interactions, as I plan to in this dissertation.

In sum, despite some weaknesses, the current literature calls attention to some important interpersonal features of racial climates, such as the amount of interracial contact and the status of various groups. The literature also highlights that the quality of the contact matters—whether it provides opportunities for cross-race friendship and whether it allows individuals to perceive common goals. In this dissertation, I focus on three dimensions as indicators under the interpersonal interactions domain of school racial climate. The first is *frequency of interaction*, which considers how often individuals of different races have contact, along with norms around such contact (that is, expectations about whether and how often individuals should interact across race, and the consequences of interacting with peers of a different race). This dimension connects with the first condition of Allport's (1954) framework, opportunities for cross-race contact, as well as Hurtado's (Hurtado et al., 2008, 1998) behavioral dimension. Second, *quality of*

interaction describes the nature of cross-race interactions. There are multiple ways to think about quality—one could focus on opportunities for friendship, the meaningfulness of conversations or depth of friendships, or the degree to which groups share common goals. In this work, I will focus on quality as valence, the positivity or negativity of intergroup interactions, drawing on the extensive research on racial discrimination and microaggressions and Hurtado's (Hurtado et al., 2008, 1998) psychological dimension. Quality and frequency are likely related to one another (indicated by the attached boxes in Figure 2.1) but are conceptually independent of other. For example, students may be segregated throughout the school day, in classrooms and social spaces, and when interactions do occur, they are characterized by fighting or teasing. Alternatively, those few interactions could be positive.

The third dimension in the interpersonal interactions domain is *equal status,* which refers to perceptions that students of different races are treated fairly and given similar opportunities to participate in activities and leadership roles. This dimension is drawn from Allport's (1954) condition and explicitly refers to the entwined nature of power and racial differentials. Because Whites are a dominant group in U.S. society, White adults and students usually have more power in schools, especially when the school is majority White. Therefore, schools must intentionally work to create equity for non-White students. Negative intergroup interactions can be a consequence of unequal status and can serve to reinforce the lower status of members of certain groups. Thus, all three aspects of interpersonal interactions may be related to one another but also represent unique aspects of interracial interactions at school.

Perceived curriculum. In this study, I use the term "curriculum" to describe explicit and implicit ways schools teach about race, as perceived by students. Schools can give students explicit messages and have a set curriculum for students to learn. Schools also convey implicit messages through what is known as the "hidden" curriculum. The hidden curriculum is conveyed through messages, interactions, school structures, and policies—in short, through the overall school climate. A hidden *racial* curriculum can exist in schools as well, and can be conveyed in many ways through less critical forms of multicultural education or the absence of multicultural content (Wills, Lintz, & Mehan, 2004). Studies have investigated how school structures and policies enforce norms (e.g., Perry, 2001), but few studies have attempted to quantify students' perceptions of the hidden curriculum.

In the introduction I discussed two ideological approaches to race relations: multiculturalism and colorblindness. Both approaches can be examined in terms of explicit or implicit teachings in schools. These approaches have implications for the types of interactions that occur in school, primarily through the ideologies represented in the curriculum of the school. Therefore, in this section, I describe how multiculturalism and colorblindness have been studied in the contexts of schools.

Multicultural education. The field of multicultural education has developed to describe how race can (and should be) reflected in instruction from a multiculturalism perspective (that is, one that celebrates racial difference) (Bennett, 2001). One major area of focus is curriculum reform, which aims to transform curricula that are traditionally based on White European values and history. Interestingly, despite the amount of research documenting Eurocentric curricula, stereotypes in materials, and the need for

broader representation, little of this work has changed K-12 classroom practice—the greatest impact has been at the college level (Bennett, 2001; Dilworth, 2004).

An area related to curriculum reform is culturally relevant education (CRE). CRE uses students' cultural background in learning to promote academic achievement (Howard, 2001; Young, 2010). Ladson-Billings (1995) has outlined a theory of CRE that emphasizes three main features: high expectations, cultural competence, and critical consciousness. High expectations refers to teachers believing that all students can succeed. Cultural competence refers to teachers being able to connect to students' communities and creating a sense of community in their classroom. It also refers to teachers learning about students' cultures and using their background in practice. Finally, critical consciousness refers to teachers' challenging mainstream and Eurocentric conceptions of knowledge and helping students to feel empowered to create change in their schools and communities (Morrison, Robbins, & Rose, 2008). Unfortunately, CRE has not had a large impact on K-12 practice (Young, 2010); and even classrooms that do include forms of culturally relevant practice fail to include the more critical aspects (Morrison et al., 2008). Additionally, teacher education programs include instruction in using culturally relevant pedagogy, but the concept is inconsistently defined in the literature (Young, 2010) and teachers often feel overwhelmed in attempting to implement practices in the face of an educational system still steeped in mainstream Eurocentric standards (Baker & Digiovanni, 2005). Furthermore, little research has investigated youths' perceptions of these practices. One existing study does indicate that students perceive and react to the theoretical elements of culturally relevant teaching that Ladson-

Billings (1995) identified: high expectations, cultural competence, and critical presentation of the curriculum (Howard, 2001).

Another area of multicultural education research strives to describe the cultural styles of different racial and cultural groups and how the styles can be reflected in classrooms and instruction. For example, Boykin and colleagues compared teachers' use of cooperative learning to their use of individual activities in predominantly African American classrooms to explore how often teachers used practices that reflect the Afrocultural orientation of communalism or the mainstream orientation of individualism (Boykin, Tyler, Watkins-Lewis, & Kizzie, 2006). Most of this research investigates African American cultural styles and contrasts them with European American styles typically represented in classrooms. Both areas are limited by their focus on African American youth to the exclusion of other races, and generally focus on particular settings (predominantly Black schools). Though more work is needed in diverse settings and that incorporates the viewpoints of students of many races, this literature illustrates the potential for examining race-related messages that may be unique to a particular group (Bennett, 2001).

In sum, the literature on multicultural education reveals the need to attend to how different races and cultures are represented and discussed in schools. For this study I will focus on how diversity is represented in the curriculum, how different races are represented, and on explicit messages about race.

Colorblindness. An alternative curricular approach to multiculturalism in schools is a colorblind approach, which involves de-emphasizing of the relevance of race in society. A colorblind ideology is represented nationally in the law and policy, but

individuals of any race can also hold colorblind attitudes. The ideology is based on White North American cultural values that render Whiteness invisible and de-emphasize the significance of race in society. Several scholars have documented in qualitative studies that White adults and adolescents do not see themselves as having culture (Hughey, 2010; Miller & Fellows, 2007; Perry, 2001). For many Whites, their race and culture is invisible and unexamined because it is "normal" (Perry, 2001). A consequence of this viewpoint is that culture is seen as something that racial "others" have. Yet scholars of White identity argue that White culture is not empty and consists of several features: One is that Whites feel little connection to the past, including European history and cultural traditions. According to Perry (2001), White culture is present- and future-oriented, which results in an identity that is not based in a cultural past. Because of this lack of connection to the past, many aspects of European ethnic culture, and the potential of identifying with a European ethnic group, are insignificant and even optional to Whites' identities (Gallagher, 2003; Waters, 1990). Accordingly, many Whites rate their race as being unimportant to their identity (Grossman & Charmaraman, 2008; Phinney, 1989). Ultimately, culture is something that is optional to identify with and that it is "normal" to ignore. Therefore, many Whites believe a focus on race is unnecessary and may view racial explanations as illegitimate (i.e., "playing the race card", Lewis & Bluebond-Langner, 2003). Furthermore, Whites' future-orientation leads to the idea that, even though race may have mattered in the past, it does not matter and should not matter in current times (Gallagher, 2003). They view outgroup members' attention to race as irrational and even symptomatic of their "abnormal" culture. Many Whites, even those oriented toward social justice for example, maintain beliefs in minority pathology or "bad

values" to explain current disparities (Hughey, 2010). They believe, for Blacks especially, that past racism created a dysfunctional culture that Blacks are now unable to overcome through individual effort. Obviously, this viewpoint ignores institutional racism and cultural oppression. In sum, White values assume the normality and superiority of a viewpoint that does not rely on culture or the past to explain their identity.

These White cultural values lead to a colorblind ideology. The primary tenants of a colorblind perspective are that 1) race does not matter in society, 2) race should not be used as a means of categorization, and 3) considering or noticing race is racist and results in negative consequences (Bell, 2002; Lewis & Bluebond-Langner, 2003). A colorblind ideology proceeds from the invisibility of Whiteness because if race does not matter, there is no need to consider the impact that race has on one's life. If race does matter, it can only matter in negative ways—as in the case of past discrimination. Research in schools suggest that the ways cultural differences are addressed is consistent with a colorblind ideology. Qualitative and ethnographic analyses find that teachers and school staff often state their views on race through a colorblind ideology (e.g., de Waal-Lucas, 2006; Lewis & Bluebond-Langner, 2003), and that many schools address diversity in terms of learning about other groups, leaving Whiteness unexamined (Perry, 2001; Schoorman & Bogotch, 2010). Additionally, because of a view that race does not matter in current times, some teachers feel that multicultural education is only useful for teaching about individual prejudice reduction in ways that are not connected to institutional racism (Schoorman & Bogotch, 2010), or that multicultural education is only relevant for minority students. Teachers, especially those in predominantly White

classrooms, might be dismissive or hostile about content they see as "extra" (de Waal-Lucas, 2006). Like parents, teachers may feel it is their role to only teach youth not to discriminate or use racist language (Hamm, 2001). A colorblind ideology can be expressed explicitly or implicitly through school practices such as tracking or multicultural programming that focus on only on "other" cultures (Perry, 2001). However, like studies of culturally relevant education, little is known about how adolescents process these messages or how these messages coexist and interact with other messages. Individual strands of research show that racial messages about multiculturalism and colorblindness are conveyed to youth, but research has no organizing framework for what different types exist.

Parental racial socialization. Because questions of multiple messages have been little explored in the literature on school climates and cultures, I turned to the literature on parental racial socialization. The study of parental racial socialization began with the study of African American parents and the ways they support their children's positive development in a world of bias and racial barriers (D. Hughes et al., 2006). Parents strive to help their children understand "(1) Black culture and how to interact with other Blacks, (2) how to get along with other racial groups, and (3) how to cope with their oppressed minority status" (Lesane-Brown, 2006, p. 401). Racial socialization includes both verbal and non-verbal messages, and the passing on of messages may be intentional or implicit. The field of research has grown immensely over the last few decades and now includes the study of other racial groups (D. Hughes et al., 2006), although less research has examined White families (Hamm, 2001).

Recently, Hughes and colleagues (2006) identified several types of racial socialization messages parents can convey to their children. One dimension is *cultural socialization,* which refers to practices parents use to teach children about their racial heritage and history. Another is *preparation for bias,* which describes attempts to help students be aware of discrimination and cope with it. Finally, Hughes and colleagues discuss *egalitarianism,* where parents emphasize individual qualities over racial group membership. They suggest that this last form of socialization is common to parents of all races, while the previous messages and practices might more often be found in minority families. The authors reviewed the literature on the associations between parental socialization and youth outcomes and found that cultural socialization can promote children's and adolescents' knowledge about their racial group, their attitudes toward their racial group, and exploration of their racial identity. Preparation for bias has also been associated with identity development in adolescents. Research on how parental socialization is associated with self-esteem has been equivocal, possibly due to measurement issues, but the authors suggest that socialization that enhances youths' positive racial identities may also enhance self-esteem. Similarly, studies examining relationships between socialization and academic outcomes find mixed results. For example, more frequent mother's socialization around a number of racial issues was associated with lower grades (Marshall, 1995) and that having more Afrocentric items in the home was associated with better problem-solving skills (Caughy, O'Campo, Randolph, & Nickerson, 2002). Nevertheless, Hughes and colleagues (2006) suggest that socialization that can have indirect effects on academic orientations and performance through promoting a positive racial identity. Their review also found that parental racial

socialization was also positively associated with children's and adolescents' psychosocial outcomes. In sum, there is some evidence that parental socialization helps parents achieve the goal of preparing their children to be successful in a racialized world. However, because of methodological differences between studies, it is difficult to show the importance of certain messages, such as cultural socialization, compared to others (D. Hughes et al., 2006).

School racial socialization. In this dissertation I will extend the study of racial socialization to schools. Youth spend most of their time in school and develop close relationships with adults there who can influence them as much as parents. As noted, schools can intentionally socialize youth around particularly ideologies, such as multiculturalism or colorblindness, so youth may also hear messages from adults they do not have a particularly close relationship with. Studies have acknowledged that socialization occurs outside of the family and in the community and schools (Bowman & Howard, 1985). For example, Morris (2005) documents how Black teachers often feel a responsibility to teach their Black students about race and racism. However, few researchers have attempted to measure such socialization in the school context.

The messages identified in families can also occur in schools, both as a result of the intentional curriculum of schools and the ideologies of particular teachers and administrators. This means that in schools as in families, socialization can include both verbal messages and practices that convey implicit messages. Socialization can also occur intentionally as well as unintentionally. Thus, it is easy to draw parallels between the hidden curriculum in schools and parents' implicit messages, just as the explicit curriculum mirrors parents' intentional and explicit teachings. School racial socialization

may differ in that school curricula are planned by a variety of stakeholders (e.g., school boards, districts, consultants) and are often based in research and/or policy initiatives (e.g., No Child Left Behind). School socialization as part of the official curriculum may also be less individualized to student background or experiences. In other words, parents may initiate a discussion about discrimination after a child has a negative experience at school, and it is likely that parents' own experiences around race inform their decisions to talk about particular topics. It is also likely that parents moderate their discussions based on their perceptions of their child's sensitivity or developmental level. Of course, racial socialization messages from individual teachers or administrators (not as a part of the official curriculum) may share these features, but the official curriculum would not. Finally, it is likely that explicit socialization from parents and from individual school adults, as well as the official curriculum, share the same goal of teaching youth certain ideologies about race. Clearly, parents, individual school adults, and authors of the curriculum might conflict in the ideologies they intend to teach. Furthermore, schools, more than families, may experience conflict between individuals within the unit about the appropriate ideology to teach. Yet school racial socialization is analogous to parental racial socialization in many ways. In this dissertation, I use *school racial socialization* as a way to conceptualize how multiculturalism and colorblindness are manifested in the messages school convey to youth.

Some of Hughes and colleagues' (2006) types of racial socialization (cultural socialization, preparation for bias, and egalitarianism) might be considered forms of multicultural education in that they focus on helping students understand culture and difference. For example, cultural socialization practices could extend from teachers'

cultural competence as defined in culturally relevant education (Ladson-Billings, 1995). Similarly, preparation for bias practices could be used to develop students' critical consciousness, the third element of Ladson-Billings' framework. Egalitarianism could be associated with multiculturalism or colorblindness, depending on how it is expressed. In fact, Hughes and colleagues align egalitarian messages in minority families with colorblind messages in White families. Because these three messages can be understood within the framework of the school curriculum, I adopt them into my framework of school racial climate.

Study dimensions. Literature related to multicultural education, colorblind approaches in education, and parental racial socialization all informed my conceptualization of dimensions of school racial climate that involve informal and formal messages around race. Based on my review, in this dissertation, I focused on five specific dimensions: support for diversity, cultural socialization, preparation for a racist society, individualism, and colorblindness. Though multicultural education and the parental socialization literature point out that messages can be explicit or implicit, in the current study I am focusing on explicit messages about race.

First, *support for diversity* refers to institutional support for positive intergroup contact and learning about different cultures. This dimension is based on Allport's (1954) conceptualization of institutional supportive norms as well as diversity ideology defined in Plaut (2010). A diversity orientation includes valuing, encouraging, and building on racial and cultural difference (Plaut, 2010; Tan, 1999). Schools show a diversity orientation by encouraging positive intergroup contact, teaching about the history and traditions of different cultures, and teaching children to appreciate diversity. Though

schools can integrate multicultural content in ways that vary in how much they challenge Eurocentric perspectives (see Banks, 1993), for the purpose of this study I am considering all forms of multicultural content, including those limited to celebrations of special days and more radical curricula.

The following dimensions are drawn from Hughes and colleagues' framework: *Cultural socialization* teaches about the history and traditions of youths' cultural group. For African American students, these would include Afrocentric teaching practices as well as many forms of culturally relevant teaching. For White European American families, cultural socialization can include teachings about European nations and cultural groups (e.g., French, German, Roma (Gypsy), Italian), as well as the typical Eurocentric curriculum in most United States schools. Cultural socialization can overlap with support for diversity because teaching about diversity can include teaching about multiple cultural groups. In this dissertation, I distinguish between the two dimensions by focusing cultural socialization on messages youth hear about their own culture, regardless of whether such messages are part of a curriculum to learn about other cultures as well.

The third dimension is *preparation for a racist society*, which includes messages about individual and institutional discrimination. In Hughes and colleagues' (2006) typology this dimension is called preparation for bias and also includes teaching about how to cope with discrimination. Preparation for a racist society messages would teach youth about oppression and racial inequity as well as how to cope with negative interpersonal interactions, similar to the critical consciousness element of CRE. In schools, mainstream curricula may discuss historical racism such as slavery in the United States, but few schools give information on contemporary inequities or covert forms of

racism (e.g., modern racism, symbolic racism). Programs such as intergroup dialogues (Dessel, Rogge, & Garlington, 2006) and other interventions aimed at prejudice reduction do include in-depth discussions about oppression and can help youth to recognize their own biases as well as work for societal change. Some multicultural education content also teaches about equity and oppression (Bennett, 2001; Morrison et al., 2008).

The fourth dimension is *individualism* messages (egalitarianism in Hughes et al.'s 2006 framework), which encourage youth to value individual qualities over their racial group membership. Hughes and colleagues imply that egalitarian messages from minority families are similar to colorblind messages given in White families, citing Hamm (2001), but colorblindness represents a denial of the role of race in society, rather than an orientation "toward developing skills and characteristics needed to thrive in settings that are part of the mainstream, or dominant, culture" (D. Hughes et al., 2006, p. 757). Minority parents who focus on messages de-emphasizing race may believe that race *does* matter in some social interactions, but not as much as personal characteristics for overall success. Therefore, individualism messages are distinguished from colorblindness messages in the current study.

The fifth dimension is *colorblindness*. As noted, colorblind messages encourage youth to ignore the role of race both in society and their own lives. Hamm's (2001) qualitative study suggested that colorblind socialization was more common among White families than African American families. Because White culture is generally invisible, colorblind messages may be passed on through everyday norms and assumptions in schools (e.g., Perry, 2001). I also expect some colorblind messages to be explicit.

Stereotypes and the hidden curriculum. The dimensions just described focus on the explicit curriculum of schools. One area of implicit messages about race where students' perspectives have been attended to in the research is the area of stereotypes. Stereotypes are cognitive schemas about social groups and shape expectations about individual members of each group (Hamilton & Sherman, 1994). The final dimension in this study is *stereotypical perceptions,* and refers to the stereotypes and prejudices that students *perceive* their peers and teachers having about minority students. Theories such as stereotype threat theory (J. L. Smith, 2004; Steele, 1997) describe how stereotypes about minorities can be a factor in youths' academic outcomes by explaining how the target of stereotype may be negatively affected when that stereotype is called to mind. Stereotypes may be the basis of prejudice, which is an attitude about a certain group and the affective component of intergroup relations. Both differ from discrimination, which describes behavior (unfair treatment) (Dovidio, Brigham, Johnson, & Gaertner, 1996). In this study I am interested in how youth respond to what they perceive as the beliefs and attitudes (stereotypes and prejudices) of others. Though educational researchers acknowledge the negative consequences of stereotypes and prejudice and seek to diminish them (e.g., Dessel, 2010; Paluck & Green, 2009), stereotypes and prejudice are rarely conceptualized as a feature of the racial climate in quantitative research. For example, one quantitative study (Dotterer et al., 2009) used a measure of "general discrimination" that asked youth to report the extent to which they believed teachers and peers were prejudiced—this was separate from a scale of personally experienced discrimination. Primarily, it has been qualitative studies that address perceptions of stereotypes in school (W. A. Smith, Yosso, & Solórzano, 2007; Solorzano et al., 2000;

Teranishi, 2002). For example, Smith et al. present a narrative[2] based on focus group interviews at several universities, educational and legal scholarship, and biographies focusing on racism that describes a mugging on a college campus during freshman orientation. The victim describes the muggers as Black, which quickly creates an atmosphere in which all Black men are deemed suspicious by students, faculty, and the police. All 22 Black male freshmen admitted to campus are detained by police at some point over the weekend, causing them to miss various orientation events. On Sunday, an administrator discovers that the mugging was actually a prank by White fraternity members dressed in Blackface for a "ghetto-fabulous" party. The authors use the story to illustrate how societal stereotypes of Black men as criminals play into the actions of many—the fraternity brothers who planned the prank, the individuals who report seeing suspicious men, and the police who detained the students despite lacking any evidence connecting them to the mugging. And though the story is told from the point of view of an administrator, the authors discuss how the stereotypes and the actions taken based on stereotypes can be devastating. They state:

> Indeed, it is hard to fathom how Black men could ever consider themselves to be fully integrated as equal participants in and welcome contributors to the student academic community given the overwhelming racial stereotypes and ideologies associated with their racial-gender group. (p.579).

This statement could be applied to all groups that face damaging stereotypes and prejudice. Stereotypes and prejudice can separate youth from others in their environment as well as take away mental resources needed for academic success, both of which can contribute to poorer academic outcomes and eventual disengagement from school (Steele,

[2] The authors write a "counterstory" based on a concept in critical race theory. Though the story itself is fictional, it is "true" in that it represents a case study that highlights the themes and patterns found in the research.

1997). Similarly, Solorzano and colleagues (2000) present findings based on focus group interviews with African American college students and describe the different forms of discrimination the students experience in both academic and social spaces. Many of their experiences are based in perceived stereotypes, for example a student who described how engineering classmates did not want to work with him because they did not think Blacks are "technically smart." The same peers, on the other hand, did seek out Asian study partners. Teranishi (2002) interviewed Asian American high school students and revealed what it is like to be on the other side of the comparison—he showed that being the target of a positive stereotype (i.e., being smart) can be just as negative in terms of student outcomes. Both papers describe stereotyped students' feelings of frustration and isolation that sometimes negatively affected their academic progress.

Rather than measure stereotypes or prejudice in quantitative racial climate research, studies have focused on explicit discrimination or a hostile climate created by prejudice and stereotyping (e.g., Hurtado and Carter 1997). This may occur because the researchers assume stereotypes and prejudice are closely tied to discrimination. Nevertheless, it is important to measure stereotypes separately from discrimination or hostile climate because prejudicial attitudes can be harmful even if they do not result in explicit actions. For example, students who believe their teacher is prejudiced may not ask for needed help, so the youths' connections to others and academic performance can be affected even when no negative interaction has occurred. Stereotypes can also negatively affect youths' identities when internalized (e.g., Teranishi, 2002). Additionally, stereotypes and prejudice may reveal themselves in more subtle ways than blatant acts of discrimination, and youth may be more aware of or willing to report those

subtle forms. For example, the Chinese and Filipino youth in Teranishi's (2002) study described some specific acts of unfair treatment, but the youth also talked in more vague terms about how teachers "have different attitudes with different racial groups" (p. 150) and about specific attitudes teachers and peers held. About the teachers, one student said, "I don't know if they're racists or not, but it seemed like they are" (p. 150). This quote suggests a reluctance to label the behavior of others as racist or discriminatory, but a certain confidence in how those others perceive them. Directly measuring stereotypes (e.g. "Your teachers think Blacks are not as smart as Whites") can tap into the perceived beliefs of peers and teachers without requiring that belief to be expressed in a particular behavior and without labeling that belief as racist. A final reason to investigate stereotypes is that, even though societal stereotypes may be perceived consistently across schools, schools vary in local stereotypes about particular groups of students. Individual school contexts can shape what it means to be a member of a certain race (Nasir et al., 2009). For example, while a widely-held stereotype is that African Americans are not as smart as White Americans, in some schools being African American is associated with doing well academically (Akom, 2003; Nasir et al., 2009). Another example is that Asian Americans may be considered a "model minority" in general but particular ethnicities are viewed negatively in certain regions of the country (Lee, 2001; Museus & Truong, 2009; Teranishi, 2002) and thus members of some ethnicities have different experiences from members of other ethnicities.

In sum, the literature on the explicit and hidden curriculum in schools offer interesting areas of inquiry for the study of school racial climate. Though few studies have empirically examined specific effects of the dimensions I have just identified

(support for diversity, four dimensions of racial socialization, and stereotypical perceptions), the existing literature supports their inclusion and development. Figure 2.1 illustrates all nine dimensions of my school racial climate framework. For this dissertation I have developed a scale to measure each of the dimensions described above and will establish the reliability of each scale and the factor structure of the overall measure. This analysis will serve as the foundation for the second set of analyses. In the next section I will describe proposed relationships between the dimensions of school racial climate and several academic outcomes.

Relationships of Racial Climate with Academic Outcomes

The framework I have presented identifies a number of dimensions of school racial climate. Because there are varying ways that race can play out in school contexts, there are likely varying mechanisms through which different dimensions of the school racial climate can impact youths' outcomes. In this study, I draw on self-determination theory (Deci & Ryan, 2008; Ryan & Deci, 2009), which emphasizes how attributes of individuals' settings may serve to facilitate or undermine individuals' sense of volition and initiative, well-being, and their performance in the settings. Thus, in this section I will describe how perceptions of school racial climate and the dimensions I outlined under the interpersonal interactions and perceived curriculum domains can be associated with the satisfaction of youths' basic needs for competence and belonging, their interest in school, and their academic performance.

Basic need satisfaction. Self-determination theory (Deci & Ryan, 2008) describes how individuals have different forms of motivation that drive their behavior. Motivation can range from being completely internal and self-driven (intrinsic) to being

controlled by external forces (extrinsic). The theory suggests that the more internally motivated individuals are when performing an activity, the more individuals experience volition. This form of motivation, known as intrinsic motivation, leads to better psychological health and more adaptive outcomes over time. Individuals are more likely to be intrinsically motivated when their environments satisfy their basic psychological needs of competence, autonomy, and belonging. Competence refers to a sense of mastery over the domain. Autonomy refers to a sense that one is able to being able to initiate and determine one's own actions, and belonging refers to developing secure relationships with others in the setting. Settings that meet these needs also facilitate the process of internalization, in which individuals adopt the goals and practices of the setting. Applied to the school context, students experience the best outcomes, including academic achievement, when they are genuinely interested in their work and experience a sense of volition (Deci et al., 1991; Gottfried, Marcoulides, Gottfried, Oliver, & Guerin, 2007; Nishimura, Kawamura, & Sakurai, 2011). For example, in a sample of mostly Latino high school students, perceptions of connection to teachers and peers at school was positively associated with intrinsic motivation, which was positively linked to achievement (Close & Solberg, 2008). Another study of French-Canadian high school students linked academic competence to more autonomous motivation (assessed with a scale that measured four types of motivation and weighted intrinsic reasons for attending school positively and extrinsic reasons negatively). Autonomous motivation was positively associated with grades in core subjects (Fortier, Vallerand, & Guay, 1995).

To promote intrinsic motivation, schools must create environments that satisfy youths' basic needs. The study of school climate can explain how well school

environments satisfy basic needs: research on general school climate has long confirmed the role that schools play in how youth perceive themselves and in their achievement (e.g., Brand et al., 2003; Marchant et al., 2001), and I expect that school racial climate can also promote the satisfaction of basic needs. In the current study, consistent with an organizational climate approach (see Table 2.1), I am interested in how race, represented in the types of interactions and messages youth perceive, can impact student motivation and achievement outcomes.

Interpersonal interactions dimensions and academic outcomes. Figure 2.2 illustrates the potential pathways between school racial climate and outcomes, and Table 2.3 summarizes the existing literature on these pathways.

Belonging. Interpersonal interactions around race can help meet youths' basic needs by supporting positive relationships across race, both with teachers and other students, leading to a greater sense of belonging. Research has long emphasized the role of belonging in school engagement and achievement and connected general school climate to feelings of belonging (Booker, 2006; Goodenow, 1993; Osterman, 2000). Some researchers even conceptualize belonging (or positive relationships) as a dimension of school climate (e.g., Benner & Graham, 2011; Cohen et al., 2009). In terms of school racial climate, the degree to which racial interactions are positive will influence how connected students are to others in the setting. Therefore a positive quality of interaction should be associated with higher feelings of belonging because of greater potential for positive relationships. At a school where one racial group is a numerical minority, positive cross-race interactions represent more opportunities to connect with classmates and can reduce feelings of alienation.

Greater equal status should also support more positive relationships because students of different races can relate to each other as equals; students of color will not be afraid of White students "looking down" on them and White students can be open to friendships across race without penalty of being associated with a lower status peer. More intergroup contact and equal status can also reduce bias against other groups, which can prompt students to be more open to friendships across race. The work of Hurtado and colleagues (Hurtado et al., 1998) would suggest that the frequency of intergroup interactions could be positively or negatively related to students' feelings of belonging, depending on the overall quality of interactions at the school. That is, more frequent interactions would promote positive relationships and connectedness to others if those interactions are supportive (rather than tense).

Little research has actually investigated the relationship between interpersonal interactions dimensions of racial climate and belonging at school. Chavous (2005) found no relationship between frequency of intergroup interaction and school belonging (sense of community at school) for Black and White college students[3]. Perceptions of equal status among racial groups were positively related to school belonging for both races. In a sample of African American high school students, Chavous and I found that perceptions of greater tension between staff and students of different races was associated with lower feelings of support and acceptance from teachers (Byrd & Chavous, 2011). Another study found that perceptions of individual discrimination were negatively associated with belonging for African American 4th through 7th graders (Dotterer et al., 2009).

[3] Because Chavous's measure of belonging emphasized sense of connectedness to and value by the broader university (not individuals), it is possible that interpersonal interactions would be less influential on this outcome than on connectedness to other students or faculty

Some studies have used measures that combined dimensions or individual and contextual measures. Many of these studies speak to quality of interaction but include indicators of discrimination: For example, Green and colleagues (1988) assigned students a score based on whether they were above the mean (1) or below the mean (0) on Allport's (1954) four dimensions of contact. Black and White students with higher scores were more likely to perceive their school as a friendly place and reported higher academic efficacy. In a sample of Latino college students, Hurtado and Carter (1997) showed that a latent factor of discrimination and hostile climate was associated with feelings of belonging to the campus community. Discrimination was measured by feelings of exclusion and hearing insults based on race, while hostile climate was measured by perceptions of racial conflict and lack of trust on campus (see Table 2.2). Another study showed positive associations between positive perceptions of racial climate and belonging in African American, Asian Pacific American, White, and multiracial college students (D. R. Johnson et al., 2007). The exact items in the climate measure are not given, but the items cover cross-race interaction, trust and respect, campus commitment to student of color success, cross-racial dating, and professor respect for students of color (see Table 2.2). This measure was not associated with belonging for Hispanic/Latino students. On the other hand, *frequency* of interaction with diverse peers was positively associated with belonging only for Hispanic/Latino students and not students of other races. In another study, frequency of interaction was associated with belonging for Latino students across nine universities, and hostile climate—which included discrimination, overhearing stereotypes, and perceptions of racial tension—was negatively associated with belonging (Nuñez, 2009). However, in a study using the same

data but different analysis, both frequency of interaction and hostile climate were associated with belonging (Hurtado & Ponjuan, 2005). The current literature provides little information on secondary students and more information about Latino students than students of other races, but the literature supports the expectations that positive quality of interaction and high equal status should be positively related to feelings of belonging at school, while study findings are unclear regarding the relationship between frequency of intergroup interactions and school belonging.

Competence. Interpersonal interactions may be connected to youths' academic self-concepts, as well. Perceptions of unequal status or a negative quality of interaction may provide a source of negative feedback about youth's abilities, for example if youth believe they have less status or are being rejected because they are less capable. Some scholars suggest that school segregation and its resulting structural inequality, with White students dominating academically-focused tracks and minority students in vocational tracks, can reinforce beliefs of racial inferiority (e.g., Tyson, Darity, & Castellino, 2005). However, there is limited empirical evidence to support this conclusion. Two studies show that experiencing racial discrimination is negatively related to youths' academic self-concepts: Wong and colleagues (Wong et al., 2003) measured teacher and peer discrimination for African American 8th graders and Dotterer and colleagues (2009) combined teacher and peer discrimination in one measure for African American 4th through 7th graders.

Intrinsic motivation and academic achievement. Satisfaction of the need for belonging at school and academic competence should promote higher intrinsic motivation and better academic achievement, but again little empirical work connects different racial

climate dimensions with these outcomes. Our research with African American high schoolers supports the positive link between teacher racial climate (a composite measure that tapped into quality of interaction and equal status) and intrinsic motivation (Byrd & Chavous, 2011). Mattison and Aber (2007) found that perceptions of equal status were associated with higher grades in Black and White high school students. However, the studies by Dotterer and colleagues (2009) and Mattison and Aber did not find a link between racial discrimination and grades. Despite the lack of strong empirical evidence in the racial climate literature, self-determination theory would support positive associations of belonging and academic competence with intrinsic motivation, and between intrinsic motivation and academic achievement.

Perceived curriculum dimensions and academic outcomes. A perceived curriculum that represents students' culture in stereotypical ways can negatively influence youth by marginalizing their experiences and reflecting a negative image of their group (Banks, 1993). Curricula can also include limited representations or a lack of representation due to, for example, a history curriculum that only highlights the contributions of European Americans. Because of negative stereotypes that exist for some minorities, particularly around academics, limited representations can lead youth to internalize stereotypes of lower academic ability and reduce their ability to see themselves as academically successful (e.g., R. P. Brown & Lee, 2005; Crocker & Major, 1989; Steele, 1997). Not all stereotypes are negative, however. Some Asian groups may benefit from stereotypes of Asians as a "model minority", which can give youth a positive sense of their ability even when they are not performing well (Teranishi, 2002). Therefore, it is important to pay attention to local stereotypes because some groups may

have positive stereotypes in a setting. Though positive stereotypes can enhance feelings of academic competence, they may have consequences for other school outcomes such as connecting with others, as explained below.

Another way representation in the curriculum can impact feelings of competence indirectly is through encouraging youth to have a positive connection to their racial group. Parental racial socialization is designed to assist youth in developing this positive connection and a positive sense of self (D. Hughes et al., 2006; Lesane-Brown, 2006). School racial socialization may play a similar role, particularly forms of cultural socialization and individualism. Preparation for a racist society may also help youth develop a positive sense of self by helping youth to challenge negative stereotypes about their groups and racist practices in their communities and schools. Promoting a positive sense of self can translate into a positive academic sense of self. In fact, research has demonstrated that people of color associate multiculturalism with the self more than colorblindness. For example, Plaut and colleagues (Plaut et al., 2011) used a Me/Not Me implicit association test (IAT) to compare how quickly individuals associated words related to multiculturalism (e.g., culture, variety, difference) with themselves versus words related to colorblindness (e.g., similarity, color blind, unity). They found that people of color had a shorter latency when associating multiculturalism with "me" compared to associating colorblindness with the self. Whites, on the other hand, were less likely to associate multiculturalism with the self. In other words, people of color view multiculturalism messages as including people like them and more closely related to their self-concept while Whites tend to associate multiculturalism with exclusion of people of their race. Therefore, a positive perceived curriculum should be associated with greater

perceptions of one's own ability, whether that positive curriculum comes through representation of one's culture, socialization promoting attention to one's race and culture, or positive stereotypes.

Unfortunately, little research supports links between perceived curriculum and perceptions of competence. Dotterer et al. (2009) found a negative correlation between stereotypical perceptions and academic self-concept. In a study by Rivas-Drake (2011), perceiving that teachers had a positive view of their racial group was associated with higher ratings of academic self-competence and higher GPAs for Latino high school students. My research supports a similar conclusion among African American youth, that perceiving positive perceptions of the youths' group is associated with higher ratings of math competence and greater intrinsic motivation (Byrd & Aldana, in preparation).

Belonging. The school racial climate can also inform how much youth are valued and their sense of belonging in the setting. For example, negative stereotypes about the academic abilities of African American youth may promote low valuing of African Americans because they are not perceived to fit with the behaviors and norms of the school. Similarly, teaching that is not culturally relevant or that excludes African Americans from the curriculum can promote alienation and disengagement (Sampson & Garrison-Wade, 2011). Even positive stereotypes may limit how much youth connect to others because they are not seen as individuals.

Messages about diversity also communicate the value of youth as individuals. For example, schools that embrace racial and cultural difference promote valuing all youth, while schools that attempt to downplay the importance of race (a colorblind ideology) may ignore vital parts of youths' identity, particularly for youth of color. Youth in the

latter type of school may feel valued in other ways but may not feel as if they are accepted as a whole person. They might also feel the need to adopt different forms of self-presentation in order to maintain relationships with peers and adults. For example, Fordham (1988) describes how youth in her study tried to appear "un-Black" in order to feel accepted by their White peers. Their choices led to internal conflict and confusion as they attempted to navigate multiple roles and expectations. Also, because mentioning race can be seen as racist, colorblind schools reduce opportunities to discuss racial tensions or issues, which can allow anger and resentment to build (Schofield, 2006), further reducing the potential for positive relationships. Finally, feeling that their identity is de-valued in the school setting can lead youth to de-value academics rather than internalize a lower value of their group (Crocker & Major, 1989). Therefore, the perceived curriculum can impact both youths' identification with school, which may alter their ratings of their competence and their sense of belonging.

A few studies suggest links between elements of the perceived curriculum and belonging. Chavous (2005) measured Black and White college students' perceptions of administrative support for positive intergroup contact and found that perceptions of greater support were associated with belonging for Black students but not White students. This suggests that minority students feel people of their race are valued when the administration encourages interactions among diverse groups. White students at the predominantly White university may have felt valued whether or not the university acknowledged diversity. Additionally, Latino high school students who felt that other students and teachers respected their culture were more interested in school and had

better grades (Tan, 1999). Tan's study also shows that having opportunities to learn about their culture was positively associated with interest in school.

The workplace literature provides some support for the importance of messages about diversity as opposed to colorblindness. A study at a predominantly White organization found that White employees' support for diversity (e.g., "Employees should recognize and celebrate racial and ethnic differences") positively predicted how connected their minority co-workers felt to the organization. Their colorblind attitudes (e.g., "Employees should downplay their racial and ethnic differences"), on the other hand, negatively predicted minorities' sense of belonging (Plaut, Thomas, & Goren, 2009). The study did not measure Whites' sense of belonging.

Finally, perceiving that those around them view one stereotypically can increase feelings of alienation for minorities, decreasing school connectedness. Earlier, I described Dotterer and colleagues' (2009) measure of stereotypical perceptions. Though they did not include the measure in regression analyses, they did find that stereotypical perceptions were negatively correlated to school bonding (but not GPA).

Academic achievement. As noted, greater need satisfaction should be associated with higher intrinsic motivation and grades; therefore, belonging and competence should mediate the relationship between the perceived curriculum and intrinsic motivation, and partially mediate the relationship between the perceived curriculum and academic achievement. The perceived curriculum may also have a *direct* effect on youths' grades. Support for diversity may directly increase grades by encouraging critical thinking skills. Positive effects of taking ethnic studies courses and attending cultural awareness workshops have been found on outcomes such as listening ability, critical thinking,

general knowledge, and writing ability (Astin, 1993). Additionally, average university participation in diversity workshops and classes has been found to be related to individuals' general academic skills, regardless of own personal involvement (Denson & Chang, 2009). The studies linking diversity curricula to academic skills are based on the assumption that such activities encourage youth to challenge their own biases and think critically about societal organization. This critical thinking is then expected to transfer to other academic domains.

As noted, some of the research linking school climate factors related to race-related curriculum and academic outcomes uses composite measures. Brand and colleagues' (Brand et al., 2003) aforementioned measure of multiculturalism included items on positive intergroup contact, equal status, and opportunities to learn about different cultures. They did not find links between multiculturalism and academic efficacy or grades in a diverse sample of middle schoolers. A study using the Brand measure with Asian American and Hispanic youth (Chang & Le, 2010) showed an indirect relationship between multiculturalism and grades through ethnocultural empathy (one's appreciation for cultural diversity) for Hispanic youth.

Table 2.3 summarizes the existing literature on school racial climate and the academic outcomes of interest in this study – school belonging, academic competence, intrinsic motivation, and grade performance. Clearly, more research is needed to develop our understanding of how students' experience of their school racial climate relates to their academic adjustment. Especially needed are study frameworks (and measures) that distinguish different aspects of school racial climate and that consider aspects of racial climate that relate to both intergroup interactions and curricular messages, including the

racial socialization messages youth receive at school. Furthermore, studies are needed that examine multiple dimensions of school racial climate simultaneously and consider the multiple mechanisms through which racial climate dimensions influence students' academic adjustment.

Study Questions and Hypotheses

In this dissertation, I attempted to introduce and establish a conceptually-grounded measure of school racial climate, assessing dimensions under the broader domains of *interpersonal interactions* and *perceived curriculum* messages around race and racial diversity. The items were drawn from prior racial climate measures, as well as measures adapted from parent racial socialization literatures. Second, after establishing the measure, I explored the relationship between different dimensions of school racial climate and academic outcomes. My research questions were:

1. What is the factor structure of the school racial climate measure? Are the factors identified consistent with the study's conceptual framework for racial climate?
    a. How reliable are the school racial climate scales?
    b. How are the school racial climate subscales related to each other?
    c. How are the school racial climate subscales related to student background characteristics?
2. How are different dimensions of school racial climate related to adolescents' academic motivation outcomes - reported connectedness and belonging within the school context, their self-beliefs about their academic competence, and their intrinsic motivation?

3. How are different dimensions of school racial climate related to adolescents' academic achievement (grade performance)?
4. Are different dimensions of school racial climate indirectly related to intrinsic motivation through school belonging and academic self-concept?

The first set of analyses will consist of an exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) of the racial climate measure. My first hypothesis is that a nine-factor model will fit the data well. As suggested by Yu (2002), for the CFA, a non-significant chi-square, a CFI above .96, and an RMSEA below .05 will indicate excellent fit. I also expect that each scale will be reliable (Cronbach's alpha above .70) and show discriminant validity, indicated by low to moderate correlations with other scales.

The second set of analyses will explore the relationship between climate and academic outcomes. Figure 2.2 illustrates expected relationships between dimensions. I expect indicators of interpersonal interactions, specifically quality of interaction and equal status, to be positively associated with belonging because positive interactions and fair treatment create more opportunities for cross-race friendships and positive relationships with teachers. I also expect these two dimensions to be associated with academic self-concept because they can provide feedback about youths' ability. I do not have a specific hypothesis for frequency of interaction.

I expect a curriculum that represents youths' culture in a positive way to be associated with a more positive general self-concept and subsequently a more positive academic self-concept. The most relevant dimensions for promoting a positive self-concept would be support for diversity, cultural socialization, colorblindness, and

stereotypical perceptions. Individualism can also promote a positive self-concept by encouraging youth to view themselves as capable of overcoming barriers. I also expect a curriculum that does not represent youths' culture to be associated with lower feelings of belonging because the lack of representation may indicate to youth that they are not valued. I expect both belonging and academic self-concept to be positively associated with intrinsic motivation because individuals whose basic needs are met should experience more inherent enjoyment of the domain. I expect need satisfaction and intrinsic motivation to be positively associated with academic achievement. Finally, I expect support for diversity to be positively associated with grades because a curriculum that encourages thinking about other cultures can promote critical thinking skills. Other dimensions of school racial climate may be directly associated with achievement, but I do not have specific hypotheses.

Table 2.1 Summary of three approaches to school climate research

Approach	**Effective schools**	**Organizational climate**	**School culture**
Type of measure	objective	objective or subjective	objective or subjective
Unit of analysis	organization	individual	organization
Outcome unit	organization	individual	individual
Use of aggregation	sometimes appropriate	not appropriate	appropriate
Indicator content	organizational features	perception of organization	individual beliefs/attitudes
Examples		Chavous (2005) Green, Adams, & Turner (1988)	Denson & Chang (2009) French et al. (2000) Benner & Graham (2009)

Note: Shading indicates the approach of the current study

Table 2.2 Indicators of school racial climate by study

Authors	**Dimensions**	**Items**
Astin 1993	Support for diversity	Taking ethnic studies courses Attending cultural awareness workshops
Brand, Felner, Shim, Seitsinger, and Dumas 2003	Support for diversity	Support for getting along across race All students have opportunities to participate Learning about different cultures Opportunities to work with students of different races
Byrd and Aldana, in preparation	Stereotypical perceptions	Teachers and other students feel Blacks aren't worthwhile
Byrd and Chavous 2011	Quality of interaction Equal status	Racial tension Fair treatment
Cabrera, Nora, Terenzini, Pascarella, and Hagedorn 1999	Discrimination Stereotypical perceptions Equal status	Perceived student prejudice against minorities Observed discriminatory words, behaviors or gestures Fair treatment from instructors
Chang and Le 2010	*See Brand, et al. 2003*	
Chavous 2005	Frequency of interaction Quality of interaction Equal status	Common goals between groups Support for positive intergroup contact How often students of different races associate Peer support for intergroup contact Faculty and administrator fair treatment
Dotterer, McHale, and Crouter 2009	Discrimination Stereotypical perceptions	Experiences with discrimination Teacher prejudice
Green, Adams, and Turner 1988	Frequency of interaction Quality of interaction Equal status	Common goals between groups Support for positive intergroup contact How often students of different races associate Peer support for intergroup contact Teacher and principal fair treatment
Hamm 2001	Cultural socialization Individualism Preparation for a racist society Colorblindness	Not applicable
Hughes, Rodriguez, Smith, Johnson, Stevenson, and Spicer 2006	Cultural socialization Individualism Preparation for a racist society Colorblindness	Not applicable

Hurtado 1992	Quality of interaction	Trust between minorities and administrators Extent of campus racial conflict Good communication between groups
Hurtado and Carter 1997	*See Hurtado 1992*	
Hurtado and Ponjuan 2005	Quality of interaction Discrimination	Discrimination Overhearing stereotypes Racial tension
Jenkins 2001	*See Hurtado 1992*	
Johnson, Soldner, Leonard, Alvarez, Inkelas, Rowan-Kenyon, and Longerbeam 2007	Frequency of interaction Quality of interaction Support for diversity	Cross-race interaction Cross-race trust and respect Campus commitment to student of color success Professor respect for students of color
Kotori and Malaney 2003	Quality of interaction Discrimination	Extent racial harassment exists Experiences with discrimination
Ladson-Billings 1995	Support for diversity Cultural socialization Preparation for a racist society Stereotypical perceptions Quality of interaction	Not applicable
Lesane-Brown 2006	Cultural socialization Individualism Preparation for a racist society Colorblindness	Not applicable
Lewis and Bluebond-Langner 2003	Colorblindness	Not applicable
Mattison and Aber 2007	Discrimination Equal status	Experiences with discrimination Fair treatment
Nunez 2009	*See Hurtado and Ponjuan 2005*	
Perry 2001	Colorblindness	Not applicable
Pewewardy and Frey 2002	Discrimination Quality of interaction	Racial conflict and harassment Minority groups get along Minorities target of prejudice and discrimination

		Been a victim of discrimination
Plaut, Thomas, and Goren 2009	Support for diversity Colorblindness	Employees should celebrate racial difference Employees should downplay difference
Rivas-Drake 2010	Stereotypical perceptions	Adults at school expect ethnic group to do well Adults at school value ethnic group
Smith, Yosso, & Solórzano, 2007	Quality of interaction Stereotypical perceptions	Not applicable
Solorzano, Ceja, and Yosso 2000	Quality of interaction Stereotypical perceptions	Not applicable
Steele 1997	Stereotypical perceptions	Not applicable
Tan 1999	Support for diversity Cultural socialization	Teachers and students respect culture Opportunities to learn about own culture
Teranishi 2002	Quality of interaction Equal status Stereotypical perceptions	Not applicable
Wong, Eccles, and Sameroff 2003	Discrimination	Teachers and peers treat unfairly

Note: Dimensions in column 2 refer to dimensions as described in this study (except discrimination); discrimination refers to measures of individual experiences with unfair treatment, as opposed to the more general quality of interaction

Table 2.3 Summary of studies by racial climate dimension and outcome

	Belonging	**Academic self-concept**	**Intrinsic motivation**	**GPA**
Frequency of interaction	Nunez 2011 Hurtado & Ponjuan 2005 Chavous 2005			
Quality of interaction	Byrd & Chavous 2011		Byrd & Chavous 2011	
Discrimination	Dotterer et al. 2009	Wong et al. 2003 Dotterer et al. 2009		Dotterer et al. 2009
Equal status	Chavous 2005			Mattison & Aber 2007
Support for diversity	Chavous 2005			
Colorblindness	Plaut et al. 2009			
Stereotypical perceptions	Dotterer et al. 2009 Tan 1999	Rivas-Drake 2010 Dotterer et al. 2009 (correlation) Byrd & Aldana	Tan 1999 Byrd & Aldana	Tan 1999 Dotterer et al. 2009 Rivas-Drake 2010
Composite measures	Johnson et al. 2007 Green et al. 1988 Hurtado & Carter 1997 Nunez 2011 Hurtado & Ponjuan 2005	Green et al. 1988 Brand et al. 2003 Tan 1999		Chang & Le, 2010 Brand et al. 2003

Figure 2.1 Dimensions of racial climate in the current study

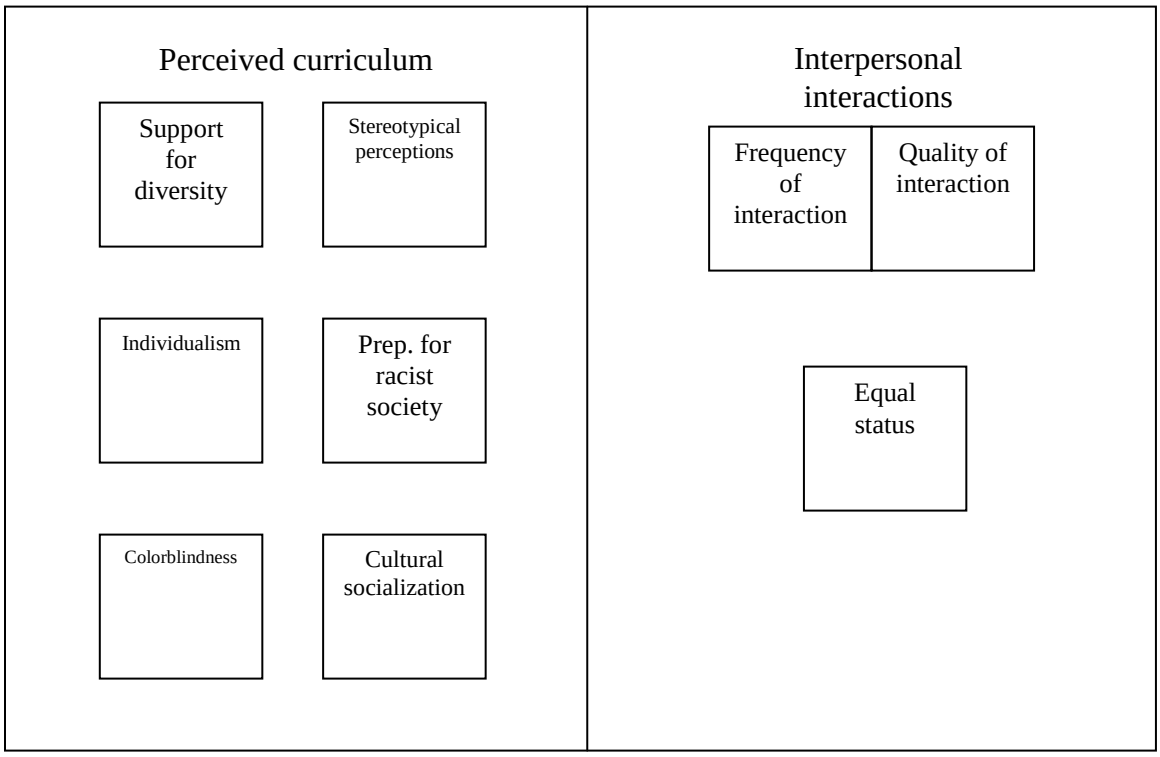
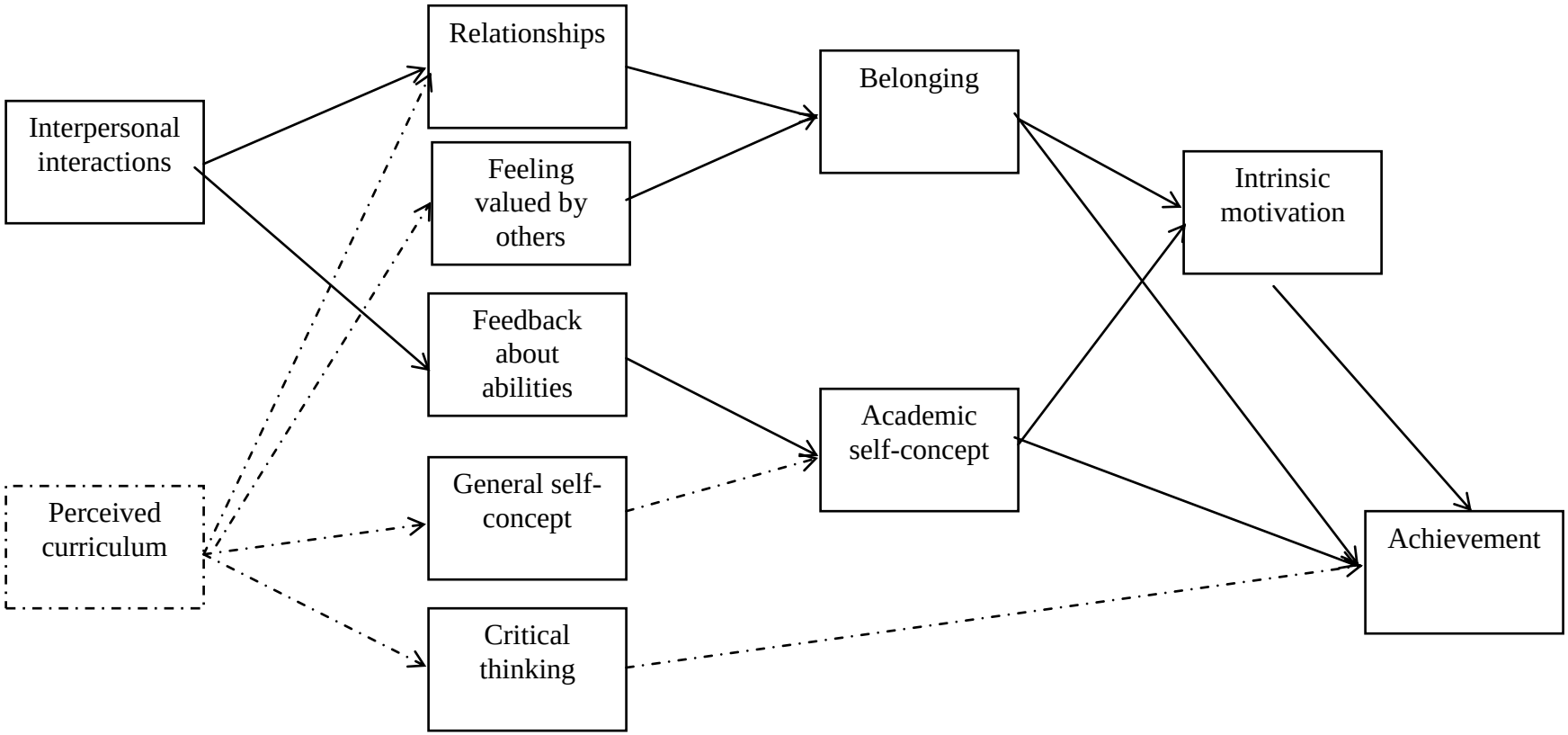


Figure 2.2 Hypothesized relationships between school racial climate and outcomes



Note: direct relationships between climate and achievement not shown; dashed pathways reflect those that are unique to the processes associated with perceived curriculum

Chapter 3: Method

In this chapter, I will describe the methods of data collection and analysis.

The Setting

The participants in this study are students at a middle/high school public charter school in an urban area in Southeastern Michigan. The school is run by a Michigan-based charter operator that manages more than 50 schools in five states, 13 of which are in Southeastern Michigan. The target school was opened in 2002 and serves grades 7 to 12, with many students advancing from three local feeder elementary/middle schools that are also run by the charter operator. The school's enrollment is 503 students, 91% African American, 8% Hispanic, and 1% White. About 85% of the students are eligible for free or reduced lunch. Despite being located in an economically depressed area with troubled public schools, the school boasts a 93% graduation rate and a 99% college acceptance rate. However, in 2010-2011 the school was below state averages in proficiency in core areas for 11th graders, as shown in Table 3.1. According to the Michigan Department of Education, in 2010 the school had 64 teachers, 64% of whom were White and 25% of whom were African American/Black.

Based on Census 2010 data, the zip code where the school is located (population 5,645) is 42% Black or African American and 38.4% White. The population is 34.8% Hispanic or Latino (of any race). Average individual/family income information was not available. Many students do not live in the immediate local area; the large city in which the school is located is 82.7% Black or African American and 10.6% White, and 6.8%

Hispanic or Latino. The median household income is $25,787, and 32.3% of families live below the poverty level. The percentage of individuals with a bachelor's degree or higher is 12%.

Procedure

I gained access to the school after a staff member from another project with which I was affiliated placed me in contact with the project director responsible for the school and its feeders. I met with the project director and the school leader to discuss the project, where I told them that I was interested in studying how the diversity climate of schools supported students' learning. I described my dissertation goals and also explained to them that I would be collecting additional data on students' perceptions of the general school climate, which, along with the racial climate information, would be helpful for the school's self-evaluation and improvement. I explained that I would be willing to provide a report of the data and present the data to staff if they were interested. The school leaders affirmed their desire to participate in the study in Summer of 2011. The project director facilitated the project by clearing the project with the charter operator, obtaining a letter of support from the school leader, and coordinating recruitment. After obtaining approval from the Institutional Review Board, the project director distributed parent information letters and consent forms to each teacher at the school. Teachers were informed of the purpose of the study and asked to distribute and collect consent forms. The teachers, project director, and school leaders were given $25 gift cards as a token of appreciation for their assistance.

Teachers distributed consent forms to all students in October 2011 and data collection was set for early November. Originally, consent forms were due about five

days before the first day of data collection, but students were allowed to turn in consent forms to their teachers or the office up to the first day. About 75 students with parent permission completed the survey on the first day. The project director had requested that I create a shorter version of the survey to administer to the middle school students; however, because of the small number of middle school students with completed consent forms (about 10), all students took the high school version.

Middle school (7^{th} and 8^{th}) grade students completed the survey at the end of their first period. Students were called to an empty classroom. The researchers gave each student an assent form and a copy of the survey and told them that the survey was completely confidential and that they could skip any question they did not want to answer (the assent form also contained this information). The majority of students completed the survey in about 20 minutes. Students received a movie pass for their participation. High school students completed the survey during the second half of their lunch period, a time designated for practicing study skills. The high school students completed the survey in the same empty classroom and were given the same instructions. During the day, the middle school senior administrator offered me the opportunity to recruit more students, so I went to several middle school classrooms to describe the study and distribute more parent consent forms. I told these students to return their forms by the following Monday, with a second day of data collection the next Wednesday. I also placed a set of consent forms in the office for students who wanted an opportunity to take the survey. On the second day of data collection, we arranged for a third day to allow students who were absent on the first two days, or who still wanted to participate but had not returned their consent form, to participate. The second and third days, students completed the survey in

an empty classroom or conference room. About 20 more students returned consent forms during that time and completed the survey.

Participants

The final number of participants was 99, 53% female. The final response rate was 20%. The majority of the participants self-identified as monoracial Black/African American (76%); about 17% identified as multiracial—all Black/African American and some other race(s)—and the remainder of the sample was composed of Hispanic/Latino, Middle Eastern, and White/Caucasian youth. The participants ranged in age from 11 to 18 (*M* age = 15.21, *SD* = 1.53).

All parents were asked for demographic information on the parent consent form, as well as permission to access students' grade point averages. About 85% of parents provided information on their education level, household income, and marital status (73% provided information for both parents). Mother and father education ranged from less than high school to graduate degrees. About 23% of mothers who reported their education had a bachelor's degree or higher, and 12% of fathers. Household income ranged from less than $5,000 to more than $105,000; the median for the sample was $25,000 to $34,999, and 83% of the sample had a household income of less than $45,000. In terms of martial status, 42% of responding parents indicated they were never married, 35% were married, and 22% were divorced. In sum, the parents of students at the target school were better educated and had higher incomes than the average family in the city.

Measures

The racial climate scale consisted of 36 items designed to assess the dimensions described above based on previous measures of racial climate, racial socialization, and

racial identity. Items were reviewed by experienced survey researchers and school personnel for appropriateness, both for fit with the desired construct and for the target age group.

Racial climate: Interpersonal interactions. Three interpersonal interactions subscales were used in the study to assess racial climate dimensions related to participants' perceptions of normative behaviors and values around intergroup relationships at their school. The subscales were developed using items drawn from measures by Green and colleagues' (Green et al., 1988) and Denson and Chang (2009). The *frequency of interaction* subscale consisted of 6 items measuring the perceived frequency of in-school contact between students of different races on a scale of 1 (never) to 5 (every day) and norms around such contact on a scale of 1 (not at all true) to 5 (completely true). An example of frequency is "How often do students of different races eat lunch together?" An example of norms is "Students here like to have friends of different races".

Quality of interaction was examined with 3 items that measured the degree to which individuals viewed intergroup interactions at school as positive or negative on a scale of 1 (not at all true) to 5 (completely true). An example item is "Students of different races trust each other". Higher scores reflected a more positive quality of interaction.

The *equal status* subscale consisted of 3 items measuring the degree that participants perceived that students of different races are treated equally by staff and administrators on a scale 1 (not at all true) to 5 (completely true). An example item is "Teachers at your school are fair to students of all races".

Racial climate: Curriculum. Six racial climate subscales were used to assess racial climate dimensions related to students' perceptions of formal or informal curricular messages around race at school. The *support for diversity* subscale consisted of 6 items measuring the degree to which teachers and administrators encourage intergroup interaction and how much students are able to learn about different cultures on a scale of 1 (not at all true) to 5 (completely true). The items were drawn and adapted from an interracial climate scale for secondary students by Green and colleagues (1988) and the multicultural climate subscale of a school climate scale by Brand and colleagues (Brand et al., 2003). An example item is "Teachers encourage students to make friends with students of different races".

School racial socialization was examined with four subscales and a total of 16 items. Most of the racial socialization items were adapted from a parental racial/ethnic socialization measure by Hughes and Chen (1999). Other items were adapted from the Color Blind Racial Attitudes Scale (Neville, Lilly, Duran, Lee, & Browne, 2000). The subscales assessed (1) cultural socialization, (2) preparation for a racist society, (3) individualism, and (4) colorblindness. The cultural socialization subscale included 4 items assessing participants' reported frequency of perceiving messages about the importance of learning one's history and being proud of one's culture (example: "Encouraged you to learn about the history of your culture"). The preparation for a racist society subscale included 5 items measuring messages participants perceived about individual and institutional racism (example: "Told you that society is not fair for people who are not White"). The individualism subscale consisted of 3 items assessing perceived messages about individual traits being more important for success than race (example:

"Told you that skin color does not define who you are"). The colorblindness subscale consisted of 4 items measuring participants' reports of messages they perceived at school about de-emphasizing the importance of race in society and the importance of ignoring race (example: "Told you that race doesn't matter"). The racial socialization response scales ranged from 1 (never) to 3 (more than twice).

Finally, a *stereotypical perceptions* subscale consisted of 6 items measuring the degree to which participants perceived that their teachers and other students at their school endorse stereotypes about ethnic minority students (e.g., Black students, students with accents, and immigrants) on a scale of 1 (not at all true) to 5 (completely true). An example item is "Other students think Black students aren't as smart as other students". The stereotypical perceptions items were adapted from the public regard scale of the Multidimensional Inventory of Black Identity (Sellers, Rowley, Chavous, Shelton, & Smith, 1997) and an unpublished scale by Aber and colleagues (Aber & University of Illinois School Climate Research Team, n.d.).

Academic outcomes. The academic outcomes assessed in the study included participants' cumulative grade point average from school records, as well as student-reported intrinsic motivation, school belonging, and academic competence. *Intrinsic motivation* ($\alpha = .89$), or the extent that youth connected going to school with interest and enjoyment, was measured by a three-item scale based on a scale of academic interest by Eccles and Wigfield (1985; Wigfield et al., 1997). The response scale was from 1 (*not at all true*) to 5 (*completely true*). An example item was "I find school interesting."

School belonging ($\alpha = .86$) was measured with the relatedness subscale of the Basic Needs Satisfaction scale adapted for school (Deci & Ryan, 2000) (See also

http://www.psych.rochester.edu/SDT/measures/needs). The scale includes eight items asking youth how much they like people at the school and how much others at the school like them, and was measured on a 1 (*not at all true*) to 5 (*completely true*) scale. An example item was "I really like the people at my school."

Adolescents' perceptions of their *academic competence* were assessed with an academic self-concept scale (α = .83) based on a measure by Nicholls (1978). The scale included eight items asking youth to rate themselves on a 1 (*below average*) to 5 (*above average*) scale in several academic subjects, grades, and overall intelligence.

Student characteristics. In the survey I assessed students' demographic background and race-related attitudes to provide descriptive context for establishing the racial climate dimensions and measure.

Racial attitudes. The study included a range of measures capturing participants' beliefs and values around their racial group membership and interracial interactions including: racial identity, appreciation for difference, interest in other cultures, and comfort interacting with racial outgroup members

Participants' racial identity attitudes and beliefs regarding the importance and meaning of their racial group membership were measured using the Multidimensional Inventory of Racial Identity-teen version (Scottham, Sellers, & Nguyên, 2008). A racial centrality subscale consisted of three items (α = .74) measuring the degree to which individuals' racial group was important to the self, such as "I have a strong sense of belonging to people of my race." A private regard subscale consisted of three items (α = .84) measuring individuals' positive or negative affect or evaluation of their group, such as "I am happy to be the race that I am." A public regard subscale consisted of three

items measuring youths' perceptions of the extent that society valued their group, for example "Most people think that people of my race have done important things." (α = .84). Participants' racial identity exploration, or the extent to which they had engaged in some personal search process around the meaning of their racial group membership, was measured with the identity exploration subscale of the Multigroup Ethnic Identity Measure-Revised (MEIM-R) (Phinney & Ong, 2007). The subscale included three questions asking how much youth have tried to learn more about their group's history and culture (α = .81). An example item was "I have often talked to other people in order to learn more about my culture."

Also examined were several race-related beliefs measures capturing participants' personal beliefs and attitudes about intergroup relations. Appreciation for difference was assessed with the relativistic appreciation subscale of the Miville-Guzman Universality-Diversity Scale (M-GUDS; Miville et al., 1999). The three items (α = .76) indicate the degree to which an individual is interested in knowing how similar they are to others and how different. An example item was "Knowing how a person is different from me makes our friendship better." Interest in other cultures was measured with the diversity of contact scale of the M-GUDS, consisting of two items (r = .83) on how interested youth were in learning about different cultures and in learning the traditions of different races. An example item was "I am interested in learning about the many cultures in the world." Finally, outgroup comfort was measured with two items from the Multigroup Ethnic Identity Measure other-group orientation subscale (Phinney, 1992) and assesses how much youth enjoy being around people of a different race and getting to know people of a different race (r = .63).

Demographic background. Also assessed were youth-reported gender, age, and whether youth identified as monoracial Black/African American. Family socioeconomic status was measured using a composite variable consisting of parent-reported household income and mother's education.

Analysis Plan

To establish the racial climate measure, I began with an exploratory factor analysis (EFA) of the racial climate items, a method appropriate for exploring and summarizing the underlying correlational structure of items in a data set. To test whether my measures of the racial climate dimensions were consistent with my conceptualization of the dimension constructs, I also conducted confirmatory factor analysis (CFA). A CFA approach allows for testing the correlational structure of the items against my hypothesized structure and rating the "goodness of fit." Next, using the factors from the best fitting confirmatory model, I examined whether the internal consistency of the items making up each factor was adequate (by calculating Cronbach's alpha for each subscale). After establishing internal consistency of items within each factor, the items in each were averaged together to create individual subscale scores and variables representing each racial climate dimension.

Preliminary descriptive analyses with the created racial climate variables included reporting variables means and standard deviations, as well as correlations among racial climate variables. Additionally, other descriptive analyses (analysis of variance, chi-square) included examinations of associations of racial climate subscales with individual student characteristics, i.e., racial attitudes and demographic background. Finally, I used

path analysis to examine the hypothesized relationships between school racial climate variables and academic outcomes variables.

The first hypothesis is that the measure will conform to a nine-factor model matching the dimensions described earlier. The second hypothesis is that each subscale will demonstrate adequate internal consistency, and the third hypothesis is that the subscales will show discriminant validity. The fourth hypothesis is that interpersonal interactions and perceived curriculum will be associated with feelings of belonging and competence, and with intrinsic motivation. The fifth hypothesis is that school racial climate will be directly and indirectly associated with academic achievement, and the sixth hypothesis is that belonging and competence will mediate the relationship between school racial climate and intrinsic motivation.

Table 3.1 2010-2011 Percentage of 11th graders at or above proficient on Michigan Merit Exam in target school and statewide

Subject	Target School	State Average
Reading	46	63
Social Studies	62	78
Science	8	61
Writing	31	47
Math	31	52

Chapter 4: Results

Sample Size and Power Considerations

There are a number of ways to determine the appropriate sample size for a study. To estimate required sample size for the exploratory factor analysis, I relied on a Monte Carlo simulation study by MacCallum and colleagues (MacCallum, Widaman, Zhang, & Hong, 1999). The authors chart the recovery of population factors using samples varied by size, communalities, and the ratio of variables to factors. I conducted an exploratory analysis using secondary data to determine an appropriate sample size.

The sample for the exploratory analyses consisted of 989 college students at three universities, two predominantly White and one historically Black university. Students completed a survey of their perceptions of racial climate each year for up to four years (46% completed at least three years). The exploratory study used a climate scale that is very similar to some of the scales for the current study. The 16 items representing the three factors were entered into a principal components factor analysis with varimax rotation using SPSS. As expected, three factors emerged, corresponding to the three subscales. The communalities ranged between .473 and .654, with the average communality of .565 (SD = .058). These are moderate communalities with a narrow spread.

MacCallum et al. (1999) tested 36 conditions based on three levels of communality, three ratios of variables to factors, and four sample sizes. They plotted their

measure of recovery (*K*) for each condition in a series of figures. The authors determined that $K > .92$ represented good recovery and $K > .98$ represented excellent recovery.

To determine an appropriate sample size, I consulted a figure (p.95), which revealed that for samples with high communality (between .6 and .8) where the ratio of variables is 20:3, excellent recovery of the population factors is possible with samples as small as 60, and is nearly 100% at N = 100. For low communalities (between .2 and .4), excellent recovery is achieved near N = 200, and good recovery at N = 100. Based on the exploratory analysis, I expected the current study to have moderate to high communalities and a ratio of factors to variables approaching 20:3, therefore a sample size of at least 60 should be sufficient.

Debate exists over necessary sample sizes for confirmatory factor analysis and structural equation modeling, and rules of thumb often do not stand up to empirical testing (MacCallum et al., 1999). When using strong factor indicators or estimating models with no latent variables, small (50-100) sample sizes may be sufficient (Iacobucci, 2010). There are several methods to calculate observed power using Monte Carlo studies (Muthén & Muthén, 2002) or fit indices (Kim, 2005; MacCallum, Browne, & Cai, 2006). In Part 2 of the study, I estimated observed power using the RMSEA.

Part 1: Factor Analysis

Exploratory factor analysis. The first part of the analyses focuses on the factor structure of the racial climate measure. Table 4.1 gives each item and the dimension it was expected to load with. The EFA was conducted using IBM SPSS Statistics 19. There was very little missing data in the sample (average covariance coverage = 96%). All items were entered into a principal axis factor analysis with oblique rotation. Oblique

rotation was chosen because all factors were assumed to be correlated. I examined the scree plot, eigenvalues, and overall factor structure to determine the best number of factors. I looked for a structure with few cross-loadings and no factors with less than three items. The scree plot revealed breaks at three factors and around eight to nine factors. Retaining factors with eigenvalues equal to or greater than 1.0 resulted in 11 factors, so I examined the structures for 3-4 and 8-11 factors. The three and four factor solutions were difficult to interpret as most factors contained between 10 and 15 items reflecting both aspects of interactions and aspects of the curriculum. The items appeared to be grouped by positivity or negativity rather than item content. Therefore, I focused on the 8-11 factor solutions. In these solutions, the three individualism items proved to be problematic: they rarely loaded together, often loaded on more than one factor, and usually loaded with theoretically distinct items (for example, "told you that everyone who works hard can be successful" with "Your school often hosts cultural events or multicultural festivals"). Thus, I removed all three individualism items and re-ran the analysis. Without those items, a nine-factor solution had the fewest cross-loadings, although the ninth factor consisted of just one item that loaded higher on the first factor than the ninth. The final solution produced eight factors.

The EFA factor loadings are shown in Table 4.2. The structure was consistent with the theoretical framework. However, the three items I expected to load on frequency of intergroup interaction (see Table 4.1) loaded with other factors. The first two items ("Students here like to have friends of different races" and "Students here think its good to study with people of different races") loaded with the support for diversity factor and the third ("If you hang out with someone of a different race, students of your race will be

mean to you") loaded with the quality of interaction factor. The final frequency of interaction factor consisted of only the three items measuring frequency behaviors.

Confirmatory factor analysis. The CFA was conducted in MPlus based on the EFA results using maximum likelihood estimation. All factors were allowed to correlate with each other but no cross-loadings were allowed. Model adjustments were made after examining factor loadings, residual variance, modification indices, and standardized residuals. I allowed correlated errors between items on the same scale but not across scales. The primary model adjustments were dropping two items and moving one item from the cultural socialization factor to the support for diversity factor ("In school you get to do things that help you learn about people of different races and cultures"). The item was originally proposed as a support for diversity indicator and had a higher loading on that factor than on the cultural socialization factor.

The eight-factor model had a moderate fit: chi-square (526, $N = 99$) = 777.032, $p < .001$; CFI = .80, RMSEA = .069. A nine-factor model including the individualism items fit the data less well: chi-square (623, $N = 99$) = 943.635, $p < .001$, CFI = .77, RMSEA = .072. The fit was significantly worse with the individualism factor: chi-square (97, $N = 2$) = 166.603, $p < .001$. Neither model met the criteria for excellent fit. The final factors and loadings are shown in Table 4.3.

Sample size was likely the cause of poorer than expected model fit. To demonstrate that the model showed strong fit despite the small sample size, I divided the final solution with individualism into three parts and examined the model fit and factor loadings. The three models had close to excellent fit and the loadings were of similar magnitude (see Table 4.3). Part 1 focused on equal status, support for diversity, and

stereotypical perceptions: chi-square (98, N = 99) = 119.084, p = .07, RMSEA = .047, CFI = .96. Part 2 focused on quality of interaction, frequency of interaction, and preparation for bias: chi-square (40, N = 99) = 51.548, p = .10, RMSEA = .054, CFI = .96. Part 3 focused on cultural socialization, colorblindness, and individualism: chi-square (39, N = 99) = 46.267, p = .20, RMSEA = .044, CFI = .97. Because the part containing the individualism factors fit the data well, I decided to retain this factor in the model.

Based on statistical and theoretical considerations, I determined the final factors were: 1) Frequency of interaction, 2) quality of interaction, 3) equal status, 4) support for diversity, 5) cultural socialization, 6) preparation for a racist society, 7) individualism, 8) colorblindness, and 9) stereotypical perceptions. The first three factors fit under the theorized "interpersonal interactions" domain of racial climate, as they emphasized perceived norms around the extent and nature of intergroup interactions. The latter five factors fit under the theorized "perceived curriculum" domain of racial climate, as each factor involved individuals' perceived formal or informal curricular messages around diversity and race.

Interpersonal interactions factors. The final frequency of interaction factor included two items measuring perceived frequency of contact between peers of different races. It is important to note that this factor assessed contact between students rather than contact between students and adults (e.g., teachers, administrators). Additionally, the items tapped into perceptions of interactions in academic (studying) and social (lunch) situations. Both situations could be seen as situations in which students voluntarily interact across race, whereas the item that was dropped in the confirmatory analysis

("work together in class") could reflect more involuntary or structured interactions. Therefore, this factor could be seen as the perceived extent to which students choose to interact across race in academic and social settings within school.

The final quality of interaction factor included four items indicating perceived tensions and trust between individuals of different races. One of the trust-related items included the perceived negative consequences of interacting across race, that is, in-group sanctions for crossing racial boundaries ("If you hang out with someone of a different race, students of your race will be mean to you"). The items encompass both peer interactions ("Students of different races trust each other") as well as interactions with adults ("People of different races get along well").

The final equal status factor included three items measuring the degree to which individuals from different racial groups are treated fairly at school. The dimension represented treatment both by administrators and teachers, as well as more generally ("Students of all races are treated equally at your school"). The items in the equal status factor explicitly refer to perceived treatment or privilege rather than more subtle ways differential group status might be represented at school (for example, social status—what groups are more popular or liked).

Perceived curriculum factors. The final support for diversity factor consisted of six items measuring the degree to which teachers, administrators, other students, and the curriculum support intergroup contact and learning about different cultures. The factor includes perceived normative expectations about intergroup contact from teachers, administrators, and students. Additionally, the factor includes perceptions of explicit encouragement to interact across races ("Teachers encourage students to make friends

with students of different races"), as well as perceived social norms and values around interacting across race ("Students here think its good to study with people of different races"). The factor also includes the extent that individuals perceive encouragement for engaging with diverse groups as represented in curriculum materials (i.e., textbooks), coursework and activities ("you get to do things that help you learn about people of different races and culture") and in school discourse ("Teachers say its good to be a diverse school").

The final cultural socialization factor included four items assessing frequency of reported messages about learning one's cultural history. The items tapped into messages encouraging youth to seek out information on their culture ("learn about history" and "do assignments or reports"). The items also suggest the importance of discussions about the meaning and connection to one's cultural group. Because the items refer to culture, the exact group is open to how students see themselves.

The final colorblindness factor contained four items that involved reported messages about de-emphasizing or ignoring race. The items include the ideas that race does and should not matter, along with the implication of negative consequences when race is noticed ("talking about race separates people"). The items are not limited to race in the school context.

While the three items in the final individualism factor did not load together as cleanly as others in the analyses, conceptually the items came together around the theme of emphasizing the value of hard work and the potential for success despite one's race. Unlike most of the items, the individualism items refer to "everyone" and not only to students or minorities. Like the colorblindness items, the scale refers to messages based

in a more general ideology not limited to the school context. However, the individualism items are distinguished because they do not require individuals to de-emphasize or ignore race (as the colorblindness items do). Because of this important conceptual distinction, I felt confident that the individualism items captured a different and distinct construct than the colorblindness factor or the other racial climate factors.

Reliability and discriminant validity. The next step was reliability analyses for each factor: Cronbach's alpha was computed for each of the 9 subscales. All scales had adequate to strong internal consistency, with alpha's ranging from .65 to .85. The alphas are shown in Table 4.3. Five scales had alphas above .80 (equal status: .80, support for diversity: .84, cultural socialization: .82, preparation for a racist society: .81, and stereotypical perceptions: .85), and three others demonstrated moderate reliability with alphas above .60 (quality of interaction: .67, individualism: .65, and colorblindness: .66). The bivariate correlation between the frequency of interaction items was .52.

To consider discriminant validity, I examined the correlations between factors. Table 4.4 shows the factor correlations estimated in MPlus below the diagonal and the correlations among racial climate subscales (created through computing the average of items in each factor) above the diagonal. Overall, the subscales were weakly to moderately correlated.

Interpersonal interactions. The scores for the three subscales indicating interpersonal interactions were weakly to moderately correlated. All were positively correlated to each other, such that perceiving more frequent interracial interactions (frequency of interaction) and more positive interracial interactions (quality of interaction) was associated with perceiving fairer treatment (equal status) across racial

groups in school. The strongest correlation among all subscale correlations was between quality of interaction and equal status (r = .44, p < .001). Frequency and quality of interaction were marginally correlated (r = .19, p = .06).

Perceived curriculum. Subscales assessing perceptions of curricular messages were also correlated, although in unexpected ways. Support for diversity and cultural socialization showed a weak to moderate correlation (r = .23, p = .02). Reported messages emphasizing colorblindness were weakly to moderately, but positively associated with reported support for diversity (r = .22, p =.03), cultural socialization (r = .27, p = .008), and preparation for a racist society (r = .23, p =.03).

Correlations across racial climate domains. Quality of interaction and stereotypical perceptions were moderately correlated (r = -.42, p < .001), as were equal status and stereotypical perceptions (r = -.37, p < .001), such that perceptions of more negative intergroup interactions and more unequal treatment across racial groups related to perceptions that people at school held more stereotypical beliefs about students of different social groups.

Preliminary Descriptive Analyses

In this section I examined and summarized the descriptive characteristics of the school racial climate subscales. These descriptive statistics are listed in Table 4.5. I also examined the extent that the racial climate subscales were related to students' demographic background and racial attitudes. When examining the distributions of the racial climate subscale scores, I noticed that several of the subscales had extremely skewed distributions: frequency of interaction, equal status, individualism, and stereotypical perceptions. Therefore, I dichotomized the variables around their endpoints.

That is, frequency of interaction was divided into scores equal to five (which corresponded to answering "every day" for all three items) and scores less than five. Equal status was dichotomized in the same way (with the higher category corresponding to answering "completely true" for each item). Individualism was treated similarly, except the endpoint was three (which corresponded to answering "more than twice") for each item. Finally, stereotypical perceptions was dichotomized around the lowest endpoint, with the lower category representing those who had a mean of one (meaning the respondent choose "not at all true" for each item), and the higher category representing those who had a mean greater than one.

Interpersonal interactions. With regard to frequency of interaction, nearly three-fourths of the sample reported cross-racial interaction "every day", with only 25% reporting less than daily interactions among students. Also, perceived quality of interaction was fairly positive (M = 4.03, SD = .73). More than half of the sample (57%) answered "completely true" for the three equal status items, which suggests that many students perceived fair treatment across racial groups at the school as normative.

Perceived curriculum. In terms of curriculum, perceived support for diversity (positive intergroup contact and learning about other cultures) was moderately high (M = 3.60, SD = .86). Individualism messages were the most frequently perceived racial socialization message: the mean of the non-dichotomized variable was 2.63 (SD = .49). Cultural socialization was the second most frequently perceived racial socialization message (M = 2.23, SD = .65), followed by colorblindness (M = 2.00, SD = .59), then preparation for a racist society (M = 1.70, SD = .58). More than half of the sample (58%) responded "not at all true" to the six stereotypical perceptions items, which suggests that

many respondents feel their teachers and peers do not hold negative stereotypes. However, some did perceive at least some level of stereotypical views of social minorities at school.

Student characteristics. Analyses indicated that racial climate subscale scores were associated with students' background characteristics.

Gender. Boys and girls did not differ in their perceptions of quality of interaction ($t(97) = -.89$, $p = .38$). They did, however, differ in their perceptions of stereotypes, with girls perceiving more stereotyping of different groups at school than did boys (chi-square (1, $N = 99$)= 3.81, $p = .04$). Another gender difference was that girls ($M = 3.75$, $SD = 3.40$) perceived greater support for diversity than did boys ($M = 3.40$, $SD = .89$) ($t(97) = -2.03$, $p = .045$).

Age and school level. Age was positively associated with preparation for a racist society messages ($r = .21$, $p = .04$) such that older children reported hearing more messages at school about individual and institutional discrimination. However, there were no differences in racial climate subscales by school level (middle school vs. high school).

Socioeconomic background. Family socioeconomic status was positively associated with cultural socialization ($r = .25$, $p = .02$), such that those youth whose parents reported higher household incomes and more maternal education perceived more messages at school encouraging them to learn about their culture.

Racial background. Self-identified monoracial Black adolescents perceived more stereotypical perceptions at school than did children of other racial backgrounds (chi-square(1, $N = 99$) = 8.61, $p = .003$).

Racial attitudes. Next I examined whether racial climate subscales were related to students' racial attitudes and beliefs. Such an examination could help show whether youth who had particular understandings of race and their racial identity might vary in how they perceive the school racial climate. Alternatively, given the cross-sectional design of the study, it may be that students' perceptions of the school racial climate influences their racial attitudes and beliefs. Little work has investigated how perceptions of racial climate might be associated with racial attitudes, so the following results are exploratory in nature.

Racial identity. In examining racial identity as an individual difference factor, I focused on racial centrality (level of group identification), private regard (group affect or pride), public regard (perceptions of societal value for group), and racial identity exploration (the degree that individuals had explored the meaning of their racial group membership). Racial centrality and public regard were not associated with perceptions of racial climate across any of the climate subscales. However, students' private regard was positively associated with their perceptions of quality of interaction ($r = .41$, $p < .001$) and support for diversity at school ($r = .27$, $p = .007$). Youths' identity exploration was positively associated with perceived support for diversity ($r = .32$, $p = .001$) and cultural socialization messages ($r = .23$, $p = .02$).

Attitudes toward intergroup relations. With regard to racial attitudes related to intergroup relations, youth who reported greater comfort with outgroup members perceived more frequent interactions across race ($t(95) = -3.23$, $p = .002$). Note that frequency was dichotomized. Those who perceived greater frequency of intergroup interactions also reported greater comfort with outgroup members ($M = 4.40$, $SD = .88$)

than those who perceived less frequent intergroup interactions (M = 3.74, SD = .86). Those who reported being more comfortable with other groups also perceived that people at school held fewer group stereotypes (t(95)= 2.57, p = .012). Youth who perceived no stereotyping of groups at school reported greater comfort with outgroup members (M = 4.42, SD = .72) than those who perceived at least some stereotyping (M = 3.95, SD = 1.08). Those who were interested in knowing how others were similar to and different from them (appreciation for difference) perceived more support for diversity (r = .32, p = .001), less stereotyping of groups (t(96) = 2.61, p = .011), and reported hearing more messages about individualism (t(95) = -2.03, p = .045).

Part 2: The Relationship between School Racial Climate and Academic Outcomes

I investigated the relationship between perceptions of school racial climate and outcomes using structural equation modeling with observed variables. I was interested in the direct effects of school racial climate dimensions on belonging and academic self-concept, as well as the indirect effects of school racial climate dimensions on intrinsic motivation and GPA through belonging and academic self-concept. See Figure 2.2 for a summary of the hypothesized relationships.

Power analysis. Because not all parents gave permission to access youths' grades, the final sample consisted of 85 youth. Participants with reported GPAs did not differ from the rest of the sample on any study variables. I conducted a power analysis using a technique based on the RMSEA (MacCallum, Browne, & Sugawara, 1996). The RMSEA method required indicating a null RMSEA; I selected .00 to test perfect fit and used an online calculator (http://quantpsy.org/rmsea/rmsea.htm) to calculate the observed power. This method indicated a power level of .56 with an alpha level of .05 and 113

degrees of freedom. The same calculator indicated that I would need a sample size of at least 126 to achieve a power level of .80. This analysis suggested that I had low power to detect perfect fit with the current sample size. I also computed the power to detect poor fit (RMSEA = .10) and found a power level of .98. Therefore, though I was unable to detect perfect fit, my sample size was sufficient to detect poor fit. I continued with the SEM framework because of its capacity to estimate simultaneous equations and indirect effects. I also conducted ordinary least squares regression analyses to verify the parameter estimates. The pattern of results was the same, so I present the SEM results here.

The model had good fit overall: chi-square (9, N = 85) = 11.29, p = .26, CFI =.98, RMSEA = .06. Figure 4.1 illustrates the relationships, and Table 4.6 reports the model parameters. The model explained a significant amount of variance in each outcome. In terms of demographics, girls reported greater feelings of belonging, higher intrinsic motivation, and higher grades than boys. Older students had lower GPAs and students from higher SES backgrounds had higher GPAs.

Interpersonal interactions. *Belonging.* I hypothesized that perceiving positive interactions (high quality of interactions) and equal status should be associated with more positive feelings of belonging at school because of greater opportunities for positive cross-race relationships. My hypothesis was partially supported: perceptions of more positive quality of interaction were positively associated with feelings of belonging (B = .22, p = .04). Equal status was not associated with belonging (B = -.14, p = .25). I did not hypothesize a relationship between frequency of interaction and belonging and there was no significant association (B = -.06, p = .54).

Academic self-concept. I predicted that perceived quality of interaction and equal status would be associated with academic self-concept to the extent that they provide negative feedback about youths' abilities, but the two variables were unrelated to academic self-concept.

Curriculum. ***Academic self-concept.*** I expected perceptions that the school encouraged youth to learn about different cultures, including their own, and represented their group in positive ways (i.e., non-stereotypically) to be associated with higher ratings of academic self-concept because such curricular messages would promote a positive sense of self overall and especially the ability to see oneself as successful academically. My hypothesis was partially supported: perceiving more messages about colorblindness was associated with lower ratings of academic self-concept (B = -.34, p = .002) and hearing more messages about emphasizing individual traits was associated with a higher academic self-concept (B = .22, p = .045). I also expected a negative relationship between stereotypical perceptions and academic self-concept because youth might internalize negative stereotypes about their ability to succeed academically. However, I found no direct relationship (B = -.15, p = .20).

Belonging. I also expected the curriculum to be associated with feelings of belonging because limited opportunities to learn about one's culture or negative stereotypes might lead youth to feel they are not valued for who they are. Colorblindness messages might also promote racial tension by discouraging the discussion of racial problems, which could lead to less connectedness between students. I found support for this hypothesis. Youth who perceived that their teachers and peers held negative stereotypes reported lower feelings of belonging at school (B = -.33, p = .003). There

were also trends such that perceiving more colorblind messages was marginally associated with lower belonging (B = -.18, p = .096) and perceiving more support for positive intergroup interactions and learning about other cultures was marginally associated with higher belonging (B = .22, p = .056).

Achievement. I also investigated the direct relationships between perceptions of racial climate dimensions and achievement. I expected support for diversity to be positively associated with students' GPA because a curriculum that involves learning about different cultures can promote perspective-taking and critical thinking (Astin, 1993). However, I also found that perceptions of more support for diversity were associated with *lower* GPAs (B = -.23, p = .042). I did not have specific hypotheses about the other dimensions. Perceptions of greater fair treatment across racial groups were associated with higher grades (B = .24, p = .039), as were perceptions that people at school held negative group stereotypes (B = .32, p = .005).

Mechanisms linking racial climate dimensions and academic outcomes. A main goal of the study was to consider possible mechanisms linking different aspects of the school racial climate to student academic outcomes. A primary argument of my study was that school racial climate influences student motivation and achievement outcomes by satisfying (or failing to satisfy) individuals' basic needs for competence and belonging in their school setting. Thus, I expected both school belonging and academic self-concept (competence) to be positively associated with students' intrinsic motivation for school because individuals whose basic needs are met in a setting should experience more inherent enjoyment of the tasks and demands of the setting.

Though I expected both belonging and academic self-concept to be associated with intrinsic motivation, only belonging had a significant relationship (B = .65, p < .001). I also expected both variables to be positively associated with academic achievement, but only academic self-concept was positively associated with students' GPA (B = .41, p < .001). Finally, I expected more autonomous motivation to predict better performance: intrinsic motivation was marginally positively related to GPA (B = .24, p = .075).

Belonging as a mechanism. I expected those racial climate dimensions that were directly related to belonging to be indirectly related to intrinsic motivation and achievement through belonging. This would suggest that the more autonomous motivation and better performance of students could be explained by the satisfaction of their need for belonging. Because quality of interaction, support for diversity, colorblindness, and stereotypical perceptions were directly associated with belonging, I examined whether they had significant indirect effects on intrinsic motivation and achievement. Quality of interaction had a significant indirect effect on intrinsic motivation through its effect on belonging (B_i = .14, p = .046)[4], while support for diversity had a marginal indirect effect (B_i = .14, p = .062). Colorblindness had a marginally significant total indirect effect but a non-significant indirect effect through belonging. Stereotypical perceptions had a significant indirect effect on intrinsic motivation through belonging (B_i = -.21, p = .005). These results support the meditational role of belonging for intrinsic motivation.

[4] Note the total indirect effect in Table 4.5 may be different because the total effect includes all indirect pathways.

Along the same lines, I examined the indirect effects between the four dimensions and achievement through belonging and intrinsic motivation or just through belonging. Because belonging was not significantly associated with achievement, none of the dimensions had significant indirect effects through these pathways.

Academic self-concept as a mechanism. I could not explore whether satisfaction of the need for competence (represented by academic self-concept) could explain the relationship between perceptions of school racial climate and intrinsic motivation. I could, however, show whether academic self-concept mediated the effect of perceptions of school racial climate on achievement. Individualism and colorblindness were directly associated with academic self-concept, so I examined their indirect effects with achievement through academic self-concept. Individualism had a marginally significant indirect effect on achievement through academic self-concept (B_i = .09, p = .072) and colorblindness had a significant indirect effect on achievement through academic self-concept (B_i = -.14, p = .014).

Table 4.1 Theorized dimensions of perceived racial climate and associated items

Interpersonal Interactions

Frequency of interaction

Perceived Norms/Values

- Students here like to have friends of different races
- If you hang out with someone of a different race, students of your race will be mean to you
- Students here think its good to study with people of different races

Perceived Behavior

- Students of different races eat lunch together
- Students of different races work together in class
- Students of different races study together

Quality of interaction

- Students of different races trust each other
- People of different races are mean to each other
- People of different races get along well

Equal status

- Students of all races are treated equally at your school
- Teachers at your school are fair to students of all races
- The principal and assistant principals treat students of all races fairly

Perceived Curriculum

Support for diversity

- Teachers say its good to be a diverse school
- The principal likes for students to have friends of different races
- In school you get to do things that help you learn about people of different races and cultures
- Your school often hosts cultural events or multicultural festivals
- Your textbooks show people of many different races

Cultural socialization

- Told you that you should be proud of your culture
- Encouraged you to learn about the history of your culture
- Encouraged you to do assignments or reports on people who share your cultural background
- Talked to you about what it means to be a member of your cultural group

Preparation for a racist society

- Told you that some people try to keep other people from being successful because of their race
- Told you that some people think they are better than other people because of their race
- Told you that some people don't like other people because of the color of their skin
- Told you that society is not fair for people who are not White
- Told you that White people have advantages because of the color of their skin

Individualism

- Told you that everyone who works hard can be successful, regardless of race
- Told you that skin color does not define who you are
- Told you that being an individual is more important than being a member of a certain race

Colorblindness

- Told you that race doesn't matter
- Told you that talking about race separates people
- Told you that you shouldn't pay attention to race
- Told you that people shouldn't use race as an excuse when bad things happen to them

Stereotypical perceptions

- Teachers think Black students are not as smart as other students
- Teachers think students with an accent aren't as good as other students
- Teachers think US natives are more hardworking than immigrants
- Other students think Black students aren't as smart as other students
- Other students think students with an accent are not as good as other students
- Other students think US natives are more hardworking than immigrants

Table 4.2 Exploratory factor analyses factor loadings

Item	1	2	3	4	5	6	7	8	9
1. Stereotypical Perceptions									
Other students think US natives are more hardworking than immigrants	**-.828**	.010	.102	-.045	-.081	.050	.000	-.136	**-.440**
Other students think students with an accent are not as good as other students	**-.677**	-.083	.007	-.052	.165	-.017	.060	-.075	-.122
Teachers think Black students are not as smart as other students	**-.665**	.006	.067	.065	-.027	.137	.092	-.064	.237
Other students think Black students aren't as smart as other students	**-.627**	.041	.006	.108	.137	.008	-.055	-.225	.054
Teachers think students with an accent aren't as good as other students	**-.625**	-.034	-.076	-.213	.012	-.174	-.120	.150	.140
Teachers think US natives are more hardworking than immigrants	**-.605**	-.045	-.078	.047	.106	-.108	-.084	.044	.077
2. Support for Diversity									
Students here think its good to study with people of different races	-.045	**.697**	.019	.027	-.197	.016	-.005	.115	.032
Teachers encourage students to make friends with students of different races	-.002	**.691**	.096	.003	-.055	-.064	-.106	.031	-.033
Teachers say its good to be a diverse school	.027	**.691**	.039	.043	.118	.025	-.052	.035	-.202
Students here like to have friends of different races	.014	**.684**	-.032	-.074	.000	.048	.111	.078	.140
The principal likes for students to have friends of different	.079	**.646**	.137	-.116	.144	-.004	-.168	.048	-.175

races									
Your textbooks show people of many different races	.084	**.502**	.052	.017	.033	.116	-.059	-.127	.079
Your school often hosts cultural events or multicultural festivals	-.168	**.341**	-.173	.288	.031	-.233	.072	.050	.048
In school you get to do things that help you learn about people of different races and cultures[1]									
3. Frequency of Interaction									
Students of different races work together in class	.010	-.002	**.956**	.094	.078	.056	.128	-.092	-.041
Students of different races eat lunch together	-.079	-.002	**.784**	-.001	-.034	.113	.014	.104	.102
Students of different races study together	.017	.101	**.678**	.059	-.025	-.121	.064	.083	-.009
4. Cultural Socialization									
Encouraged you to learn about the history of your culture	.082	-.059	-.032	**.801**	.116	.037	-.074	-.010	-.026
Encouraged you to do assignments or reports on people who share your cultural background	-.047	-.031	.066	**.737**	-.014	.046	.077	.047	-.046
Talked to you about what it means to be a member of your cultural group	.098	-.057	.067	**.686**	.045	-.015	-.126	.040	.095
Told you that you should be proud of your culture	.000	.023	.282	**.549**	-.034	-.146	-.253	-.006	-.053
In school you get to do things that help you learn about people of different races and cultures[1]	-.081	**.428**	-.075	**.486**	-.158	.176	.001	-.196	.003
5. Preparation for a									

Racist Society									
Told you that some people think they are better than other people because of their race	.152	.092	-.045	-.083	**.825**	-.056	.083	-.172	.055
Told you that some people don't like other people because of the color of their skin	-.002	.019	.122	-.024	**.657**	-.057	-.084	-.083	-.197
Told you that White people have advantages because of the color of their skin	-.126	-.098	.041	.009	**.652**	.041	-.039	.046	.145
Told you that some people try to keep other people from being successful because of their race	-.132	.103	-.120	.188	**.642**	-.106	.071	.018	-.040
Told you that society is not fair for people who are not White	-.137	-.117	.008	.052	**.590**	.197	-.148	.160	.015
6. Equal Status									
The principal and assistant principals treat students of all races fairly	.006	-.034	.039	.073	.021	**.819**	.029	.023	.161
Students of all races are treated equally at your school	.046	.188	.101	.080	.073	**.592**	.049	**.359**	-.222
Teachers at your school are fair to students of all races	-.012	.199	.013	-.098	-.112	**.574**	-.148	.119	-.191
7. Colorblindness									
Told you that you shouldn't pay attention to race	-.001	.057	-.127	.003	-.025	-.029	**-.775**	.060	-.283
Told you that people shouldn't use race as an excuse when bad things happen to them	-.004	.118	.059	.030	.065	.051	**-.501**	-.123	-.029
Told you that race doesn't matter	.047	.008	-.114	.102	-.036	.105	**-.484**	-.053	.151
Told you that talking about race separates people	-.110	-.055	-.044	.048	.106	-.136	**-.478**	.088	.185

8. Quality of Interaction									
People of different races get along well	.093	.145	.093	-.003	-.069	.021	-.008	**.674**	.084
Students of different races trust each other	-.008	.084	.130	.009	-.015	.199	.015	**.584**	.070
If you hang out with someone of a different race, students of your race will be mean to you[2]	.239	-.108	-.055	.195	-.008	-.048	.111	**.406**	-.305
People of different races are mean to each other[2]	.172	-.063	-.098	-.101	-.126	.194	.106	.277	-.101

Note: Factor loadings about .32 bolded, [1]This item loaded with factor 4 in the EFA and factor 2 in the CFA, [2]Item reversed

Table 4.3 Confirmatory factor (completely standardized) analyses factor loadings, with Cronbach's alphas

Item	CFA1	CFA2
1. Stereotypical Perceptions (α = .85)		
Other students think US natives are more hardworking than immigrants	0.626	0.627
Other students think students with an accent are not as good as other students	0.707	0.707
Teachers think Black students are not as smart as other students	0.616	0.626
Other students think Black students aren't as smart as other students	0.827	0.808
Teachers think students with an accent aren't as good as other students	0.698	0.709
Teachers think US natives are more hardworking than immigrants	0.646	0.652
2. Support for Diversity (α = .84)		
Students here think its good to study with people of different races	0.630	0.639
Teachers encourage students to make friends with students of different races	0.764	0.760
Teachers say its good to be a diverse school	0.748	0.747
Students here like to have friends of different races	0.538	0.560
The principal likes for students to have friends of different races	0.746	0.745
Your textbooks show people of many different races	0.520	0.516
In school you get to do things that help you learn about people of different races and cultures	0.523	0.507
3. Frequency of Interaction (*r* = .52)		
Students of different races eat lunch together	0.732	0.768
Students of different races study together	0.713	0.679
4. Cultural Socialization (α = .82)		
Encouraged you to learn about the history of your culture	0.760	0.799
Encouraged you to do assignments or reports on people who share your cultural background	0.536	0.570
Talked to you about what it means to be a member of your cultural group	0.650	0.675
Told you that you should be proud of your culture	0.801	0.749
5. Preparation for a Racist Society (α = .81)		
Told you that some people think they are better than other people because of their race	0.793	0.850
Told you that some people don't like other people because of the color of their skin	0.724	0.715
Told you that White people have advantages because of the color of their skin	0.599	0.574

Told you that some people try to keep other people from being successful because of their race	0.706	0.677
Told you that society is not fair for people who are not White	0.496	0.456
6. Equal Status (α = .80)		
The principal and assistant principals treat students of all races fairly	0.571	0.610
Students of all races are treated equally at your school	0.976	0.906
Teachers at your school are fair to students of all races	0.678	0.740
7. Colorblindness (α = .66)		
Told you that you shouldn't pay attention to race	0.709	0.699
Told you that people shouldn't use race as an excuse when bad things happen to them	0.612	0.638
Told you that race doesn't matter	0.501	0.511
Told you that talking about race separates people	0.459	0.426
8. Quality of Interaction (α = .67)		
People of different races get along well	0.732	0.846
Students of different races trust each other	0.674	0.605
If you hang out with someone of a different race, students of your race will be mean to you	-0.456	-0.404
People of different races are mean to each other	-0.460	-0.440
9. Individualism (α = .65)		
Told you that everyone who works hard can be successful, regardless of race		0.464
Told you that skin color does not define who you are		0.624
Told you that being an individual is more important than being a member of a certain race		0.798

Table 4.4 Bivariate correlations between factors (below the diagonal) and subscale scores (above the diagonal)

	1	2	3	4	5	6	7	8
1. Frequency of interaction		0.272**	0.186†	0.242*	0.193†	-0.013	-0.115	-0.036
2. Equal status	0.395***		0.437***	0.329**	0.045	-0.149	0.008	-0.244*
3. Quality of interaction	0.388**	0.675***		0.120	0.012	-0.259*	-0.156	-0.415***
4. Support for diversity	0.317*	0.389***	0.227†		0.232*	-0.050	0.215*	-0.060
5. Cultural socialization	0.257†	0.082	0.004	0.304*		0.168	0.267**	0.005
6. Preparation for a racist society	-0.049	-0.151	-0.343*	-0.002	0.217†		0.227*	0.338**
7. Colorblindness	-0.182	-0.004	-0.146	0.328**	0.415**	0.258†		0.146
8. Stereotypical perceptions	-0.073	-0.367***	-0.506***	-0.062	0.037	0.387***	0.214†	

†p < .10, *p < .05, **p < .01, ***p < .001

Table 4.5 Means, standard deviations (SD), and frequencies (dichotomous variables) for study variables

	Mean or % high category	SD
Male	41%	
Age	15.21	1.53
Socioeconomic status	.04	.86
Frequency of interaction	71%	
Equal status	54%	
Quality of interaction	4.03	.73
Support for diversity	3.60	.86
Cultural socialization	2.23	.65
Preparation for bias	1.70	.58
Individualism	48%	
Colorblindness	2.00	.59
Stereotypical perceptions	40%	
Belonging	3.56	.88
Academic self-concept	3.76	.70
Intrinsic motivation	3.65	1.12
GPA	2.67	.81

Table 4.6 Structural equation modeling results: standardized coefficients, standard errors (S.E.), p-values, and outcome R-squares

	Belonging			Academic self-concept		
	Estimate	S.E.	p-value	Estimate	S.E.	p-value
Intercept	3.57	1.43	0.013	5.28	1.54	0.001
Gender	-0.33	0.11	0.003	-0.14	0.12	0.236
Age	-0.03	0.10	0.758	0.02	0.11	0.887
SES	-0.14	0.11	0.205	0.00	0.12	0.994
Black monoracial	-0.07	0.10	0.481	-0.02	0.11	0.837
Frequency of interaction	-0.06	0.10	0.535	0.03	0.11	0.784
Quality of interaction	0.22	0.11	0.040	-0.03	0.11	0.764
Equal status	-0.14	0.12	0.246	0.05	0.13	0.695
Support for diversity	0.22	0.11	0.056	0.15	0.12	0.233
Cultural socialization	0.02	0.11	0.837	0.09	0.11	0.439
Preparation for a racist society	0.06	0.10	0.574	0.06	0.11	0.560
Individualism	0.09	0.11	0.385	0.22	0.11	0.045
Colorblindness	-0.18	0.11	0.096	-0.34	0.11	0.002
Stereotypical perceptions	-0.33	0.11	0.003	-0.15	0.12	0.201
R-square	0.31			0.22		

Correlation between belonging and academic self-concept = .26, p = .013

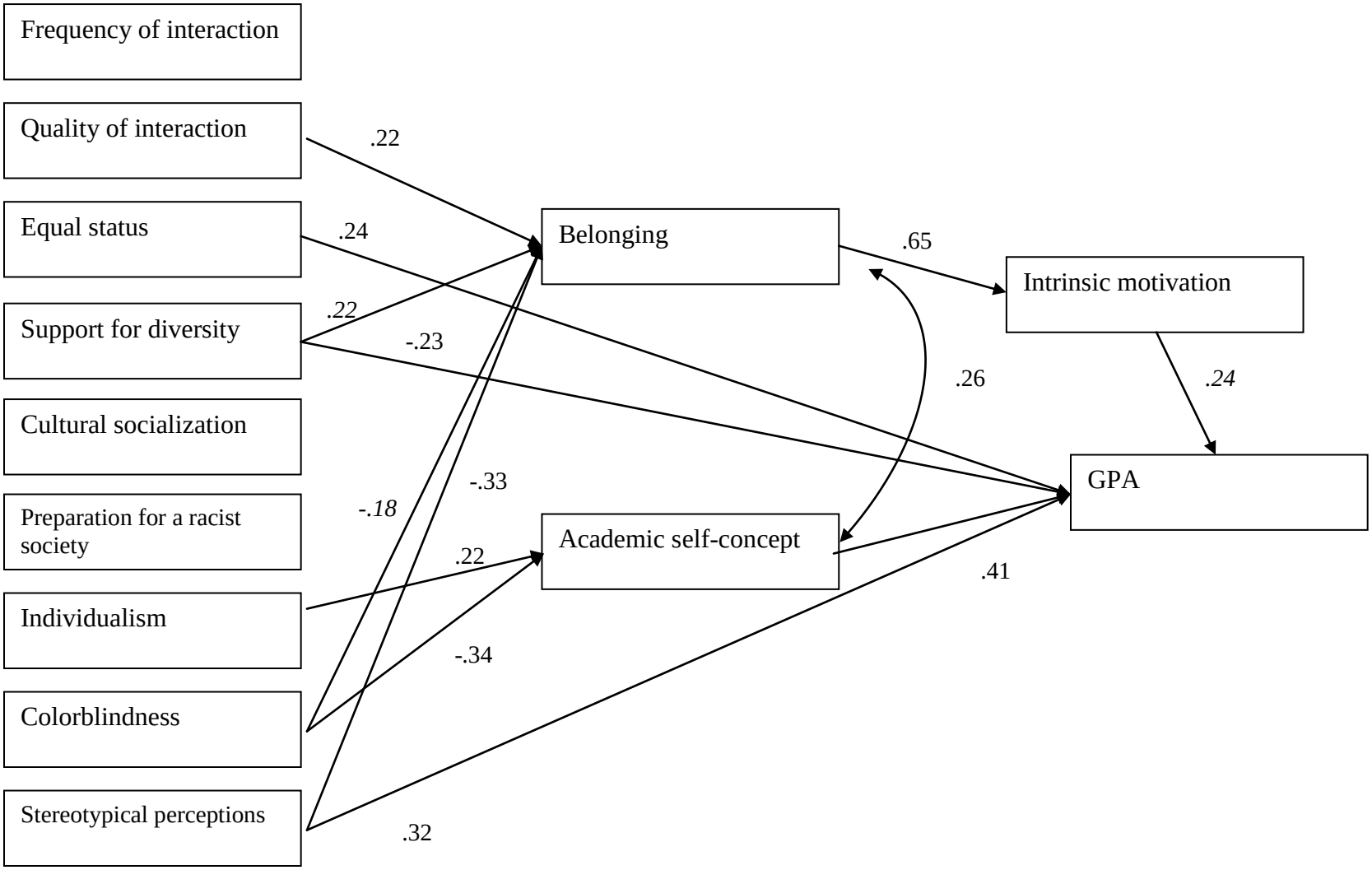
Table 4.6 (cont'd) Structural equation modeling results: standardized coefficients, standard errors (S.E.), p-values, and outcome R-squares

	GPA						Intrinsic motivation					
	Total direct effect			Total indirect effect			Total direct effect			Total indirect effect		
	Estimate	S.E.	p-value	Estimate	S.E.	p-value	Estimate	S.E.	p-value	Estimate	S.E.	p-value
Intercept	3.63	1.43	0.011				0.59	1.03	0.566			
Belonging	0.08	0.13	0.550				0.65	0.07	< .001			
Academic self-concept	0.41	0.09	< .001				0.07	0.08	0.397			
Intrinsic motivation	0.24	0.13	0.075									
Gender	0.46	0.12	< .001				0.33	0.09	< .001			
Age	-0.31	0.10	0.001				-0.09	0.08	0.287			
SES	0.31	0.11	0.004				0.07	0.08	0.416			
Black monoracial	-0.10	0.10	0.332				0.15	0.08	0.061			
Frequency of interaction	0.04	0.10	0.666	0.00	0.06	0.970				-0.04	0.07	0.571
Quality of interaction	-0.12	0.10	0.229	0.04	0.06	0.577				0.14	0.07	0.059
Equal status	0.24	0.12	0.039	-0.01	0.07	0.871				-0.09	0.08	0.288
Support for diversity	-0.23	0.12	0.042	0.11	0.07	0.104				0.15	0.08	0.053
Cultural socialization	0.00	0.10	0.983	0.04	0.06	0.482				0.02	0.07	0.777
Preparation for a racist society	0.16	0.11	0.133	0.04	0.06	0.481				0.04	0.07	0.544
Individualism	-0.06	0.11	0.559	0.12	0.06	0.065				0.08	0.07	0.303
Colorblindness	-0.03	0.11	0.748	-0.18	0.07	0.006				-0.14	0.08	0.067
Stereotypical	0.32	0.11	0.005	-0.14	0.07	0.052				-0.22	0.08	0.004

perceptions		
R-square	0.49	0.51

Note: estimates of indirect effects for demographics not given

Figure 4.1 Path analysis of school racial climate predicting academic outcomes



Note: only significant ($p < .05$) and marginally significant ($p < .10$) paths shown. Marginally significant coefficients are in italics. Controls are not shown.

Chapter 5: Discussion

Summary

The purpose of this dissertation research was to understand how adolescents make sense of race in their schools through the examination of their perceptions of school racial climate. I described a multidimensional framework based on existing research on race relations and the hidden and explicit curricula in schools, explored the statistical properties of a measure based on that framework, and then looked at the relationship between perceptions of racial climate and academic outcomes. Overall, the findings illustrate the validity and utility of a multidimensional, student-focused analysis of school racial climate and the importance of measuring climate as psychological experience when predicting youths' motivation and achievement.

Conceptual Framework

In the literature review I described a theoretical framework based on literatures of intergroup contact, multicultural education, and parental racial socialization. I proposed two domains of school racial climate: interpersonal interactions and perceived curriculum. The interpersonal interactions domain drew on intergroup contact theory (Allport, 1954; Pettigrew, 2008), the college racial climate literature (Hurtado et al., 2008), and research on racial discrimination (e.g., Solorzano et al., 2000; Teranishi, 2002). This domain described how race impacts the ways individuals of different races relate to each other in school. The review pointed to the need to understand both whether there are opportunities to interact and the nature of those interactions. Finally, this

domain also pointed to the relevance of racial hierarchies in schools and how they shape opportunities for students of different groups.

The perceived curriculum domain drew on the multicultural education (Bennett, 2001; Ladson-Billings, 2004), parental racial socialization (D. Hughes et al., 2006; Lesane-Brown, 2006), and stereotyping literature (e.g., Dotterer et al., 2009; W. A. Smith et al., 2007) to show how schools implicitly and explicitly teach ideologies about race. I specifically discussed two ideologies: multiculturalism, which emphasizes and celebrates racial difference; and colorblindness, which de-emphasizes racial difference (Plaut, 2010). Both ideologies shape whether and how schools teach youth about the different cultures in the United States and the world in order to prepare them for adulthood. Parental racial socialization also prepares youth, and I discussed several types of messages given in families that have analogies in the school curriculum. I outlined five dimensions within the domain of perceived curriculum which covered a range of racial teachings. I discussed how these teachings could fit within a psychological perspective—that is, not only considering the role of multicultural education and colorblindness from a pedagogical perspective but also considering how youth might understand the ideologies. Finally, addressing the hidden side of the perceived curriculum, I described how perceived stereotypes had a different relevance to youth outcomes than explicit racial discrimination.

Part 1: The Structure of School Racial Climate

In Part 1 I established the factor structure of the school racial climate measure using exploratory and confirmatory factor analysis. The results suggested that racial climate is a multidimensional construct with indicators of interpersonal interactions and

perceived curricular messages around race clearly distinguished from each other. The structure also replicated the theoretical constructs: I found factors indicating separate dimensions of frequency of interaction, quality of interaction, and equal status under the domain of interpersonal interactions. Under the domain of perceived curriculum, I found factors connected to support for diversity, cultural socialization, preparation for a racist society, individualism, colorblindness, and stereotypical perceptions.

While my final measure and its subscales were consistent with my conceptualized racial climate dimensions, an interesting aspect of my findings and study related to the measurement of those dimensions. I developed the study measure using items from prior scales that I hypothesized would function similarly to capture my constructs of interest. Two constructs in particular were support for diversity, which focused on perceived messages encouraging youth to learn about their own culture and to interact across race; and frequency of interaction, which focused on how often students in the school interacted across race as well as perceived norms about the acceptability of cross-race interactions. I found that two items that, in previous work, were used to measure norms of cross-race interaction were more appropriate for capturing support for diversity. The two items were "Students here think its good to study with people of different races" and "Students here like to have friends of different races."

The support for diversity factor included items about perceived teacher and administrator expectations about intergroup contact. The two items about student norms likely had higher correlations with teacher/administrator norms about contact because when teachers and administrators are supportive of positive intergroup contact, their attitudes and expectations are also taken up by students, creating a broader culture of

positive norms. In a previous study using measures on which my interpersonal interactions scales were based (Green et al., 1988), similar items factored with scales of intergroup contact frequency. In that study, intergroup contact was measured with items about opportunities for contact and norms around contact, while support for diversity was measured with items of teacher and administrative support for intergroup contact. The two scales supported Allport's (1954) theory that settings need both opportunities for contact (at the peer level) and support for contact from authority figures. In the current study, my frequency items were more simply about how *often* individuals had contact (e.g., "How often do students of different races eat lunch together"), whereas Green et al.'s frequency items also included some level of expectations and norms (e.g., "I talk to students of different races only when I have to"; Green et al., 1988, p. 251). My frequency items were also measured with a different response scale, a frequency ("every day") scale, rather than an agreement scale ("completely true") like the norms items. With these changes, the norms of contact items were more highly correlated with the other items that indicated norms than with the frequency items.

Another relevant finding related to the proposed measure was that I determined that another item previously used to measure perceived peer norms around intergroup interaction better fit with my quality of interaction factor. While the content of the item ("If you hang out with someone of a different race, students of your race will be mean to you") indicated some expectations about intergroup interactions, the item's emphasis on in-group sanctions for crossing racial boundaries better captured the perceived quality of interracial interactions at school, specifically, as characterized by racial tension and

mistrust. Thus, grouping this item with the quality of interaction subscale was a reasonable addition.

It is also interesting to note that this was the only item that specifically referenced *intra*group contact. Previous studies often have not distinguished whether negative interactions or discrimination occur with ingroup or outgroup members. This item, and its inclusion in the quality of interaction scale, suggested that interactions about race can inform youths' perceptions of the racial climate even when the interactions occur with an individual of the same race. In other words, ingroup members can contribute to a hostile climate by policing racial norms or promote crossing racial boundaries by being open and accepting of intergroup interactions. Future research might consider perceived ingroup norms and behaviors around race at school as a unique aspect of a school's racial climate.

The racial climate factors demonstrated adequate to high internal consistency, and the racial climate subscales showed low to moderate correlations with each other. Most of the dimensions were correlated in expected ways. The curriculum dimensions involving racial socialization at school were generally positively correlated, which suggests that students who perceived racial messages from adults at school tended to perceive several different types. Interestingly, I expected colorblindness messages to be negatively associated with cultural socialization and preparation for a racist society, as colorblindness messages de-emphasize the importance of race and encourages ignoring race, while the latter two dimensions highlight the importance of race and culture. However, it may be that many different types of racial messages are communicated in the school without one dominating the others. The correlations may also reflect the fact that youth who hear multiple messages are more attuned to explicit race messages from

adults. Research comparing correlations across schools is necessary to understand whether a similar pattern would be found in other schools.

The individualism items also did not hold together in the EFA, and the CFA model fit was significantly worse with the items included. I found the items to be conceptually coherent and distinct from other theorized dimensions. However, it is likely that the lack of stability was due to small sample size, as I was able to show that the items loaded well on their factors in the piecemeal models. Sample size was not necessarily a concern in the EFA, as Monte Carlo studies suggest that a sample size of at least 60 is sufficient for an exploratory factor analysis under certain conditions (MacCallum et al., 1999). However, other researchers have established that EFA estimates may produce incorrect solutions even in large samples (Osborne & Costello, 2009), so it is important to replicate these results. Further work with the individualism construct would also be important to establish a conceptually and statistically distinct subscale.

Because of the sample size, I was not able to examine differences in the measure's factor structure by gender, race, or age/grade level. Future analyses should confirm the factor structure in a larger and more diverse sample. For instance, in prior examinations of school racial climate, Green and colleagues (1988) found that younger adolescents did not distinguish as much between their perceived norms around intergroup contact and their own intergroup behavior, while Chavous (2005) distinguished students' perceptions of others' intergroup norms from their own intergroup behavior in an older adolescent sample. Thus, future analyses should also consider how the factor structure of racial climate scales like the one used in this study might vary across subgroups.

Preliminary Analyses

My preliminary analyses showed relationships between perceptions of school racial climate and students' demographic background and racial attitudes. Findings indicated no gender differences in the intergroup interactions dimensions of racial climate but gender differences on some racial climate dimensions under the curriculum domain. Boys and girls differed in their perceptions of stereotypical perceptions and support for diversity, with girls reporting more stereotypical perceptions and more support for diversity than did boys. The findings were counter to findings from studies that have documented boys reporting more school-based racial discrimination than girls (e.g., Chavous et al., 2008). Given such findings, it was surprising that boys and girls did not differ in perceived quality of interactions at school. It is noteworthy that I included a measure of perceived racial discrimination in the study survey, and while boys did report slightly more discrimination, the difference was not statistically significant. Thus, it may be that in this context (a predominantly Black school), boys were not at differential risk of experiencing unfair race-based treatment as they are in more racially diverse settings. Also unexpectedly, girls perceived more stereotypes at school, despite their more positive views of diversity support. The findings highlight the utility of considering how different students experience different aspects of the school racial climate. It is possible that girls perceived more support for learning about other groups at school but also were more sensitive to teacher and peer attitudes.

Age was related to one of the curriculum racial climate dimensions. I found that older students perceived more messages about preparation for a racist society, so teachers may feel their older students are more ready to hear messages about discrimination. This is consistent with research in the parental racial socialization literature suggesting that

parents convey more messages about racial inequality to adolescents relative to younger children (e.g., D. Hughes & Chen, 1997). Alternatively, older children may be more advanced in their racial identity and understanding about race (C. S. Brown & Bigler, 2005), so they are better able to recognize and interpret messages about discrimination.

I found that socioeconomic status was associated with perceptions of messages of cultural socialization, such that students from higher SES backgrounds perceived more messages. These messages may be more salient to higher SES students because their parents may engage in similar socialization. Previous research with nationally representative samples indicates that higher SES parents tend to transmit more racial socialization messages (Thornton, Chatters, Taylor, & Allen, 1990). Also, as higher SES has been related to more parent cultural socialization because it may involve access to instrumental or financial resources (e.g., clubs and activities in the community) (White-Johnson, Ford, & Sellers, 2010), it is possible that youth from higher SES backgrounds also may more access to school-based cultural activities that require resources (school-based clubs or activities).

In terms of racial attitudes, I did not find that higher centrality was associated with perceptions of lower quality of interaction, as suggested by the literature on discrimination (e.g., C. S. Brown & Bigler, 2005; Crocker & Major, 1989; Sellers, Caldwell, Schmeelk-Cone, & Zimmerman, 2003; Thompson, 1995). However, Chavous and colleagues (2008) also did not find a significant association of racial centrality with school-based racial discrimination. Nevertheless, private regard (group affect or pride) was positively related to both quality of interaction and support for diversity. I proposed that one of the potential pathways through which school racial climate impacts academic

self-concept is by promoting a positive general self-concept. The correlations of private regard with quality of interaction and support for diversity would be consistent with the conclusion that positive representations can also promote a positive racial self-concept.

The preliminary results also supported the conclusion that promoting positive interactions with outgroup members can support youths' explorations of their racial identities and help youth develop cultural competence and comfort with others (Dessel, 2010; Gurin, Dey, Hurtado, & Gurin, 2002; Ladson-Billings, 1995). Perceiving more frequent intergroup contact was associated with greater comfort with outgroup members, suggesting the important role of the interpersonal interactions domain of racial climate. In addition, multiple racial climate dimensions within the perceived curriculum domain were related to students' racial attitudes. Perceiving that people at school held fewer negative stereotypes related to students having greater outgroup comfort and greater appreciation for differences. Youth perceiving support in the school for attention to racial and cultural difference (support for diversity) was associated with youths' greater appreciation for difference. Note that appreciation for difference encompassed all difference, not just racial and cultural difference, so promoting racial diversity in schools can also promote youths' openness to experience in general. These findings supported the benefits of perceiving opportunities to interact across race and to learn about other racial groups, although causality and the direction of effects is not clear from this study given the study design.

In sum, perceptions of school racial climate were associated with individual student characteristics related to their demographic background and their racial attitudes. Few of these associations have been investigated in literatures on school climate. My

findings partially supported existing research and raised novel questions about the mechanisms and direction of relationships found. Future investigation into the relationships between racial climate and student characteristics using larger samples and prospective designs will be necessary to address the questions raised.

Part 2: The Effects of School Racial Climate

Interpersonal interactions. Part 2 sought to describe how multiple dimensions of school racial climate met youths' basic needs of belonging and competence and how those needs were associated with intrinsic motivation and grades. I found some support for my hypothesized relationships. First, quality of interaction was positively associated with feelings of belonging. Positive interactions about race (both within race and between race) could lead to better relationships with peers and teachers, which could increase the feelings that others in the setting care for the individual and that he or she is part of a community. This finding mirrors existing research on the importance of positive interactions in increasing connection to school and interest in school (Goodenow, 1993; Osterman, 2000; Ryan & Powelson, 1991). For example, Brand and colleagues (2003) showed that teacher support and positive peer interactions predicted the grades, academic efficacy, and self-expectations of a diverse sample of 6th through 8th graders (they did not measure belonging). Having support at school is especially important for African American youth given the increased salience of race in their lives and the additional challenges of prejudice and discrimination (Booker, 2006). For example, Connell and colleagues (Connell, Halpem-Felsher, Clifford, Crichlow, & Usinger, 1995) showed that support from adults at school was associated with feelings of belonging with a sample of African American high school students, which predicted their engagement and risk

behavior (e.g., truancy, suspensions). For all youth, not just African Americans, racial interactions inform ordinary interactions and vice versa. For example, in a school climate where teasing is prevalent, teasing may often occur across racial lines or include racial content. Additionally, negative cross-race interactions might not only disrupt relationships between students of different races but between students of the same race. In other words, negative interactions with White students may prompt African American students to distrust Whites and punish ingroup members who associate with Whites. And although I did not find an association between perceived equal status and school belonging in this sample, a lack of equal status can proceed from a climate high in competition, both of which interfere with positive relationships. Therefore, it was not surprising that racial tension was negatively connected to belonging as a generally tense environment might be. This study highlighted the importance of considering how race may inform interactions between individuals in a school setting. Future work might attempt to examine the degree to which racial interactions are associated with the nature of interactions in general in different types of school settings.

Colorblindness and multiculturalism in the curriculum. I did not find that interpersonal interactions were associated with academic self-concept, so intergroup interactions may not directly play a role in how youth see themselves as students and learners. Nevertheless, the perceived curriculum *was* associated with how youth saw themselves. In particular, perceiving colorblindness messages was negatively associated with academic self-concept and perceiving individualism messages was positively associated with academic self-concept.

The curriculum domain of racial climate was also associated with feelings of belonging. Perceiving that teachers and peers believed negative stereotypes related to lower feelings of belonging. While marginal, it is noteworthy that perceiving teachers as promoting a colorblind ideology related to lower feelings of belonging, and perceiving the school as supporting positive intergroup interactions and learning about other cultures (support for diversity) related to more feelings of belonging.

The findings for colorblindness were consistent with the theory and research of advocates for multicultural education and culturally relevant pedagogy. Advocates argue that acknowledging youths' culture validates their life experience and utilizes their home culture, which helps youth to see school as relevant to their lives and form positive relationships with peers and teachers (Ladson-Billings, 1995, 2004; Young, 2010). Colorblindness, on the other hand, ignores the experiences youth have that are outside of the mainstream and contribute to the alienation of youth of color. Colorblind teachers and administrators may dismiss the legitimate concerns of students of color as "playing the race card" and sustain unequal practices that disadvantage students of color academically and socially (Gallagher, 2003; Lewis & Bluebond-Langner, 2003; Schofield, 2006). Nevertheless, no quantitative studies exist to show how much students perceive colorblind attitudes in teachers and administrators or to estimate the size of the effects of colorblind attitudes. To my knowledge, this was the first study to do so. A few studies have measured perceptions of culturally relevant pedagogy (e.g., Howard, 2001) and multiculturalism (e.g., Brand et al., 2003; Tan, 1999). Also, studies have tested perceptions of colorblindness in the workplace (e.g., Plaut et al., 2009) but not schools. Finally, studies in college students have measured their own colorblind attitudes (e.g.,

Neville et al., 2000) or attitudes toward diversity (e.g., Miville et al., 1999). The current study represents a step forward in understanding the role of colorblindness in schools.

Furthermore, colorblindness has primarily been conceptualized as an aspect of the hidden curriculum (Bell, 2002; Lewis & Bluebond-Langner, 2003), but the current study showed that adolescents can identify explicit colorblind messages separately from messages supporting multiculturalism. Unfortunately, but in support of theory and qualitative research, perceiving colorblindness messages was associated both with lower academic self-concept and marginally with lower belonging. The current study potentially underestimated the effects of colorblindness in schools because of the focus on explicit messages. Future research should consider how aware youth are of more subtle colorblind messages or lack of representation in the curriculum.

Colorblindness is a concern in schools because it implicitly recognizes the validity of European American values while excluding the values of other groups (Perry, 2001). That is, in schools with Eurocentric/mainstream curricula, it is primarily middle class Whites' experiences that are validated. Researchers have noted that White youth experience little cultural mismatch in their schooling, which could explain their better outcomes relative to some minority groups (Ladson-Billings, 1995; Perry, 2001)[5]. Acknowledging race acknowledges a part of the identity of students of color that is more salient to them than to Whites (Phinney & Ong, 2007). When race is acknowledged, it can also be incorporated into the curriculum. As noted, in the current study perceptions that teachers wanted youth to ignore race failed to promote youths' feelings of connection and competence. And although I did not find strong effects for particular forms of

[5]Note: Asian students often perform better than Whites even though their culture is also not represented by mainstream curricula. Other explanations, such as being the target of positive stereotypes, may compensate for their lack of representation (Tran & Birman, 2010).

cultural content (support for diversity, cultural socialization, and preparation for a racist society), I did find that perceiving support for positive intergroup interactions and the opportunity to learn about other cultures was marginally associated with greater feelings of belonging. Therefore, there is some benefit to acknowledging race in the messages given to youth.

The one form of racial socialization that was associated with students' academic outcomes was individualism. I found that perceiving more messages about race not defining one's life chances was related to a higher academic self-concept. It is interesting to note that, like colorblindness messages, individualism messages downplay the role of race. Yet they differ because they allow the potential for race to matter in ways not related to one's life chances. In other words, such messages may allow youth to maintain a strong connection to their racial group while feeling that they can overcome racial barriers. Individualism messages could promote both a positive racial self-concept as well as a positive academic self-concept. Hughes et al. (2006) report few relationships between parental racial socialization and academic outcomes, but some studies do suggest that parental messages are associated with racial identity (Thomas & Speight, 1999; Thompson, 1995) and self-esteem for African American youth, which can then translate to positive academic orientations and behaviors. Furthermore, recent studies suggest positive links between different forms of socialization (specifically cultural socialization) and academic outcomes (C. S. Brown, Alabi, Huynh, & Masten, 2011; Neblett et al., 2006). In the current study, I found that cultural socialization was positively associated with racial identity beliefs and exploration and that support for diversity was positively associated with private regard. Like parent messages, school

racial socialization may also promote a positive racial identity, self-esteem, and academic behaviors.

Finally, this study also showed that within the same school students can perceive just as many colorblindness messages as other messages about race. In fact, youth who reported perceiving more messages about ignoring race also reported hearing more messages about learning about their culture, institutional and individual discrimination, and perceived greater support for positive intergroup contact and learning about difference. While this finding was counter-intuitive, it indicated the need to explore how schools can send multiple messages to students. Teachers and administrators may have different philosophies that they communicate to students that differ from a school- or district-wide approach. Additionally, schools and teachers may contradict themselves, for example by having multicultural festivals that celebrate foreign nations but ignoring racial diversity within the United States. This study also did not distinguish between forms of multiculturalism that vary in how much they challenge existing social structures. It could be that less critical forms of multiculturalism can reinforce colorblind messages. For example, telling youth that they can be successful regardless of race without also making youth aware of institutional discrimination could, to the adolescent, be the same as saying that race does not matter at all. Also, as other others have pointed out, multiculturalism simply focused on differences in food or traditions may actually reify group boundaries and stereotypes (Ladson-Billings, 2004; Plaut, 2010). Such multiculturalism could also reinforce the notion that race only matters when it comes to personal taste, which is consistent with a colorblind perspective (Gallagher, 2003).

Stereotyping. The discussion of colorblindness and multiculturalism also ties into the discussion of stereotyping. Uncritical multicultural education can perpetuate stereotypes about minority groups, and a colorblind approach can lead teachers and school leaders to leave prejudice and bias unchecked (Ladson-Billings, 2004). In this study, more than half of the sample reported that teachers and other students did not believe the three stereotypes assessed (that Black students are not as smart, that U.S. natives are more hardworking than immigrants, and that students with accents weren't as good as those without accents). Nevertheless, those who did report perceiving stereotypes also reported being less connected to those around them. A number of qualitative studies (e.g., Solorzano et al., 2000; Teranishi, 2002; Tran & Birman, 2010) and theoretical work (e.g., J. L. Smith, 2004; Steele, 1997) have pointed out the damaging effects of stereotypes. The current study supported that work. The current study also pointed to the need to consider stereotypes separately from discrimination or negative quality of interaction. Quality of interaction and stereotypical perceptions independently predicted feelings of belonging in this study, which shows that, while stereotypes may underlie negative interactions, they have a separate impact. Unexpectedly, I did not find associations between stereotyping and academic self-concept, and stereotyping was *positively* associated with GPA. It may be that perceiving stereotypes motivates youth to succeed to disprove stereotypes (Eccles, Wong, & Peck, 2006) but at a cost of relationships and connections with others.

Intrinsic motivation and achievement. My findings supported the indirect role of belonging but not academic self-concept in explaining the relationship between perceptions of racial climate and intrinsic motivation. In relation to self-concept, it may

be that youth in this study did not link their reasons for attending school to their academic self-concept (that is, some youth might derive personal interest from attending school based on social relationships rather than their self-perceptions of competence). Another explanation may be related to the study measure of competence, which asked participants to compare themselves to other students. Thus, the measure may not fully tap into the degree to which youth felt capable of performing academic tasks. Youth who rated themselves as below average relative to peers may still have felt that they were able to be successful at school. Future research should employ multiple measures of competence to better understand these results. The measure did reflect how youth saw themselves, however, and we saw that individualism and colorblindness was associated with those ratings. The ratings were also strongly linked with grades.

Additionally, intrinsic motivation was marginally, positively associated with achievement. This finding was consistent with self-determination theory (Deci et al., 1991; Ryan & Deci, 2009), which predicts that intrinsic motivation promotes greater engagement with school and identification with academic achievement. Academic self-concept was also positively associated with achievement, again in line with existing research (see Marsh & Martin, 2011 for a meta-analysis). With these meditational paths, the current study is aligned with existing research that links school racial climate to more distal outcomes like grades (Brand et al., 2003; Chang & Le, 2010; Dotterer et al., 2009; Mattison & Aber, 2007; Tan, 1999). Importantly, my work demonstrates various pathways that can explain the effects of climate on outcomes as well as the importance of examining different dimensions of climate.

Finally, I found direct relationships between perceptions of racial climate and achievement, but some in unexpected directions. Perceptions of fair treatment (equal status) were positively associated with grades, which may suggest that students are more engaged and willing to perform when they feel their effort will be fairly rewarded. However, perceived support for diversity was negatively associated with GPA, and perceiving stereotypical perceptions at school were positively associated with GPA. It is not clear why support for diversity would be associated with lower grades. Some research suggests that multicultural content can increase critical thinking and lead to better performance (Astin, 1993), but in the current study, perceiving support for diversity may be associated with other negative processes not assessed. For example, O'Connor's (1999) study of African American adolescents suggested that higher achieving youth were more likely to be aware of and critical of the racial opportunity structure compared to lower achieving youth. If higher achieving students are more critical of the multicultural content offered by the school, they might rate the same activities as less supportive of a diversity ideology than lower achieving students.

Race in homogenous settings. My findings illustrated the importance of race even in a school that is predominantly one race. Studies of culturally relevant teaching have examined predominantly African American schools and classrooms but not considered the impact of messages about diversity and intergroup interactions (e.g., Howard, 2001; Young, 2010), while studies of diversity programming and intergroup interactions often intentionally exclude settings such as historically Black colleges and universities (e.g. Hurtado, 1992; Jayakumar, 2008; Park, 2009). Racial interactions and racial messages are relevant to all types of settings (Lewis & Bluebond-Langner, 2003).

Rarely are schools completely homogenous, so some intergroup interactions will occur in most settings. Additionally, individuals of the same race will vary in their beliefs about their racial group—some will endorse negative stereotypes, and some will have different philosophies about the role of race in society. Furthermore, since colorblindness and Eurocentrism dominate the curriculum of most U.S. schools, it is likely that such messages would also be prevalent in a majority non-White school. Indeed, in this sample we saw that students perceived both colorblindness messages and support for diversity in their school. Researchers should be aware that individuals who share a racial group membership may not share experiences and perceptions.

General Discussion

Again, the current study illustrated the importance of considering school racial climate from a multidimensional perspective. For example, Brand and colleagues (2003) did not find significant relationships between their support for cultural pluralism measure and academic efficacy or grades. As noted in the literature review (see Table 2.1), their measure included items that could tap into a number of different dimensions, including positive intergroup contact, equal status, and support for diversity. My findings showed direct relationships between, for example, equal status and support for diversity and grades. In fact, equal status and support for diversity predicted GPA in opposite directions, so including the items representing both constructs into a single scale could obscure the true relationships and result in a finding like Brand and colleagues'. It is interesting to note that Mattison and Aber (2007) measured equal status with a unidimensional measure, and my findings replicated their positive association.

In general, my findings aligned with existing work, even those studies that were limited by conceptual or methodological concerns. My findings supported the literature using combined measures (Green et al., 1988; Hurtado & Ponjuan, 2005; D. R. Johnson et al., 2007; Nuñez, 2009) and the literature on discrimination (Dotterer et al., 2009; Wong et al., 2003) but were clearer about what precisely in the school environment was associated with outcomes. My findings also aligned with existing work that focused on discrimination (instead of hostile climate) or only one dimension of school racial climate. Yet my work expanded the literature by showing how different dimensions can predict simultaneously and showing how dimensions that have not been assessed quantitatively, such as colorblindness, can be associated with outcomes. My work showed that existing multidimensional frameworks (Allport, 1954; Hurtado et al., 1998) are valuable and could prompt a renewed focus on the understudied aspects of those models. My investigation of indirect paths also gave some indicators of *how* racial interactions are associated with academic outcomes.

The current study also highlighted the importance of attending to measurement issues. Previous research has inappropriately used individual experiences with racial discrimination as indicators of the overall racial climate. For example, Hurtado and Carter (1997) combined racial discrimination and perceptions of hostile climate (racial conflict and lack of trust between groups) into one latent factor. Because my study was interested in studying perceptions of the school separate from youths' own experiences, my measure of quality of interaction asked about the nature of racial interactions in general. The current study also matched the unit of analysis with the unit of measurement

(Glick, 1985). Because I was interested in predicting individual outcomes from individual perceptions, I did not aggregate perceptions.

A strength was that my study was able to use school-reported achievement data rather than self-reported grades to connect school racial climate perceptions with objective criteria. Finally, the current study included the dimensions of stereotypical perceptions and racial socialization, which have not been quantitatively examined in studies of racial climate. My scales were based on existing literature on racial identity (Sellers et al., 1997) and parental racial socialization (D. Hughes & Chen, 1997), and they showed similar reliability even when the content addressed different actors (i.e., school members instead of society or parents). The scales for these dimensions were also significantly associated with other indicators of racial climate and the academic outcomes. Future research should explore the properties of these scales and their associations with academic and psychosocial outcomes.

Limitations. While my study findings made several contributions, I also note several considerations and study limitations. The primary limitation of this study was the sample size. The sample size may have limited my ability to fit the confirmatory model and was the reason I was not able to use latent variables in Part 2. Additionally, my power analysis for Part 2 suggested that I did not have sufficient power to detect excellent model fit (though I did have sufficient power to detect poor fit). In general, there are no hard and fast rules for appropriate sample size for structural equation modeling (Iacobucci, 2010). Some experts believe that structural equation modeling can be appropriate as long as the number of observations exceeds the number of variables by

one (K. Cortina, personal communication, May 2, 2011). I also tested my hypotheses using ordinary least squares regression and the estimates confirmed the current results.

The sample being majority African American was a strength because I was able to explore within group differences in a homogenous setting, but the sample is also a limitation because my results may not generalize to youth of other racial groups. An interesting feature of my sample was the large number of youth who identified as more than one race (17%). However, in this work I was not able to explore how this group was similar to or different from the rest of the sample.

A second limitation was that about half of the scales in the survey contain unique items, and many of the pre-existing scales have not been used in middle and/or high school samples. Therefore, future pretesting and validation are important steps to ensure the integrity of the model and confirm the study results.

A third limitation was the focus on explicit socialization messages and not youths' perceptions of adults' implicit messages or structural features like opportunities in the school. For example, teachers may talk about diversity but undermine that message by, for instance, scheduling a test on the day of a multicultural assembly or showing a movie like *Hoop Dreams*, without any discussion of the context, on a day devoted to addressing cultural difference (Ngo, 2010). Current qualitative research informs our understanding of how youth think about and process such experiences (e.g., Lewis & Bluebond-Langner, 2003; Ngo, 2010; Perry, 2001). Future work may be able to use quantitative measures to generalize about youths' understanding. A related limitation of the current study was that, particularly for White students, the measures did not directly tap into how youth might be socialized around or think about themselves as members of an ethnic

subgroup. The survey allowed for self-identification by race but not a particular subgroup. Additionally, youth were not asked to compare their experiences as a member of a certain race with their experiences as members of a subgroup. Therefore, conclusions were based on broad categories that may be more meaningful for some youth than others.

A fourth limitation was that I was only able to sample youth in one school. This limitation meant that my results may not generalize to other settings and I was not able to establish measurement invariance across different types of settings. 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.

A final limitation was that the study is cross-sectional, therefore, I am not able to determine causality. Work is needed to understand how school racial climate perceptions change over time as a function of cognitive development, experience with the school, and different individual experiences (such as discrimination). It is also important to understand how the development of racial identity and a diversity ideology interact with and influence perceptions of school racial climate, as well as explore how a school's messages about diversity can shape youths' attitudes and identity. Finally, though the current study was based on adolescents, it will be important to explore perceptions of school racial climate in younger children to understand how racial interactions and messages are important before the transition into adolescence.

Future directions. My future work will include continuing to refine the measures. One concern was how much the racial socialization scales measure perceptions of the context rather than individual experience. Youth could read the "you" as referring

to themselves or to themselves *and* others. In the future, pretesting with items with different wording should clarify the unit of analysis of these measures.

Future research should also explore how different dimensions of climate are associated with outcomes in different settings (e.g., predominantly White vs. racially mixed). Additionally, future research should test specific relationships between dimensions. For example, intergroup association and quality of interaction are theoretically orthogonal but may be negatively associated in some samples. In the current sample, frequency and quality of interaction were positively associated. Hurtado et al. (1998) suggest that, on predominantly White campuses, increasing numbers of students of color may lead to more conflict, so more opportunities for intergroup contact would be associated with lower quality of interaction. As another example, high support for diversity is likely positively related to quality of interaction but not necessarily individualism messages. It would be difficult to test for such relationships in the current sample, which consisted of only one school because, to the degree that climate perceptions represent something about the school as a whole, it would be impossible to understand whether, for instance, support for diversity and quality of interaction were positively associated in the population as well as the sample. A sample of many schools varying in demographics and climate would be important for understanding the interrelationships between the different dimensions.

Developing a framework of school racial climate. More research is needed to further develop a framework that can describe school racial climate and to validate measures. The framework should include interactions around race and how race is represented in the curriculum, as well as other relevant aspects of the school context. The

framework should be able to describe the relationships between dimensions and how the dimensions interact to impact academic outcomes. The framework should also be able to explain outcomes in a variety of school settings, from predominantly one race to mixed-race. The current dissertation was a step toward developing such a framework. The next steps in developing the framework include exploring the perceptions of students within schools of varying racial composition and in varying types of locations (urban, suburban, rural). Work is also needed to develop dimensions that are not currently represented in the model—for example, intragroup racial interaction and racial socialization from peers—and to understand the relationships between dimensions. Qualitative work such as interviews with students and observations of school life are essential to identifying missing areas, but the qualitative work must be translated into quantitative measurement to understand how the framework generalizes across settings and groups.

As the framework develops, the measure should also continue to develop and be validated. Cognitive pretesting is one method of determining the validity of measures. For example, Karabenick and colleagues (Karabenick et al., 2007) have developed a method of pretesting that consists of asking respondents to read the target question aloud, describe what they think the question is trying to find out, identify what answer they would choose, and why. Follow-up probes can elicit further elaboration on responses. The goal of the pretesting will be to determine how well the questions tap into the constructs as respondents experience them, and to determine how well respondents understand the wording of the items across grade levels and racial groups (Fowler, 1995).

Another form of measure validation will involve administering the measure, along with similar racial climate measures, to a large and diverse sample. These analyses will

test the factor structure, convergent and divergent validity, and measurement invariance across race, gender, and other factors. The validation should also analyses measurement stability over time and the amount of variance explained between schools.

The relationship between racial climate and outcomes. This study has confirmed that multiple dimensions of school racial climate were associated with psychological and academic outcomes and with attitudes about race. Longitudinal research is needed to determine the directionality of effects and the strength of effects over time. New research is also needed to explore the interactions between different dimensions, such as quality of interaction and frequency of interaction. Finally, my work focused on particular mechanisms relating to students' motivation for attending school, but future work might consider other outcomes, such as valuing education and test scores, and other processes.

Conclusion

This dissertation supported a multidimensional view of school racial climate and indicated important areas to include in future research. As my results were in-line with existing research on the effects of perceived racial interactions and racial messages, my work did not suggest new theories about the mechanisms of school racial climate. Rather, my work pointed to the need for differentiating between racial climate constructs.

In terms of practice, my work supported the suggestions of advocates of multicultural education to provide a school setting with positive interactions and opportunities to learn about other cultures (Gurin et al., 2002; Plaut, 2010). In the introduction, I discussed how the United States should take a multicultural approach to race in order to improve racial equality and outcomes for minority youth. My work

showed how race can work in complex ways in schools and calls on researchers and educators to take on the challenge of promoting true equality in our diverse society.

Appendix
Survey Instrument

Survey of Student Views
High School Version[6]

ID Number: _____

Instructions

Thank you for taking this survey! These questions are about how people get along in your school and about some of your beliefs. **There are no right or wrong answers**, and it's all right if your answers are different from how your classmates might answer. It's very important for us to know what **you** think.

It can sometimes be uncomfortable talking about some of these issues. Remember that your answers are **completely confidential** (your school leaders, teachers, and parents won't know how you answered) and you can skip any question you don't want to answer. You may also stop taking the survey at any time. It's important that you take your time and answer honestly.

For each question, indicate your answer on the Scantron sheet. For answers with blanks, write your answer directly on the survey. If there is a question you don't understand, circle it and go to the next one. At the end, you can ask a teacher or the researcher for help.

When you are finished with the survey, please return it and your forms to the researcher.

Practice Questions

How true are the following statements:	Not at all true	A little true	Somewhat true	Very true	Completely true
1. I like pizza	A	B	C	D	E
2. My family likes carrots	A	B	C	D	E
3. The planet Jupiter is better than the planet Mars	A	B	C	D	E

[6] A shorter, middle school version of the survey was created, but all students completed the high school version.

About You

Check or circle your answer.

1. What is your gender?
   A. Male
   B. Female

2. What is your age? _____

3. What grade are you in?
   A. 9th
   B. 10th
   C. 11th
   D. 12th

4. Which group or groups do you consider yourself a part of?
   A. Asian (Chinese, Japanese, Korean, Indian, etc.)
   B. Black/African/African American
   C. Hispanic/Latino (Mexican, Puerto Rican, Cuban, etc.)
   D. Middle Eastern (Arab, Chaldean, Persian, etc.)
   E. Native American/American Indian
   F. White/Caucasian
   G. Other (write your group(s) here_____)

Your View of Your School

How true are the following statements:	Not at all true	A little true	Somewhat true	Very true	Completely true
5. Students get to know each other well in classes.	A	B	C	D	E
6. Students at your school are very interested in getting to know other students.	A	B	C	D	E
7. Students enjoy doing things with each other in school activities.	A	B	C	D	E

How true are the following statements:	Not at all true	A little true	Somewhat true	Very true	Completely true
8. If some students are acting up in class the teacher will do something about it.	A	B	C	D	E
9. When teachers make a rule, they mean it.	A	B	C	D	E
10. Students are given clear directions about how to do their work in classes.	A	B	C	D	E

How true are the following statements:	Not at all true	A little true	Somewhat true	Very true	Completely true
11. Students of all races are treated equally at your school.	A	B	C	D	E
12. Teachers at your school are fair to students of all races.	A	B	C	D	E
13. The principal and assistant principals treat students of all races fairly.	A	B	C	D	E
14. Students of different races trust each other.	A	B	C	D	E
15. People of different races are mean to each other.	A	B	C	D	E
16. People of different races get along well.	A	B	C	D	E

How true are the following statements:	Not at all true	A little true	Somewhat true	Very true	Completely true
17. Teachers do extra work to help students.	A	B	C	D	E
18. If students want to talk about something teachers will find time to do it.	A	B	C	D	E
19. Teachers help students with their	A	B	C	D	E

work.					

How true are the following statements:	Not at all true	A little true	Somewhat true	Very true	Completely true
20. Teachers think Black students are not as smart as other students.	A	B	C	D	E
21. Teachers think students with an accent aren't as good as other students.	A	B	C	D	E
22. Teachers think U.S. natives are more hardworking than immigrants.	A	B	C	D	E
23. Other students think Black students aren't as smart as other students.	A	B	C	D	E
24. Other students think students with an accent are not as good as other students.	A	B	C	D	E
25. Other students think U.S. natives are more hardworking than immigrants.	A	B	C	D	E

How true are the following statements:	Not at all true	A little true	Somewhat true	Very true	Completely true
26. Students at your school have trouble getting along with each other.	A	B	C	D	E
27. Students at your school are mean to each other.	A	B	C	D	E
28. In classes, students don't get along with each other.	A	B	C	D	E

How true are the following statements:	Not at all true	A little true	Somewhat true	Very true	Completely true
29. Students work hard for good grades in classes.	A	B	C	D	E
30. Students try hard to get the best grades they can.	A	B	C	D	E
31. Grades are very important to students.	A	B	C	D	E

How true are the following statements:	Not at all true	A little true	Somewhat true	Very true	Completely true
32. Teachers encourage students to make friends with students of different races.	A	B	C	D	E
33. Teachers say it's good to be a diverse school.	A	B	C	D	E

34. The principal likes for students to have friends of different races.	A	B	C	D	E
35. In school you get to do things that help you learn about people of different races and cultures.	A	B	C	D	E
36. Your school often hosts cultural events or multicultural festivals.	A	B	C	D	E
37. Your textbooks show people of many different races.	A	B	C	D	E

How true are the following statements:	Not at all true	A little true	Somewhat true	Very true	Completely true
38. New and different ways of teaching are tried in classes.	A	B	C	D	E
39. New ideas are tried out at your school.	A	B	C	D	E
40. Teachers like students to try unusual projects.	A	B	C	D	E

How true are the following statements:	Not at all true	A little true	Somewhat true	Very true	Completely true
41. Students at your school have a say in how things work.	A	B	C	D	E
42. Teachers ask students what they want to learn about.	A	B	C	D	E
43. Students help decide how class time is spent.	A	B	C	D	E

How true are the following statements:	Not at all true	A little true	Somewhat true	Very true	Completely true
44. The rules at your school are too strict.	A	B	C	D	E
45. It is easy for a student to get in trouble at your school.	A	B	C	D	E
46. Students get in trouble for breaking small rules.	A	B	C	D	E

How true are the following statements:	Not at all true	A little true	Somewhat true	Very true	Completely true
47. Students here like to have friends of different races.	A	B	C	D	E
48. If you hang out with someone of a different race, students of your race will be mean to you.	A	B	C	D	E
49. Students here think it's good to study with people of different races.	A	B	C	D	E

How often do:	Never	About once a year	About once a month	About once a week	Every day
50. Students of different races eat lunch together.	A	B	C	D	E
51. Students of different races work together in class.	A	B	C	D	E
52. Students of different races study together.	A	B	C	D	E

How often do the following things happen because of your race:	Never	About once a year	About once a month	About once a week	Every day
53. You are insulted or called a name.	A	B	C	D	E
54. Others expect your work to be not as good as others.	A	B	C	D	E
55. You are left out of conversations or activities.	A	B	C	D	E
56. You are disciplined unfairly.	A	B	C	D	E

How often do these events happen?	Never	About once a year	About once a month	About once a week	Every day
57. Someone beat you up or really hurt you when you were at school?	A	B	C	D	E
58. You are afraid that someone will hurt or bother you at school?	A	B	C	D	E
59. Something worth more than a dollar is stolen from your desk or locker at school when you aren't around?	A	B	C	D	E

****You're halfway done!****

In the last year, how often have adults at school:	Never	Once or twice	More than twice
60. Told you that you should be proud of your culture.	A	B	C
61. Encouraged you to learn about the history of your culture.	A	B	C
62. Encouraged you to do assignments or reports on people who share your cultural background.	A	B	C
63. Talked to you about what it means to be a member of your cultural group.	A	B	C

In the last year, how often have adults at school:	Never	Once or twice	More than twice
64. Told you that race doesn't matter.	A	B	C
65. Told you that talking about race separates people.	A	B	C
66. Told you that you shouldn't pay attention to race.	A	B	C
67. Told you that people shouldn't use race as an excuse when bad things happen to them.	A	B	C

In the last year, how often have adults at school:	Never	Once or twice	More than twice
68. Told you that everyone who works hard can be successful, regardless of race.	A	B	C
69. Told you that skin color does not define who you are.	A	B	C
70. Told you that being an individual is more important than being a member of a certain race.	A	B	C

In the last year, how often have adults at school:	Never	Once or twice	More than twice
71. Told you that some people try to keep other people from being successful because of their race.	A	B	C
72. Told you that some people think they are better than other people because of their race.	A	B	C
73. Told you that some people don't like other people because of the color of their skin.	A	B	C
74. Told you that society is not fair for people who are not White.	A	B	C
75. Told you that White people have advantages because of the color of their skin.	A	B	C

You as a Student

76. How far do you want to go in school?
    A. Some high school
    B. Finish high school
    C. Some college
    D. Finish community college (2-yr college)
    E. Finish a 4-year college/university
    F. Get a graduate degree

How true are the following statements:	Not at all true	A little true	Somewhat true	Very true	Completely true
77. I find school interesting.	A	B	C	D	E
78. I like school.	A	B	C	D	E
79. I enjoy my classes.	A	B	C	D	E

How true are the following statements:	Not at all true	A little true	Somewhat true	Very true	Completely true
80. I really like the people at my school.	A	B	C	D	E
81. I get along with people I see every day.	A	B	C	D	E
82. I don't talk to many people at school.	A	B	C	D	E
83. The people I see at school every day are my friends.	A	B	C	D	E
84. People at school care about me.	A	B	C	D	E
85. I am not friends with many people at school.	A	B	C	D	E
86. The people I talk to at school do not seem to like me much.	A	B	C	D	E
87. People at school are pretty friendly towards me.	A	B	C	D	E

	Not at all useful	A little useful	Somewhat useful	Pretty useful	Very useful
88. How useful is what you learn in school for the future?	A	B	C	D	E
89. How useful is what you learn in school for your daily life outside of school?	A	B	C	D	E
90. Compared to most of your other activities, how useful is what you learn in school?	A	B	C	D	E

	Not at all important	A little important	Somewhat important	Pretty important	Very important
91. For you, being a good student is:	A	B	C	D	E
92. Compared to most of your other activities, how important is it for you to be a good student?	A	B	C	D	E
93. How important is it to you that you get good grades in school?	A	B	C	D	E

Compared to other students at your school:	Below average	A little below average	Average	A little above average	Above average
94. In READING, you are:	A	B	C	D	E
95. In SOCIAL STUDIES, you are:	A	B	C	D	E
96. In MATH, you are:	A	B	C	D	E
97. In SCIENCE, you are:	A	B	C	D	E
98. In WRITING, you are:	A	B	C	D	E
99. Your GRADES are:	A	B	C	D	E
100. In terms of SMARTness and intelligence, you are:	A	B	C	D	E

How often do you:	Never	About once a year	About once a month	About once a week	Every day
101. Get in trouble with teachers during class?	A	B	C	D	E
102. Disobey school rules?	A	B	C	D	E
103. Disturb the lesson in class?	A	B	C	D	E

Your Opinion about the World

Remember there are no right or wrong answers

How true are the following statements:	Not at all true	A little true	Somewhat true	Very true	Completely true
104. I feel close to other people of my race.	A	B	C	D	E
105. I have a strong sense of belonging to people of my race.	A	B	C	D	E
106. If I were to describe myself to someone, one of the first things that I would say is my race.	A	B	C	D	E
107. Please choose "D" for this question.	A	B	C	D	E

How true are the following statements:	Not at all true	A little true	Somewhat true	Very true	Completely true
108. I am happy to be the race that I am.	A	B	C	D	E
109. I am proud to be a member of my race.	A	B	C	D	E
110. I feel good about people of my race.	A	B	C	D	E

How true are the following statements:	Not at all true	A little true	Somewhat true	Very true	Completely true
111. Most people think that people of my race are as smart as people of other races.	A	B	C	D	E
112. People think that people of my race are as good as people from other races.	A	B	C	D	E
113. Most people think that people of my race have done important things.	A	B	C	D	E

How true are the following statements:	Not at all true	A little true	Somewhat true	Very true	Completely true
114. I have spent time trying to find out more about my race, such as its history, traditions, and customs.	A	B	C	D	E
115. I have often done things that will help me understand my background better.	A	B	C	D	E
116. I have often talked to other people in order to learn more about my culture.	A	B	C	D	E

If you don't understand the statement, don't know, or are not sure, circle "Not sure"

How true are the following statements:	Not at all true	A little true	Somewhat true	Very true	Completely true	Not sure
117. White people in the U.S. have advantages because of the color of their skin.	A	B	C	D	E	F
118. Race is very important in determining who is successful and who is not.	A	B	C	D	E	F
119. Everyone who works hard, no matter what race they are, can become rich.	A	B	C	D	E	F

How true are the following statements:	Not at all true	A little true	Somewhat true	Very true	Completely true	Not sure
120. White people in the U.S. are treated unfairly because of the color of their skin.	A	B	C	D	E	F
121. English should be the only official language in the U.S.	A	B	C	D	E	F
122. Programs like affirmative action are necessary to help create equality.	A	B	C	D	E	F

How true are the following statements:	Not at all true	A little true	Somewhat true	Very true	Completely true	Not sure
123. People should think of themselves as American and not African American, Mexican American or Italian American.	A	B	C	D	E	F
124. Racial problems in the U.S. are due to a few bad people.	A	B	C	D	E	F
125. Public schools should teach about the history of minorities.	A	B	C	D	E	F
126. Racism may have been a problem in the past, but it is not a problem today.	A	B	C	D	E	F

How true are the following statements:	Not at all true	A little true	Somewhat true	Very true	Completely true
127. I can get to know someone better when I know how they are like me *and* different from me.	A	B	C	D	E
128. Knowing how a person is different from me makes our friendship better.	A	B	C	D	E
129. When I meet someone, I like to know how we are similar and how we are different.	A	B	C	D	E

How often do you:	Never	About once a year	About once a month	About once a week	Every day
130. Work with someone of a different race in class?	A	B	C	D	E
131. Study with someone from a different race?	A	B	C	D	E
132. Have lunch with someone from a different race?	A	B	C	D	E

How true are the following statements:	Not at all true	A little true	Somewhat true	Very true	Completely true
133. I like meeting and getting to know people from other races.	A	B	C	D	E
134. I don't try to become friends with people from other races.	A	B	C	D	E
135. I enjoy being around people from other races.	A	B	C	D	E

How true are the following statements:	Not at all true	A little true	Somewhat true	Very true	Completely true
136. I often listen to the music of other cultures.	A	B	C	D	E
137. I am interested in learning about the many cultures in the world.	A	B	C	D	E
138. I would like to know more about the traditions of different races.	A	B	C	D	E

How true are the following statements:	Not at all true	A little true	Somewhat true	Very true	Completely true
139. Black students are not as smart as other students.	A	B	C	D	E
140. Students with an accent aren't as good as other students.	A	B	C	D	E
141. U.S. natives are more hardworking than immigrants.	A	B	C	D	E

Thank you for completing the survey! Do you have any other comments or thoughts you'd like to share with us?

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Thank You!

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