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Demographic-related school climate and educational expectations: The roles of academic preparation, race, and SES

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Abstract

Demographic-related school climate and educational expectations: The roles of academic preparation, race, and SES

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Students' expectations for their own educational attainment are strongly associated with actual educational attainment (Beal & Crockett, 2010), and thus, understanding factors that may be associated with students' educational expectations can aid in increasing educational attainment among youth. One factor that may impact students' educational expectations is their school's climate. Dimensions of school climate such as student-teacher relationships and their impacts on academics have been extensively studied (Thapa et al., 2013); however, given the increasing diversity of the U.S. population (National Center for Education Statistics, 2019), demographic-related aspects of school climate (such as school misfit for under-represented demographic groups and interracial climate) are crucial to consider because these reflect a school's respect or devaluation of demographically underrepresented students. Feeling devalued in school, in turn, may lead students to feel discouraged from engaging in academic preparation, resulting in lower educational expectations. Therefore, demographic-related school climate may be indirectly related to educational expectations through academic preparation.

There were three aims in the proposed study. The first aim was to examine the longitudinal associations between various dimensions of school climate and educational

expectations using regression analyses. Second, I assessed whether academic preparation mediated the relationship between school climate and educational expectations by using path analysis in a structural equation modeling (SEM) framework and testing indirect effects. The third aim was to assess whether the central pathways of interest varied by students' race and SES using multiple group analysis in an SEM framework. Results from the current study indicate that none of the measured dimensions of school climate (i.e., global perceptions of student-school misfit, subjective social status, interracial climate, student-teacher relationships) were significantly associated with students' educational expectations nor does academic preparation mediate the relationship between school climate and educational expectations. However, results do find main effects for the link between school climate and academic preparation, such that more positive student-teacher relationships, better interracial climate, and higher global perceptions of student misfit are related to higher levels of high school and college planning. In addition, multiple group analysis revealed that student-teacher relationships have a stronger association with college educational planning for Latinx compared to White students. Multiple group analysis by students' SES generated errors that could not be resolved, and thus these results are not presented. The current study brings awareness to the struggles marginalized students face in school and how the school context can shape students' academic preparation behaviors.

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Introduction

Students' expectations for their own educational attainment are important predictors of both actual educational attainment and occupational attainment (Beal & Crockett, 2010; Mello, Anton-Stang, Monaghan, Roberts, & Worrell, 2012). Therefore, understanding the factors that contribute to high educational expectations can aid in putting youth on a trajectory to become highly educated and economically secure adults. Predictors of educational expectations such as family involvement and family SES have been previously investigated (Johnson & Reynolds, 2013; May & Witherspoon, 2019), but school-based predictors, such as school climate, may also be essential in influencing students' educational expectations given the extended periods of time students spend in this context. School climate refers to the quality of school life and is associated with student academic achievement, engagement, and motivation (see reviews by Thapa, Cohen, Guffey & Higgins-D'Alessandro, 2013; Wang & Degol, 2016).

School climate has often been studied in terms of the quality of interpersonal relationships in school (Kutsyuruba et al., 2015; Thapa et al., 2013; Wang & Degol, 2016)). However, demographic aspects of school climate, such as school misfit due to students' race or SES or interracial climate, could be particularly crucial for students' expectations because poor demographic-related school climate reflects a school's devaluation of demographically underrepresented students. For example, if underrepresented students feel devalued in school, they may be demotivated from engaging in interactions with school personnel that can help them prepare for their academic futures. If a student does not engage in academic preparation, then they may be less likely to form high educational expectations because they have no concept of what their academic possibilities are or how to achieve them. Therefore, demographic-related school climate may indirectly impact educational expectations through academic preparation and

these associations may persist above and beyond other dimensions of school climate, such as positive student-teacher relationships, a hypothesis examined in the current study.

Moreover, the relations between school climate, academic preparation, and educational expectations may function differently across students' race or SES. For example, for some ethnic groups, parents emphasize the importance of educational attainment as a means to combat racial stigma (Chapman, Contreras, & Martinez Jr., 2018). Therefore, a negative demographic-related school climate may serve as a more salient motivator for these students to more intensively plan for their academic futures, resulting in higher educational expectations. Aspects of the school climate that uniquely impact racial minority and low-income students remains largely unknown. Given the increasing diversity of U.S. schools, it is crucial to understand the racial and socioeconomic differences in how school climate impacts education so that educators and school administrators are prepared to work with diverse groups of students.

For the proposed study (see Figure 1 for conceptual model), I investigated the differential impact of various dimensions of school climate, including the quality of student-teacher relationships and aspects of demographic-related school climate (i.e., students' global perceptions student misfit in school due to race/ethnicity and socioeconomic background, subjective social status of one's racial and SES group at school, reports of the school interracial climate) on students' educational expectations. I also examined the mediating role of academic preparation on the link between the aforementioned dimensions of school climate and educational expectations. Finally, I explored whether students' race/ethnicity and SES moderate the link between school climate and academic preparation as well as the link between academic preparation and educational expectations. Students' educational needs may vary depending on their demographic background and understanding how the paths under study function differently

across race and SES serves to improve the educational attainment of underrepresented sociodemographic groups.

IMPACTS OF EDUCATIONAL EXPECTATIONS

According to the expectancy-value model of achievement performance, expectations and values influence achievement-related behaviors, such as performance, effort, and persistence (Eccles et al., 1983; Wigfield & Eccles, 2000). As is such, adolescents with high expectations for their educational attainment would engage in behaviors that ultimately lead them to achieve their educational attainment goals. Indeed, adolescents' educational expectations are associated with academic effort (Domina et al., 2011). As well, additional longitudinal research provides evidence that educational expectations are directly linked to later educational attainment. For example, research focused on African American and Hispanic students found that across racial groups, educational expectations in adolescence were related to college attendance at age 20 and age 26, even after controlling for prior academic achievement (Mello et al., 2012). Other work has found that adolescents who held stable high educational expectations from their senior year in high school through the next five years were more likely to earn a college degree within five to six years of graduating high school compared to adolescents whose expectations were less stable (Johnson & Reynolds, 2013). Further, among personal, parental, and peer expectations for educational attainment, personal educational expectations were found to be the strongest predictor of actual educational attainment 15 years later (Sommerfeld, 2016).

It is evident that educational expectations have strong associations with later educational attainment, and educational attainment has become essential for generating economically secure adults. Young adults with a college degree outperform their lesser-educated peers on various measures of economic security and career fulfillment, including full-time employment,

household income, and job satisfaction (PEW Research Center, 2014). Therefore, research aiming to understand factors that influence educational expectations can have implications for increasing educational attainment among youth, setting youth on a trajectory for economic success.

SCHOOL CLIMATE AND EDUCATIONAL EXPECTATIONS

One factor that may shape adolescents' educational expectations is their school's climate. This idea can be supported by Bronfenbrenner's bioecological theory, which suggests that development is influenced by important microsystems, the everyday contexts of individual lives (such as schools for adolescents), and the interpersonal processes that occur therein (Bronfenbrenner & Morris, 2006). School is an important social context for many adolescents, as it is a place where adolescents spend the majority of their time. School climate refers to the nature of school life and reflects school norms, goals, relationships, and teaching and learning practices (National School Climate Council, 2007; Thapa et al., 2013). All these features that make up a school climate can influence young people's attitudes and behaviors in the academic setting, which may influence the expectations they may have for their educational attainment.

A positive school climate consists of expectations and norms that make students feel socially, emotionally, and physically safe in school, and school climate is related to several academic outcomes. Literature reviews document that a positive school climate is linked to greater academic achievement, engagement, and academic motivation (Thapa et al., 2013; Wang & Degol, 2016). School climate is agreed to be a multidimensional construct, and one domain of school climate that may be particularly influential on educational expectations is within the "community" domain (Wang & Degol, 2016). Prior work has not agreed on a standardized title for this domain, but it has been unanimously characterized by dimensions such as high-quality

interpersonal relationships within school, school connectedness, social support, and respect for diversity (Thapa et al., 2013; Wang & Degol, 2016). The bioecological theory would suggest that it is this community domain of school climate that may influence students' educational expectations because development is directly influenced by social relationships and interactions that occur in proximal contexts such as schools (Crosnoe & Benner, 2015; Bronfenbrenner & Morris, 2006). Although the community domain of school climate is proposed to consist of multiple dimensions, research surrounding this communal domain of school climate has largely focused on the quality of interpersonal relationships within school, specifically the quality of student-teacher relationships. Indeed, research that has investigated discrepancies between students' educational aspirations (i.e., how far students *would like* to go in school) and educational expectations (i.e., how far students *think* they will actually go in school) finds that students who reported poorer relationships with teachers also reported lower levels of educational expectations relative to their educational aspirations (Boxer, Goldstein, DeLorenzo, Savoy, & Mercado, 2011). Additionally, having strong academic social support from teachers is associated with higher educational expectations (Cherng & Liu, 2017). The stated evidence demonstrates that relational aspects of the school context can influence students' beliefs of whether they can achieve the level of school they hope to attain. However, in addition to considering student-teacher relationships, the current study extends the focus to other dimensions of the community domain of school climate, specifically respect for diversity.

Over the past two decades, the American population has become more diverse (National Center for Education Statistics, 2019), resulting in shifting demographics of students in schools (Frankenberg & Siegel-Hawley, 2008). Therefore, attention to aspects of the school climate that confer support and status across race/ethnicity and social class is needed. As suggested by Garcia

Coll's integrative model of minority child development, the impacts of social position are mediated by social mechanisms, such as prejudice and discrimination. These social mechanisms in turn create inhibiting environments for the child that can undermine development (Garcia Coll et al., 1996). The community domain of school climate includes a school's respect for diversity (e.g., presence of cultural awareness and respect, fair treatment of all students, and appreciation of student opinions; Wang & Degol, 2016). In a school that lacks these demographic-related aspects of school climate, students may experience discrimination or feel excluded from activities due to their demographic background. This creates an inhibiting environment for students, leading them to feel undervalued in school and thus discouraging the development of high educational expectations. Given that race/ethnicity and socioeconomic status (SES) are two major demographic characteristics by which students are socially ranked in school (Benner & Wang, 2014; Huston & Bentley, 2010), they are important characteristics to consider in terms of how demographic-related aspects of school climate may influence educational expectations. For example, perceptions of schoolwide prejudice were negatively associated with grades in school (Benner, Crosnoe, & Eccles, 2015), and perceived discrimination among Asian American students is negatively associated with educational expectations (Kiang, Witkow, Gonzalez, Stein, & Andrews, 2015). Further, perceiving positive attitudes about race from school personnel is associated with higher academic intrinsic motivation (Byrd & Chavous, 2011), which could reflect high educational expectations. Additionally, a positive school racial climate is associated with academic achievement and college preparation (Thapa et al., 2013; Wang & Degol, 2016), additional correlates of educational expectations. Provided the evidence of associations between demographic-related aspects of school climate and academic achievement, I proposed that the consequences of poor demographic-related school climate on educational expectations will

persist above and beyond the influences of positive student-teacher relationships, especially for racial/ethnic minority students. In focusing on demographic-based micro-level processes that influence educational expectations (Bronfenbrenner & Morris, 1998), the current study included global perceptions of student-school misfit around race/ethnicity and SES, subjective social status of one's racial and SES group at school, and educator-supported and peer-supported interracial climate.

THE MEDIATING ROLE OF ACADEMIC PREPARATION

Academic preparation, or taking steps to prepare for higher education, is a microlevel process that may be influenced by both the quality of student-teacher relationships and demographic-related aspects of school climate (Bronfenbrenner & Morris, 2006). Students may become academically prepared through interactions with teachers, counselors, and peers (e.g., having friends that plan to go to college, having discussions about college with teachers). Social capital theory (Coleman, 1988) is useful in understanding how the aforementioned dimensions of school climate may impact students' academic preparation. Social capital refers to information and norms made apparent through social relationships (Coleman, 1988). Based on social capital theory, schools can serve as a potential medium for students to gain social capital (Crosnoe, 2004). Relationships formed in school serve as a channel for social capital because teachers, counselors, and peers can provide knowledge, support, and advice that can aid in students' academic achievement and mobilization (Crosnoe, 2004; Stanton-Salazar, 2011). Therefore, a positive school climate, which consists of positive interactions between students' and teachers, counselors, and peers, may influence students' academic preparation because when students have healthy relationships with these important others at school, they may be more likely to interact with them in ways that build social capital that will help them prepare for their future education.

In the current study, I considered educational planning (i.e., the extent to which a student discusses high school and college programs with important others) and academic socialization (i.e., students' thoughts about college) as key aspects of academic preparation.

Turning back to the expectancy-value theory, it is likely that academic preparation may, in turn, impact students' educational expectations. The expectancy-value model suggests that expectancies are influenced by individuals' self-schema, or flexible cognitive representations of the self (Wigfield et al., 1996). Self-schema are influenced by the behaviors of important others and an individual's perceptions of the beliefs, expectations, and attitudes that important others hold (Eccles et al., 1983; Wigfield & Eccles, 2000). Following this vein, by discussing academic programs with important others in the school context (e.g., teachers, counselors, and friends), students may develop a self-schema that is academically oriented, resulting in higher educational expectations. Given the theoretically supported links between school climate and academic preparation and between academic preparation and educational expectations, I investigated whether academic preparation serves as a mechanism through which student-teacher relationships and demographic-related aspects of school climate influence students' educational expectations.

VARIATION BY STUDENTS' RACE AND SOCIOECONOMIC STATUS

In aiming to understand the mechanisms by which school climate may be related to educational expectations, it is also important to consider that the way these mechanisms function may vary across students' race and SES. Focusing first on racial/ ethnic differences, racial minority students have academic experiences that are distinct from white students in that they often face unique challenges that impact their academic trajectories, which stem from structural inequalities in education quality and racial bias (Smit, 2012). These inequities and biases, such as

discrimination and low expectations from teachers, can contribute to racial gaps in academic self-schema, in which racial minority students have more negative academic self-schema than white students. Therefore, engaging in academic preparation with individuals at school may help improve minority students' academic self-schema, thus having a stronger impact on their educational expectations than white students' educational expectations (Eccles et al., 1983; Wigfield & Eccles, 2000).

Further, the literature on racial differences in academics suggests that students of varying racial/ethnic backgrounds are socialized differently and experience structural inequities, which may influence how they respond to various dimensions of school climate and academic preparation. For example, Latino adolescents are often socialized to have strong family ties. The Latin American cultural value of familism, the firm belief of family loyalty and obligation, is generally related to positive outcomes among Latino adolescents (McHale et al., 2009; Stein et al., 2015). However, findings on the influence of familism on adolescent college attendance demonstrate a divide in which familial obligations motivates some students to pursue a college degree to provide aid to their family in the long term, but deters other students from attending college so that they may work and provide immediate assistance to their family (Sánchez et al., 2010). In considering these contradictory findings, research suggests that context plays a role in how familism influences academic outcomes (Sánchez et al., 2010; Stein et al., 2014); specifically, evidence shows that familism can lead to detrimental outcomes in stressful contexts (Sánchez et al., 2010; Literature review on familism: Stein et al., 2014). Therefore, for Latino students, a negative school climate could be a contextual stressor that influences them to disengage from academic preparation, whereas a positive school climate may encourage students to more extensively explore their academic prospects.

As for Asian American students, there is evidence that Asian American students' educational expectations tend to remain stable as they progress through high school, which may be due to the cultural value of success that is instilled in adolescents of Asian descent (Fulgini, 2001; Kiang et al., 2015). However, discrimination was found to be associated with negative educational expectations for first-generation Asian American adolescents, suggesting that some Asian American students may still be vulnerable to poor school climate and may see negative climate as a barrier to pursuing higher education (Kiang et al., 2015). Alternatively, some African American parents emphasize the importance of educational attainment as a means to combat racial stigma (Chapman et al., 2018). In this case, students of these parents may see a negative school climate as motivation to engage in greater academic preparation in order to overcome the negative messages they are receiving from their school environment about their race. Indeed, there is evidence that African American students who reported more negative interpersonal interactions with teachers also reported greater school effort (Golden, Griffin, Metzger, & Cooper, 2018). This is an important distinction in how some African American students may combat racial stigma because African American students tend to experience more adverse race-related school climate, such as conflictual student-teacher relationships and disparate rates of discipline (Losen et al., 2015; Spilt & Hughes, 2015).

Taken together, the presented literature demonstrates the importance of considering the racial/ethnic variations in the associations between various domains of school climate, academic preparation, and educational expectations so educators are prepared to work with diverse groups of students whose needs may vary due to their racial/ethnic backgrounds.

Aside from race/ethnicity, student needs may also vary by their family SES. Family income can play a large role in the development of educational expectations because low-income

youth face structural inequities and social feedback that may impede the development of high educational expectations. Low SES adolescents report lower educational expectations than their higher SES counterparts (Mello, 2009). The socioeconomic variation in educational expectations is thought to be attributed to the fact that high-income adolescents tend to receive more pro-academic messages than lower-income adolescents (Bozick, Alexander, Entwisle, Dauber, & Kerr, 2010; Johnson & Reynolds, 2013). Therefore, a positive school climate could be of particular importance for lower-income students because these school-based factors can provide more positive academic socialization messages for these students that can directly increase their educational expectations and indirectly influence educational expectations by encouraging these low-income students to engage in more academic preparation. Further, prior work finds that low-income students are more likely to enroll in higher education after meeting with their school counselor than their higher-income counterparts (Belasco, 2013). These results suggest that low-income students may yield more benefits from engaging in academic preparation with school-based personnel than higher-income students. This may be because, for low-income students, interactions with school personnel may be a primary form of social capital they receive, whereas higher-income students often have well-educated parents and family members they can turn to for help with academic preparation. Investigating the functionality of the proposed model across race/ethnicity and SES will provide insights into the groups that are most influenced by demographic-related school climate and for which students' academic preparation with school-based personnel matters most.

CURRENT STUDY

The proposed study drew from survey data from middle school students in the Southwestern United States to better understand the mechanisms that influence students'

educational expectations. First, I examined the extent to which various dimensions of school climate, including student-teacher relationships and demographic-related aspects of school climate, are related to students' educational expectations. Guided by the bioecological theory (Bronfenbrenner & Morris, 2006) and research that identifies the positive effects a constructive school climate for academic outcomes (Thapa et al., 2013), I hypothesized that students who reported more negative school climate, in terms of greater global perceptions of student-school misfit, lower subjective social status, poorer interracial climate, and poorer student-teacher relationships, would have lower educational expectations for themselves compared to adolescents who experience a more positive school climate.

Second, I assessed whether the various dimensions of school climate (i.e., global perceptions of student-school misfit, subjective social status, interracial climate, and student-teacher relationships) are indirectly associated with educational expectations through academic preparation. Based on social capital theory (Coleman, 1988) and the expectancy-value model (Eccles et al., 1983; Wigfield & Eccles, 2000), I hypothesized that academic preparation would serve as a mediator between all dimensions of school climate under study and educational expectations wherein more positive school climate would be positively associated with academic preparation, and academic preparation, in turn, would be related to higher educational expectations.

Third and finally, I also assessed whether the central pathways of interest varied by students' race/ethnicity and SES. For race/ethnicity, I focused on four pan-ethnic categories (i.e., White, African American, Asian American, Latinx); there was extensive heterogeneity in the biracial group in our sample, and as such, they were not included in this moderation analysis. SES was measured by the highest level of education achieved by the students' parents (i.e.,

associate degree or less than, bachelor's degree, master's degree or greater than). For the direct effects between student-teacher relationships and both academic preparation and educational expectations, I expected that these associations would be similar across racial groups given the evidence to suggest that positive student-teacher relationships generally have positive impacts on students' educational expectations and academic outlook (Cherng & Liu, 2017); however, I expected the association between student-teacher relationships and both academic preparation and educational expectations to be stronger for low-income youth than high-income youth. This hypothesis was supported by research that suggests school climate, including student-teacher relationships, may be of particular importance for low-income youth because these school-based interactions are likely a critical form of social capital, which can aid in increasing their educational expectations (Bozick et al., 2010). Further, in conjunction with Garcia Coll's model which suggests social minorities may be more vulnerable to and impacted by stressful school contexts, such as a school with poor demographic-related school climate (Garcia Coll et al., 1996), I expected that the association between demographic-related school climate and both educational expectations and academic preparation would be strongest for racial/ethnic minority students and low-income students. This hypothesis was further supported by the social capital theory which implies that individuals with greater structural social resources (e.g., college-educated parents) are more likely to have greater social capital (Bassani, 2007). However, the school context can also serve as a mechanism for social capital and while White or high-income students may be more likely to have sources of social capital outside of school, the school context may be the primary source of social capital for racial/ethnic minority and low-income students (Crosnoe, 2004). Thus, a poor demographic-related school climate may differentially impact these students because they are less likely to earn social capital through their only

available source, which can have implications for their academic preparation. Alternatively, given that African American students may view negative demographic-related school climate as motivation to succeed academically (Chapman et al., 2018; Golden et al., 2018), it is possible that, for African American students, the association between school climate and academic preparation may be such that more negative school climate could be related to greater academic preparation.

Lastly, based on the expectancy-value theory, I expected that the association between academic preparation and educational expectations would be relatively high for all groups. However, racial minority students often face discrimination and inequities in school that could lead to the development of low academic self-schema. Thus, racial minority students may yield more benefits from engaging in academic preparation than their White counterparts. Additionally, there is evidence that low-income students yield more benefits from academic preparation with school personnel than their high-income counterparts (Belasco, 2013). Therefore, I expected the association between academic preparations and educational expectations would be strongest for racial/ethnic minority students and low-income students compared to White students and middle and high-SES students.

Method

PARTICIPANTS

The proposed research utilized survey data from the first and second wave of an ongoing, longitudinal cohort project entitled Preventing Inequalities in School Climate and Educational Success (Project PISCES). The first wave of Project PISCES consists of 1,010 8th grade students divided into two cohorts. Cohort one began in the 2016-17 school year ($N = 463$) and cohort two began in the 2017-18 school year ($N = 547$). Roughly two-thirds of the students in the sample were White (40%) or Latinx (34%). The remainder of the sample was Asian American (8%), African American (6%), or biracial or another race/ethnic group (13%). The mean highest level of education received by the adolescents' parents was an associate's degree. Half of the students reported their social class as middle class (49.7%). Participant demographics are presented in Table 1.

Students were recruited from 13 total public, charter, and private schools. The schools of which the students attended had varying socioeconomic compositions, with some consisting of majority low-income students and others consisting of majority high-income students. Additionally, schools had varying racial/ethnic compositions with schools consisting of majority white students, majority ethnic minority students, and schools with a more diverse student body.

In total, 852 students had parent consent and student assent to participate in the longitudinal component of Project PISCES, and of these, 729 9th grade students completed the Wave 2 survey (an 85.56% retention rate). Additionally, 22 students did not consent to participate in Wave 1 but did consent to participate in Wave 2. These students were included in the analyses, bringing the total sample size for Wave 2 to 751. Attrition analysis was conducted to compare students who participated in both waves to those who only participated in the first wave on the central measures of interest. Students who participated in both waves reported better

peer-supported interracial climate ($M = 3.17$, $SD = .77$) than Wave 1 only students ($M = 2.98$, $SD = .83$); $t(993) = -3.32$, $p < .01$ and were more likely to have friends who were planning to go to college ($M = 2.34$, $SD = .61$) than wave 1 only students ($M = 2.42$, $SD = .63$); $t(996) = -2.17$, $p < .05$. Lastly, students that participated in both waves reported greater educational expectations in wave 1 ($M = 5.06$, $SD = 1.34$) than wave 1 only participants ($M = 4.73$, $SD = 1.43$); $t(450) = -3.25$, $p < .01$. No other significant differences were found for the measures of interest. Attrition analysis was also conducted to assess significant differences in demographic characteristics of students who participated in both waves compared to those who only participated in Wave 1. Students who participated in both waves had parents with higher levels of education ($M = 3.29$, $SD = 1.97$) than Wave 1 only students ($M = 2.94$, $SD = 2.12$). The two groups did not differ on any other demographic characteristics (i.e., race, gender, generational status, type of school attended).

PROCEDURE

Students were recruited in 8th grade from middle schools in the Southwest U.S. After obtaining parent consent and student assent, students completed a paper or online survey in their preferred language (English or Spanish). Students answered questions about themselves, their family, and their school. Students were compensated twenty dollars for participating in the survey.

MEASURES

School climate indicators (global perceptions of student-school misfit, subjective social status, interracial climate, and student-teacher relationships) and academic planning measures (educational planning and academic socialization) were assessed at Wave 1, and the outcome,

educational expectations, was assessed at Wave 2. Descriptive statistics and bivariate correlations among all central constructs are presented in Table 2.

Student-teacher relationships. The quality of student-teacher relationships was assessed using two items from the school belonging measure of the Effective School Battery (Gottfredson, 1984). Students responded on a scale of 0 (*No way*) to 4 (*For sure yes*) how true the following statements were about their school: “There is an adult at this school who I can go to when I need information about school” and “There is an adult at this school who I feel comfortable talking to about a personal problem”. The mean of the two items was calculated ($r = .61$; $p < .01$), and higher mean scores indicate more positive student-teacher relationships.

Demographic-related school climate. School climate related to demographics relied on three student self-report measures from Wave 1—misfit, subjective social status, and interracial climate.

Global perceptions of student-school misfit. Two independent items measured global perceptions of student-school misfit, a race-based item (i.e., “How hard or easy is it for someone to fit in at this school if they are not the same race or ethnicity as most of the other kids at this school?”) and an SES-based item (e.g., “How hard is it for someone to fit in at this school if their families have less money than other students at this school?”); these items were created for Project PISCES. The response scale ranged from 0 (*really hard*) to 3 (*really easy*). Items were recoded such that higher scores indicate greater perceptions of student-school misfit.

Subjective social status. Subjective social status was assessed using a modified version of the MacArthur Scale of Subjective Social Status (Adler & Stewart, 2007). For Project PISCES, students were presented with an image of a ladder that has ten rungs labeled A (top rung) to J (bottom rung). The prompt stated: “Think of this ladder as representing where students

stand in your school. At the top of the ladder are the students who are the best off — those with the most respect and the most popularity in your school. At the bottom are the people who are the worst off — those who no one respects and no one wants to hang out with”. Students were asked to choose a letter (rung) on the ladder that best represents where students of their own race/ethnicity stand relative to other students at their school as well as where students whose families had similar amounts of money as their own stand relative to other students in their school. Answer choices were recoded so that each letter is assigned a number from one to ten (A = 10 and J = 1) such that higher scores indicate greater perceived social status of students of the same race and SES of the participant.

Interracial climate. Interracial climate was measured using five student-reported items (Bellmore, Nishina, You, & Ma, 2011; Green, Adams, & Turner, 1988); two of the items assessed educator-supported interracial climate (i.e., “Teachers encourage students to make friends with students of different ethnic groups”), and three items assessed peer-supported interracial climate (i.e., “My friends would think badly of me if I ate lunch with a student of a different ethnic group”). For each item, participants rated on a scale of 0 (*No way*) to 4 (*For sure yes*) the extent to which each statement applied to them and their school. One composite score was created for educator-supported interracial climate, which is the mean of the two educator-based items ($r = .67$). Another composite score was created for peer-supported interracial climate by calculating the mean of the three peer items ($\alpha = .69$). All items were reverse-coded as necessary such that higher scores indicate better interracial climate.

Academic Preparation. For the current study, I considered educational planning and academic socialization as key aspects of academic preparation.

Educational planning. Educational planning consisted of two subscales with three items each (Mau, 1995). One subscale asks students to indicate on a scale of 0 (*Not at all*) to 2 (*3 or more times*) how often they have talked to each of five people (i.e., a guidance counselor, teachers, and friends your own age) about high schools or high school programs. The second subscale is identical to the first except that the question asked how often students talked to the same three people about college. A high school planning composite score was created by taking the sum of the three high school planning items. A college planning composite score was created by taking the sum of the three college planning items.

Academic socialization. Academic socialization was assessed using two items (Ng et al., 2014). For Project PISCES, students rated how much they agree with each of two statements on a scale of 0 (*Strongly Disagree*) to 3 (*Strongly Agree*) (e.g., “I frequently think about my plans after high school.” and “My friends are planning to go to college.”). The items were used individually as unique measures of academic socialization.

Educational Expectations. Educational expectations were measured by one item that asked students how far they believe they will go in school (National Center for Education Statistics, 2008). The scale for the item ranges from 1 (*Less than high school graduation*) to 7 (*Obtain a PhD, MD, or other advanced degree*).

Covariates. Covariates spanned school- and student-level.

School-level covariates. The racial/ethnic makeup of the schools in Project PISCES was gathered from data from the Texas Education Agency for all public and charter schools. I created a variable that identified the percentage of the students at the participant’s school that matched the participant’s self-reported race/ethnicity at Wave 1. School SES was calculated based on the percentage of students who received Free/Reduced Price Lunch drawn from TEA reports for all

public and charter schools. A school was coded as low SES if more than 90% of the students received free/reduced-price lunch. A school was coded as mixed SES if between 30% and 45% of the students received free/reduced-price lunch and high SES if it was a private school or if less than 30% of the students received free/reduced-price lunch. These percentage thresholds are specific to the schools in the Project PISCES sample as developed by other work on the project (see Mistry, Bakhtiari, & Benner, in preparation)

Student-level covariates. All student-level covariates are drawn from students' self-report. For generational status, students are considered first-generation immigrants if they indicated they were born outside of the U.S. Students are considered second-generation if they indicated they were born in the U.S. but had at least one parent that was born outside of the U.S. Lastly, students are considered 3rd generation or higher if they indicated they were born in the U.S. and both their parents were also born in the U.S. Students reported the highest level of school completed by their mother and then by their father using a scale from 0 (*Less than high school diploma*) to 6 (*PhD, MD, or other advanced degree*). Parental education was measured using the highest level of education received across both mother and father. Parental academic preparation includes three items. Two of these items are from the educational planning measure cited above (Mau, 1995); students indicate how often they talk to their mother or father about high school programs and college. The third item is drawn from the academic socialization measure cited above (Ng et al., 2014) in which the student indicates the extent to which the following statement applies to them: "My parents really encourage me to go to college." These items were included individually as covariates to control for educational planning and academic socialization that is occurring outside of school. Finally, educational expectations measured at

Wave 1 was also included as a covariate and was measured using the same metric cited above (National Center for Education Statistics, 2008)

ANALYSIS PLAN

All analyses were conducted using Mplus v. 8. Missing data were handled using full-information maximum likelihood (FIML). FIML employs data from all cases in its estimation without imputing missing values. For all analyses, the CLUSTER function in MPLUS was used to account for nesting of students within school. To examine the main effect of demographic-related school climate on educational expectations (research question 1), regression analyses were conducted. Educational expectations from Wave 2 were regressed on global perceptions of student-school misfit, subjective social status, educator-supported interracial climate, student-supported interracial climate, and student-teacher relationships controlling for wave 1 educational expectations and all covariates.

To examine whether preparation for higher education mediates the relationship between demographic related school climate and educational expectations (research question 2), I conducted path analysis in a structural equation modeling (SEM) framework. I tested the magnitude and significance of the relations between the model's exogenous variables (school climate) and endogenous variables (preparation for higher education, educational expectations). Indirect effects were tested using MPLUS estimation of indirect effects.

Lastly, multiple group analyses were conducted to determine whether the strength of associations between school climate, academic preparation, and educational expectations varied by race/ethnicity and SES. Due to small sample sizes of the African American ($n = 57$) and Asian American ($n = 74$) racial/ethnic groups, the racial/ethnic multiple group analyses were conducted comparing Whites to Latinx only. For the SES parental education grouping variable,

three groups were compared: an Associate degree or lower versus a Bachelor's degree versus a Master's degree or higher. I first conducted a model where all paths were free to vary across the racial (or SES) groups. Next, a model was conducted where all focal paths were constrained to be equal across all racial (or SES) groups. A chi-square test of parameter constraints determined whether the inclusion of these constraints resulted in a poorer fitting model. If the constrained model fit the data more poorly than the unconstrained model, then paths were constrained one-at-a-time to determine the specific differences across groups.

Results

MAIN EFFECTS OF SCHOOL CLIMATE ON EDUCATIONAL EXPECTATIONS

I first tested the main effects of demographic-related school climate and the quality of student-teacher relationships on educational expectations measured one year later. The model was just identified, and thus model fit statistics are not provided. Contrary to my expectations, results of the main effects regression analyses indicated that none of the predictors under study were significantly associated with Wave 2 educational expectations, suggesting that neither demographic-related aspects of school climate nor the quality of student-teacher relationships predicted later educational expectations after controlling for Wave 1 expectations and covariates. The results of the main effects model are presented in Table 3.

ACADEMIC PREPARATION AS A MECHANISM LINKING SCHOOL CLIMATE AND EDUCATIONAL EXPECTATIONS

To assess the second research question (whether academic preparation mediates the relationship between demographic-related school climate and educational expectations), path analysis in a structural equation modeling (SEM) framework was conducted; however, the proposed model including all mediators and covariates simultaneously did not achieve an acceptable model fit ($\chi^2=1,447$, $p<.001$; CFI = .282; RMSEA = .147) and thus could not be interpreted. Therefore, separate models were analyzed for each mediator (i.e., high school educational planning, college educational planning, and each academic socialization measure).

High school educational planning. Acceptable model fit was achieved for the mediational models focused on high school educational planning ($\chi^2=72.71$, $p < .001$; CFI = .88; RMSEA = .064 [CI: .05 - .08]). As shown in Figure 2, results indicated that greater peer-supported interracial climate ($\beta = .06$, $p < .05$) was associated with more high-school educational planning as were better student-teacher relationships ($\beta = .19$, $p < .001$), which partially supports the

proposed hypothesis. However, contrary to my proposed hypothesis, greater perceptions of student-school misfit based on SES was associated with more high school educational planning ($\beta = .10, p < .01$). High school educational planning, however, did not significantly predict Wave 2 educational expectations ($\beta = -.02, p = .74$), and no significant indirect effects were observed for this model ($\beta_{indirect} = -.003 - .001, p = .735 - .835$). This suggests that high school educational planning did not mediate the relationship between either demographic-related school climate or student-teacher relationships and Wave 2 educational expectations. Indirect effects for the high school educational planning model are presented in Table 4.

College educational planning. Acceptable model fit was achieved for the mediational models focused on college educational planning ($\chi^2=45.37, p < .001$; CFI = .94; RMSEA = .047 [CI: .03 - .06]). As shown in Figure 3, results of the college educational planning model revealed that educator-supported interracial climate ($\beta = .09, p < .05$) was associated with more college educational planning as were better student-teacher relationships ($\beta = .15, p < .001$), which partially supports the proposed hypothesis. However, similarly to the high school educational planning model and contrary to my proposed hypothesis, greater perceptions of student-school misfit based on SES was associated with more college educational planning ($\beta = .15, p < .001$). Further, college educational planning did not significantly predict Wave 2 educational expectations ($\beta = .03, p = .48$), and no significant indirect effects were observed for this model ($\beta_{indirect} = -.002 - .004, p = .35 - .89$). This suggests that college educational planning did not mediate the relationship between either demographic-related school climate or student-teacher relationships and Wave 2 educational expectations. Indirect effects for the high school educational planning model are presented in Table 5.

Academic Socialization. The individual models for the academic socialization mediators were first tested with all proposed covariates, but the models did not achieve an acceptable model fit ($\chi^2=165.91, p < .001$; CFI = .77; RMSEA = .103 [CI: .09 - .12]; $\chi^2=1794.50, p < .001$; CFI = .00; RMSEA = .351 [CI: .34 - .37] for “frequently think about plans after high school” and “friends are planning to go to college” items respectively). Adjustments to the covariates in the models were made, but these adjustments did not improve the model fit and at times resulted in errors. Therefore, the models involving the academic socialization mediators could not be interpreted.

VARIATION BY RACE/ETHNICITY AND SES

The final aim of the current study was to assess whether the mediational models varied based on students’ race/ethnicity and socioeconomic status. Multiple group analyses were conducted separately for both the high school educational planning model and the college educational planning model; given fit issues with the academic socialization mediation model, I did not pursue multiple group analyses for that model. I first assessed potential differences in the strength of associations among the study constructs between White versus Latinx students.

The original unconstrained multiple groups models for both high school educational planning and college educational planning did not achieve an acceptable model fit ($\chi^2=95.79, p<.001$; CFI = .86; RMSEA = .10 [CI: .082-.123]; $\chi^2=88.25, p<.001$; CFI = .89; RMSEA = .10 [CI: .077-.118] for high school and college planning, respectively). Although not ideal, adjustments were made to the covariates in which I removed school SES and the percentage of same-ethnic peers in school as covariates in the model. With these adjustments, both the high school educational planning unconstrained model ($\chi^2=33.69, p<.01$; CFI = .95; RMSEA = .062 [CI: .04 - .09]) and college educational planning unconstrained model ($\chi^2 = 30.71, p<.01$; CFI =

.96; RMSEA = .057 [CI: .03 - .09]) achieved an acceptable model fit. For each model, I then constrained all focal paths to be equal across Latinos and Whites. For the high school educational planning model, the chi-square test of parameter constraints determined that there was no difference between the constrained and unconstrained models ($\Delta\chi^2 (15) = 24.77, p = .05$; see Table 6), suggesting that there were no differences in the strength of associations among school climate, high school educational planning, and educational expectations between Latinx students and White students.

For college educational planning, the chi-square test of parameter constraints determined that the constrained model fit the data more poorly than the unconstrained model ($\Delta\chi^2 (15) = 34.30, p < .01$; see Table 7). As a result, I then constrained paths one-at-a-time to determine the specific differences between groups. Results indicated that the association between student-teacher relationships and college educational planning differed significantly across Latinx students and White students ($\Delta\chi^2 (1) = 5.04, p < .05$), such that better student-teacher relationships were associated with greater college educational planning for Latinx students ($\beta = .24, p < .001$), but this association was not significant for White students ($\beta = .07, p = .05$).

A second set of multiple group analyses was conducted for the high school and college educational planning models to assess differences across students of different socioeconomic statuses; however, these analyses generated errors for both models related to the inability to compute the standard errors for the unrestricted estimated sample statistics and robust chi-square.

Discussion

The current study aimed to examine the extent to which various dimensions of school climate, including student-teacher relationships and demographic related aspects of school climate, related to students' later educational expectations, assess whether academic preparation mediated the relationship between each school climate dimension and educational expectations, and test whether the central pathways of interest varied by students' race/ethnicity and SES. Results showed that no measures of demographic-related school climate nor student-teacher relationships predicted educational expectations. Academic preparation also did not serve as a mediator between school climate and educational expectations. However, interracial climate, student-teacher relationships, and global perceptions of student-school misfit based on SES did predict both high school and college planning. Further, the relationship between student-teacher relationships and college educational planning varied depending on whether the student was White or Latinx.

MAIN EFFECTS OF SCHOOL CLIMATE ON EDUCATIONAL EXPECTATIONS

Regarding the first aim, I hypothesized that students who reported a more negative school climate would have lower educational expectations for themselves compared to adolescents who experienced a more positive school climate. Contrary to my hypothesis, the results of the main effects model revealed no significant associations between any of the school climate dimensions and later educational expectations. One reason for this null finding could be due to the fact that students transitioned to high school between Wave 1 and Wave 2. Prior research has identified links between relational aspects of school climate, such as student-teacher relationships and teacher support, and demographic related aspects of school climate, such as discrimination, and educational expectations (Boxer, Goldstein, DeLorenzo, Savoy, & Mercado, 2011; Cherng &

Liu, 2017; Kiang, Witkow, Gonzalez, Stein, & Andrews, 2015); however, students may view the transition to high school as an escape from the challenges they experienced in their previous school context (Benner, 2011). Therefore, the transition to high school may motivate students to reassess their educational expectations thus negating the negative impacts of their previous school. Additionally, there is evidence to suggest that the expectation of earning a college degree or higher has become more universal (Johnson et al., 2011), and the majority of students in our sample indicated they expected to earn a bachelor's degree or higher. Therefore, a ceiling effect of educational expectations may be present.

MEDIATION THROUGH ACADEMIC PREPARATION

I further hypothesized that academic preparation would serve as a mediator between all dimensions of school climate under study and educational expectations, wherein a more positive school climate would be positively associated with academic preparation, and academic preparation would, in turn, be related to higher educational expectations. Of the four proposed mediators, only the independent models for high school educational planning and college educational planning achieved acceptable model fit even after model adjustments. Results revealed that for both the high school educational planning model and the college educational planning model, better student-teacher relationships were associated with greater educational planning with school personnel. This result partially supported the proposed hypothesis and is in line with prior research showing that student-teacher relationships are associated with a host of academic outcomes, including negative attitudes towards school, academic engagement, and school attendance (See McGrath & Van Bergen, 2015 for review).

Interestingly, peer-supported interracial climate was significantly associated with high school educational planning, whereas educator-supported interracial climate was associated with

college educational planning. This demonstrates the importance of both peers and educators in establishing a healthy interracial climate and in promoting educational planning, which is in line with prior research demonstrating the positive impacts of interracial climate for students' academic outcomes, such as academic achievement (Thapa et al., 2013). However, there is also research suggesting that teacher expectations for student engagement have stronger impacts on students' academic outcomes than peer expectations (Wentzel et al., 2016). Further, experiencing discrimination from school personnel, an indication of a negative interracial climate, has shown to negatively impact students' academic performance whereas peer discrimination did not affect students' academic performance (Benner & Graham, 2013). Taken together, it is possible that as a student begins to think about their educational future, the norms established by educators may be more influential on students' long-term education plans, including decisions to plan for college, than norms established by peers.

Results also revealed an unexpected relationship between global perceptions of student-school misfit based on SES and for both high school and college educational planning, such that greater perceptions of student-school misfit based on SES were associated with greater educational planning, which contradicted the proposed hypothesis. While these results were not expected, education is considered by many to serve as a form of social mobility for low-income students (Brown et al., 2013). Therefore, students' may be engaging in educational planning in order to combat the prevalent misfit perception and gain social mobility through education. It is also worth noting that the measure of global perceptions of student-school misfit does not assess the students' personal experiences of misfit but rather their perceptions of whether students are generally accepted at their school based on certain characteristics. Given the importance of belonging for students' academic achievement and motivation (Gillen-O'Neel & Fuligni, 2013;

Hughes et al., 2015), it is possible that more personal experiences of misfit may be more detrimental to students' academic preparation than school-wide perceptions of misfit, as these personal experiences may demotivate students to prepare for their education or alienate them from the school personnel that could help them prepare. It is also worth noting that the quality of student-teacher relationships had the strongest association with high school educational planning of all the significant predictors, while global perceptions of student-school misfit based on SES and student-teacher relationships had stronger associations with college educational planning than educator-supported interracial climate. These differential effects further emphasize the importance of student-teacher relationships and highlight the need for further investigation of the impacts of global perceptions of student-school misfit on students' academic preparation.

While the null finding of the link between high school educational planning and educational expectations is understandable given that high school educational planning is more focused on academic preparation for the near future, it is interesting that planning for college would not be significantly associated with educational expectations. This null finding could be due to the nature of the college educational planning variable, which assesses how often students discuss college with school personnel but does not assess the content of these discussions or whether these discussions were positive or negative. Therefore, it is difficult to interpret what the student is getting out of these discussions and whether or not their expectations are being influenced. Qualitative research has documented differences in how schools help students prepare for college. McKillip and colleagues (2012) describe a small public school in which teachers and administrators worked intensively to form a college-going culture by providing students with social support, high academic expectations, in-depth conversations about college, and aid in applying to college. These strategies helped students maintain college-going

expectations and helped the school maintain high rates of college attendance post-graduation. In contrast, a different study describes a school in which teachers and counselors provide only general encouragement to attend college, but less personal guidance and practical help. Students at this school struggled to meet 4- year college course requirements and expressed frustration with school personnel (Gast, 2016). These findings demonstrate variation in the type of aid school personnel provide and the importance of capturing the nature of conversations students are having with school personnel when assessing how college planning with school personnel may be impacting students' educational expectations. However, even students that received only general college preparation aid still expressed the desire to attend college (Gast, 2016), thus, the lack of significant association between college planning and educational expectations could also be attributed to the potential ceiling effect of educational expectations as was previously mentioned.

VARIATION IN CENTRAL RELATIONS OF INTEREST

Finally, the current study assessed whether the relationships between school climate, academic preparation, and educational expectations varied by students' race/ethnicity, focusing on differences between White students and Latinx students, and student SES. Contrary to my hypothesis, multiple group analysis results revealed no significant racial differences in the associations between the study variables for the high school educational planning model. However, the results of the college educational planning model indicated that the association between student-teacher relationships and college educational planning was significant for Latinx students but not for White students. This racial variation partially supports the proposed hypothesis and is in line with previous work demonstrating that Latinx students value adult relationships more than do White students (Schneider & Duran, 2010), suggesting that Latinx

students are likely to benefit from positive student-teacher relationships more so than White students. However, caution should be taken in the interpretation of these results as the significant finding for Latinx students may be a chance finding due to the multiple models that were conducted and the adjustments made to the modeled covariates to achieve an acceptable model fit. Therefore, these results may not accurately represent how the proposed mechanisms are functioning across racial groups, and there are potentially confounding variables unaccounted for in the model. Additionally, differences in these associations across SES remains unknown due to uninterpretable models.

STRENGTHS, LIMITATIONS, AND FUTURE DIRECTIONS

The current study expands on current school climate research by examining the differential influences of various domains of school climate on educational expectations, with a particular innovation being its focus on the impacts of demographic-related school climate. However, despite these strengths, there are limitations to note. First, is that students' academic achievement, such as GPA, was not controlled for in the model, which could influence the expectations students' have for their educational attainment (Berzin, 2010). Additionally, small sample sizes of African American and Asian American populations did not allow for comparisons across all possible racial groups in the study; thus, further research is needed to assess how the impacts of school climate on both educational planning and educational expectations vary for these two groups. It should also be noted that the attrition analyses revealed that the data utilized in the current study contained cases that were missing not at random (MNAR) given that missingness was related to Wave 1 educational expectations (which is strongly correlated with the Wave 2 expectations outcome), but for this study missing at random (MAR)-based analysis was utilized. Research suggests that conducting MAR-based analysis for

MNAR models will produce biased parameter estimates, and this work has identified methods for conducting SEM models using techniques appropriate for MNAR (Enders, 2010). These methods, however, are exceptionally complex and go beyond the scope of the current study. While the current study is strengthened by its longitudinal design, from Wave 1 to Wave 2 students transitioned from middle school to high school, which can be considered a major turning point in an adolescent's life (Benner, 2011). It is possible that unmeasured variables related to this transition, such as changes in curriculum difficulty or peer relationships (Benner, 2011), may have confounded the results of the current study. Additionally, as noted earlier, there was a high correlation between Wave 1 and Wave 2 educational expectations ($r = .57, p < .01$); therefore it is possible that including Wave 1 educational expectations in the main effects model contributed to the null findings between school climate and educational expectations because a large portion of the explained variance in the model may have been attributed to Wave 1 educational expectations. Lastly, while parent education is commonly considered as a measure of social status, it is a more subjective measure than family income. Considering the measures utilized in this study focused on misfit and subjective social status based on family wealth, future research may want to consider utilizing more objective measures of student SES when considering comparisons by socioeconomic status, such as household income, or whether the student receives free or reduced-price lunch (Bozick et al., 2010; Mello, 2009).

Regarding additional future directions, school climate as it pertains to demographics and the unique experiences of social minority students remains to be studied. Few studies have focused on aspects of the school climate that may uniquely impact racial minority students or low-income students. As schools in the United States become increasingly more diverse, more research is needed to better understand demographic-related aspects of school climate and how

they may differentially impact the academic well-being of minority students. More longitudinal studies are also needed to more accurately assess the impacts of school climate on students' actual educational attainment.

CONCLUSION

While the proposed models yielded some challenges, the current study reveals that various aspects of school climate are influential for students' high school and college planning. Further, the quality of student-teacher relationships is especially impactful for educational planning and appears to be particularly important for Latinx students' college educational planning. The current study is a first step in better understanding the unique experiences of demographic minority students in school and how school climate influences their academic development. This study is also one of the first to assess how school climate, particularly demographic-related aspects of school climate, impacts students' educational expectations. While the current study did not demonstrate evidence for an association between school climate and students' educational expectations, it is still possible that these dimensions of school climate could influence other measures of academic development, which remains to be studied.

Appendix

Figure 1: Conceptual Model

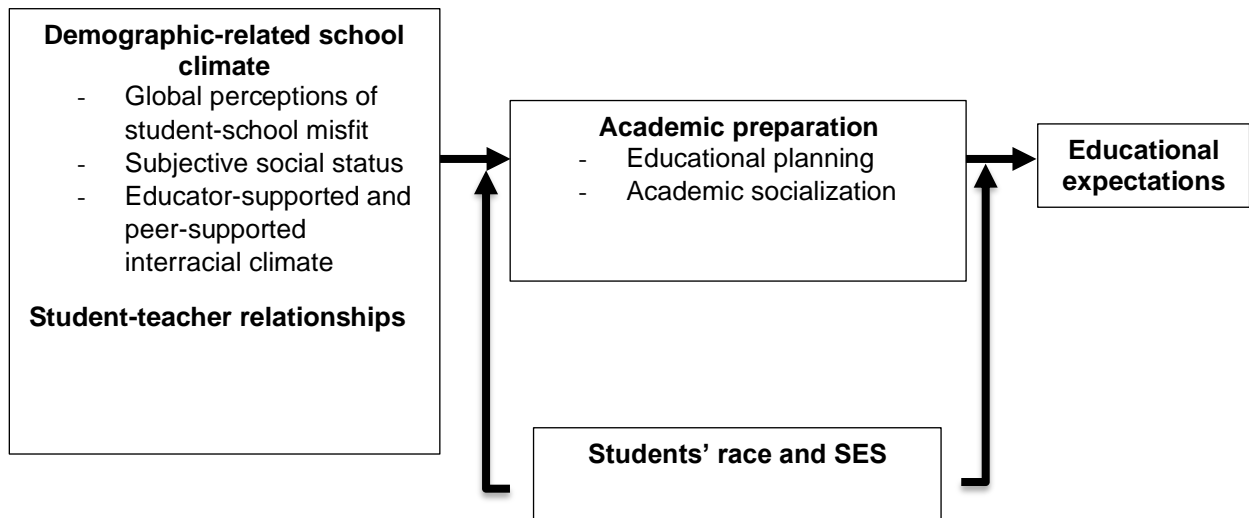


Table 1: Participant Demographics

	<i>N</i>	<i>%</i>
Race/ethnicity		
African American/Black	57	5.8
Latinx	331	33.6
Asian American	74	7.5
White	396	40.2
Biracial/other	127	12.9
Gender		
Female	506	51.9
Male	463	47.5
Other	6	.6
Survey Language		
English	958	94.9
Spanish	52	5.1
Generational Status		
1 st generation (participant born outside of the U.S.)	72	7.8
2 nd generation (participant U.S.-born with at least one foreign-born parent)	301	32.8
3 rd generation (both participant and both parents U.S.-born)	546	59.4
Parents' Highest Level of Education		
Less than high school diploma	124	15.5
High school diploma or GED only	101	12.6
Some college but no degree	67	8.3
Associate's degree	67	8.3
Bachelor's degree	169	21.1
Master's degree	185	23.0
PhD, MD, or other advanced degree	89	11.1
Type of School Attended by the Student		
Private	42	4.2
Public	900	89.1
Charter	68	6.7
SES of School Attend by the Student		
Low SES	213	21.1
Mixed SES	309	30.6
High SES	488	48.3

Note. Total possible *N* is 1,032.

Table 2: Bivariate correlations of study variables

Measure	1	2	3	4	5	6	7	8	9	10	11	12
1. Educational expectations-W2												
2. Misfit-Race	-.06											
3. Misfit-SES	.00	.70**										
4. Subjective social status-Race	.12**	-.14**	-.06									
5. Subjective social status-SES	.14**	-.12**	-.09**	.64**								
6. Interracial climate-Peer	.15**	-.22**	-.17**	0.00	.03							
7. Interracial climate-Educator	.11**	-.22**	-.18**	.15**	.10**	.02						
8. Educational planning-High School	.15**	-.01	0.05	.07	.04	.05	.09**					
9. Educational planning-College	.12**	-.00	.07*	.03	-.00	.00	.12**	.62**				
10. Think about plans after high school	.16**	.05	.09**	-.07*	-.11**	.10**	.05	.25**	.24**			
11. Friends are planning to go to college	.32**	-.14**	-.08**	.14**	.15**	.15**	.09**	.16**	.12**	.22**		
12. Student Teacher Relationships	.08*	-.10**	-.04	.02	.03	.02	.34**	.21**	.18**	.09**	.06	
<i>Mean</i>	5.16	1.04	1.09	7.08	6.70	3.12	2.56	2.73	2.17	2.20	2.31	2.45
<i>SD</i>	1.29	0.90	.92	2.74	2.54	.79	.89	1.45	1.53	.71	.61	1.03
<i>N</i>	736	989	988	924	929	995	995	997	961	1,010	998	1,001

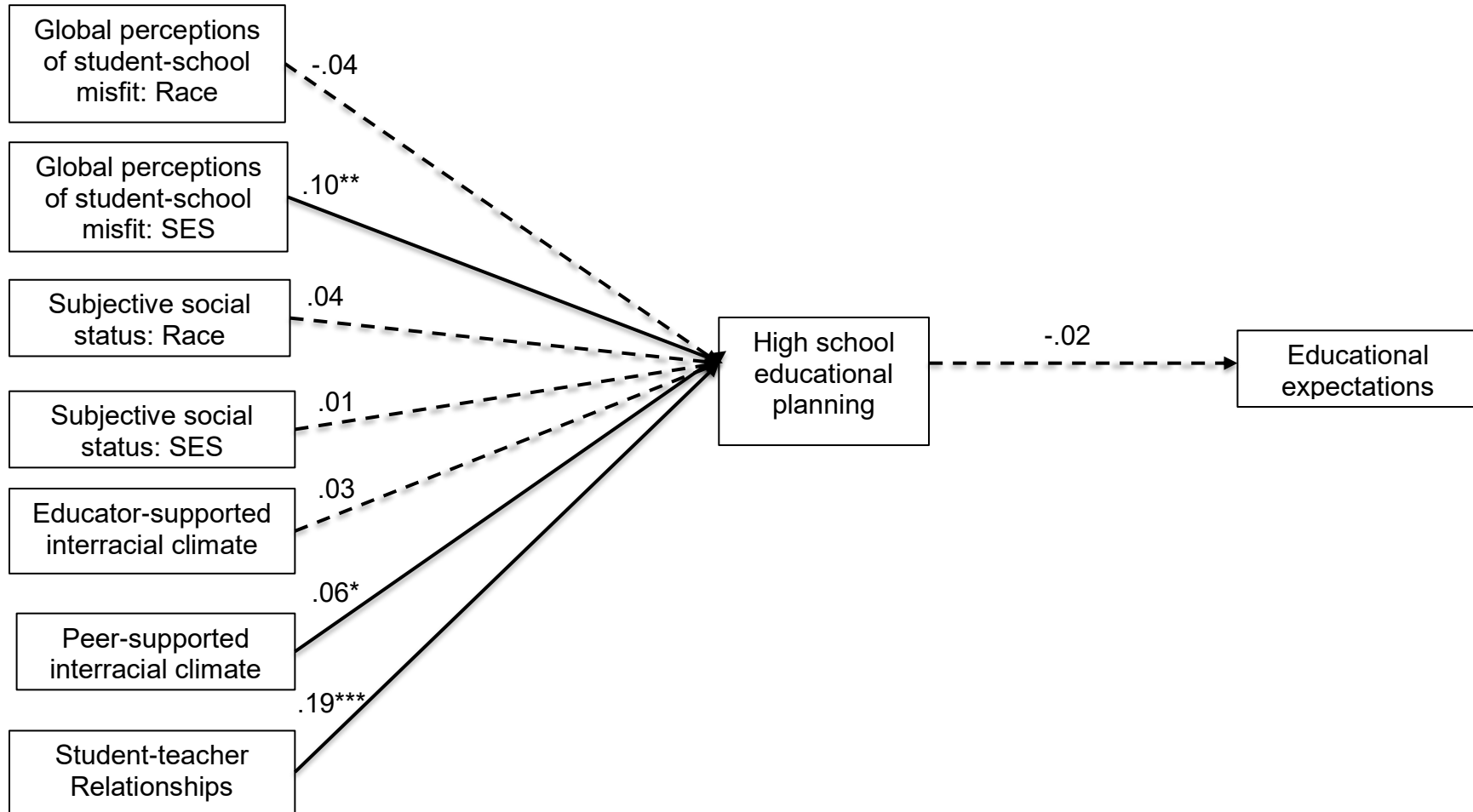
Note. N=1,032. W2 = variable is from Wave 2. * $p < .05$, ** $p < .01$, *** $p < .001$.

Table 3: Model linking school climate directly to educational expectations

	Educational Expectations-W2
	β (SE)
Global perceptions of student-school misfit: Race	-.02 (.04)
Global perceptions of student-school misfit: SES	-.00 (.06)
Subjective social status: Race	.02 (.06)
Subjective social status: SES	.03 (.06)
Educator-supported interracial climate	.01 (.02)
Peer-supported interracial climate	-.01 (.03)
Student-teacher Relationships	.03 (.04)
Cohort	.06 (.03)
School is low SES	-.13 (.10)
School is mixed SES	-.04 (.03)
Female	.09 (.02)***
African American	.01 (.04)
Latinx	.01 (.04)
Asian American	.02 (.03)
Other race/ethnicity	.06 (.04)
First generation	-.01 (.03)
Second generation	.04 (.04)
Parent education	.08 (.06)
Educational expectations w1	.46 (.03)***
% same ethnic peers at school	.06 (.06)
High school planning with parents	-.01 (.03)
College planning with parents	.06 (.04)
Academic socialization-parents	.16 (.04)***

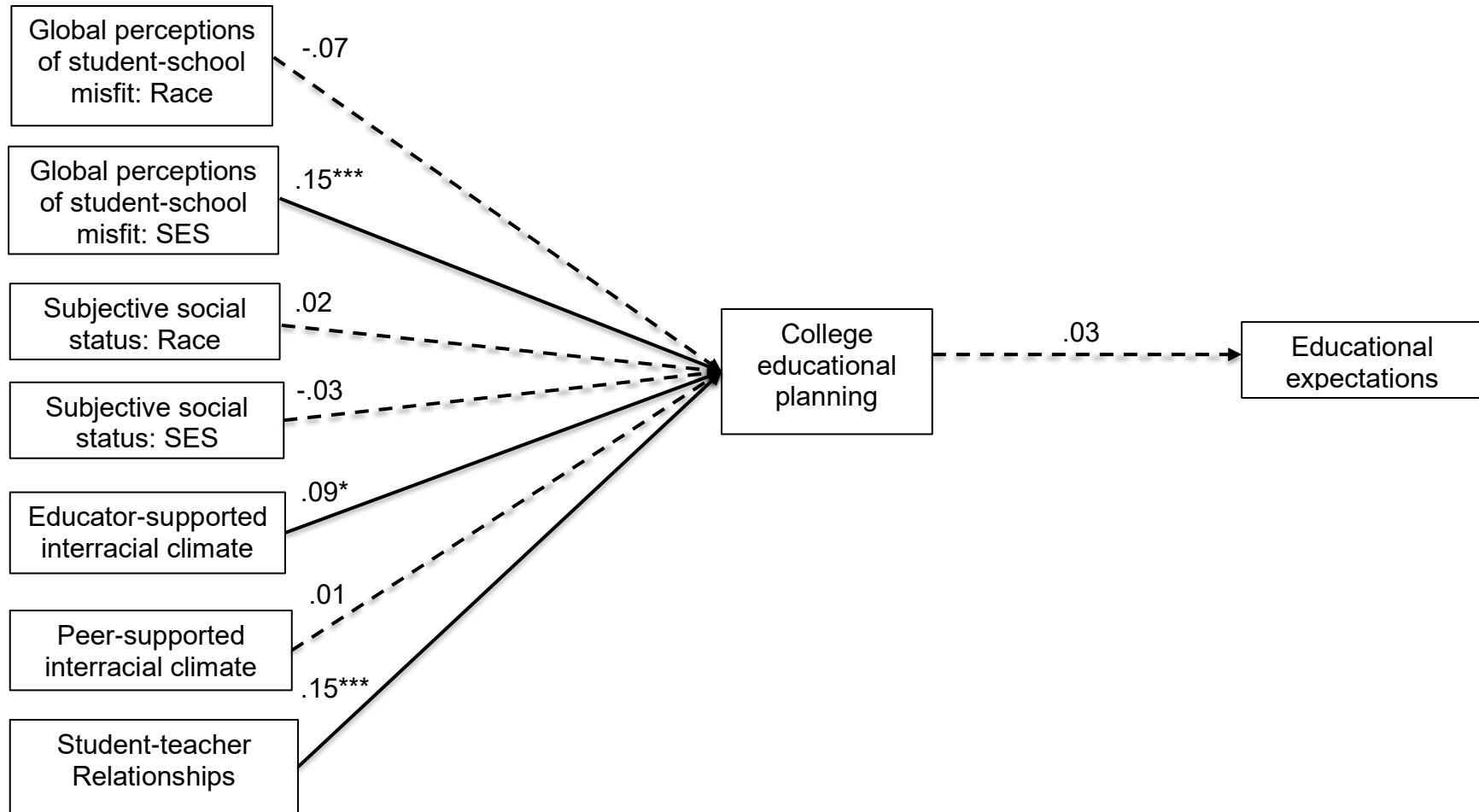
Note. Model was just identified. Standardized coefficients are presented. N = 1,032. * $p < .05$, ** $p < .01$, *** $p < .001$.

Figure 2: Standardized coefficients for path model linking school climate, high school educational planning, and educational expectations



Note. Model fit: $\chi^2(14) = 72.71, p < .001$; CFI = .88; RMSEA = .064 [CI: .050 - .079]. Dashed lines represent non-significant paths. N = 1,032. * $p < .05$, ** $p < .01$, *** $p < .001$.

Figure 3: Standardized coefficients for path model linking school climate, college educational planning, and educational expectations



Note. Model fit: $\chi^2(14) = 45.37, p < .001$; CFI = .94; RMSEA = .047 [CI: .032 - .062]. Dashed lines represent non-significant paths. N = 1,032. * $p < .05$, ** $p < .01$, *** $p < .001$.

Table 4: Indirect effects from school climate to educational expectations via high school educational planning

Path	Mplus Estimate of Indirect Effects		
	Indirect	Direct	Total
Student-school misfit: Race→High school educational planning→Educational expectations	.00	-.02	-.02
Student-school misfit: SES→High school educational planning→Educational expectations	-.00	.00	.00
Subjective social status: Race→High school educational planning→Educational expectations	-.00	.02	.02
Subjective social status: SES→High school educational planning→Educational expectations	.00	.03	.03
Educator-supported interracial climate→High school educational planning→Educational expectations	.00	.01	.01
Peer-supported interracial climate→High school educational planning→Educational expectations	-.00	-.01	-.01
Student-teacher relationships→High school educational planning→Educational expectations	-.00	.04	.03

Note. Standardized results are presented. There are no significant indirect paths.

Table 5: Indirect effects from school climate to educational expectations via college educational planning

Path	Mplus Estimate of Indirect Effects		
	Indirect	Direct	Total
Student-school misfit: Race→College educational planning→Educational expectations	-.00	-.01	-.02
Student-school misfit: SES→College educational planning →Educational expectations	.00	-.00	.00
Subjective social status: Race→College educational planning →Educational expectations	.00	.01	.01
Subjective social status: SES→College educational planning →Educational expectations	-.00	.03	.02
Educator-supported interracial climate→College educational planning→Educational expectations	.00	.01	.02
Peer-supported interracial climate→College educational planning→Educational expectations	.00	-.01	-.01
Student-teacher relationships→College educational planning →Educational expectations	.00	.03	.03

Note. Standardized results are presented. There are no significant indirect paths.

Table 6: Racial variation in the links between school climate, high school educational planning, and educational expectations

Constrained Paths	χ^2 difference	<i>df</i>	p-value
All focal paths constrained	24.77	15	.05

Note. $N = 1,032$. Significant chi-square difference test results ($p < .05$) are bolded. Comparison model is the unconstrained model for all difference tests.

Table 7: Racial variation in the links between school climate, college educational planning, and educational expectations

Constrained Paths	χ^2 difference	df	p-value
All focal paths constrained	34.30	15	.003
Constraining Predictor to Outcome Paths			
Constraining Misfit-Race→Educational expectations	.98	1	.321
Constraining Misfit-SES→ Educational expectations	.74	1	.390
Constraining subjective social status-Race→Educational expectations	.54	1	.461
Constraining subjective social status-SES→Educational expectations	3.89	1	.049
Constraining educator supported interracial climate→Educational expectations	2.60	1	.107
Constraining peer supported climate→Educational expectations	1.16	1	.282
Constraining student teacher relationships→Educational expectations	2.07	1	.151
Constraining Predictor to Mediator Paths			
Constraining misfit-Race→ College planning	2.03	1	.154
Constraining misfit-SES→ College planning	.96	1	.327
Constraining subjective social status-Race→College planning	1.24	1	.266
Constraining subjective social status-SES→College planning	3.27	1	.070
Constraining educator supported interracial climate→College planning	2.41	1	.120
Constraining peer supported interracial climate→College planning	.95	1	.331
Constraining student teacher relationships→College planning	5.04	1	.025
Constraining Mediator to Outcome Paths			
Constraining college planning→Educational expectations	1.74	1	.188

Note. $N = 1,032$. Significant chi-square difference test results ($p < .05$) are bolded. Comparison model is the unconstrained model for all difference tests.

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