The Association Between an Equitable School Climate and Students' Psychosocial Outcomes: The Moderating Roles of Race and Gender

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Abstract

The present study examined the association between students' perceptions of an equitable school climate and several psychosocial outcomes and tested whether these associations were moderated by students' race and gender. Data from 57,027 6^{th}-12^{th} grade students were analyzed using three-level models. Students who perceived their school to have a more equitable climate experienced greater psychosocial outcomes: low endorsement of retaliatory aggressive beliefs, low stress, and high future aspirations. Moderation analyses consistently demonstrated that the effect of an equitable school climate on students' psychosocial outcomes was weaker for Black students than White, Latinx, and Asian students. Gender also served as a moderator for some outcomes, with the effect of equity on stress stronger for girls than boys, and the effect of equity on future aspirations stronger for boys than girls.

Impact Statement: An equitable school climate was associated with positive outcomes for students. Although the strength of these associations varied by students' race and gender, results suggest that school- and systemic-level interventions that dismantle systems which lead to inequitable treatment may have positive effects on students.

Keywords: School climate; school equity; retaliatory aggression; future aspirations; stress

The Association Between an Equitable School Climate and Students' Psychosocial Outcomes: The Moderating Roles of Race and Gender

Historical and ongoing experiences of inequity have chronically impacted educational outcomes within the United States. Although the U.S. Department of Education has expressed a commitment to supporting equity in the school context (U.S. Department of Education, n.d.), inequitable treatment of students of color persists today. For example, exclusionary discipline practices are disproportionately administered to Black students, despite no evidence of differing behavioral patterns for these students (Bradshaw et al., 2010a; U.S. Department of Education Office of Civil Rights, 2016). With such practices associated with poor academic outcomes, inequitable treatment at school is thought to be a contributing factor in limiting opportunities for Black students and other students of color that result in underperformance (Anderson et al., 2019; Blake et al., 2016; Center for Public Education, 2016). Moreover, students are aware of such disparities in treatment, which in turn further contributes to a widening gap in perception and lived experiences at school (Bottiani et al., 2016).

School climate refers to the "social, emotional, and physical characteristics of a school community" (Voight & Hanson, 2017). This term captures a range of aspects of students' school experiences that might reflect equitable or inequitable treatment. Theoretical perspectives assert that equitable treatment is an important contributor of psychosocial development (Garcia Coll et al., 1996; Huseman et al., 1987). Yet, evidence of inequity as reflected through school climate suggests crucial differences not only in how students experience school, but how such differences might impact psychosocial outcomes essential for successful development (Bryson & Childs, 2018; Pena-Shaff et al., 2019; Voight et al., 2015). The present study investigated the role of equity at school by 1) testing the association between middle and high school students' perceptions of an equitable school climate and three important psychosocial outcomes: their endorsement of retaliatory aggressive beliefs, feelings of stress, and future aspirations, and 2) whether these associations were moderated by students' race and gender. This line of research may inform school improvement efforts aimed at enhancing equity and promoting positive adjustment for all students.

Theoretical and Empirical Significance of Equity

Equity at school can be conceptualized as the extent to which there is fair treatment that promotes the opportunity for all children to be successful (Braveman et al., 2017; Debnam et al., 2014). Equity theory posits that individuals faced with inequities, such as race-based discrimination, will experience distress (Huseman et al., 1987), which in turn can contribute to psychological, social, and physical health challenges such as depression, social and emotional issues, and sleep challenges. Experiencing inequities has also been negatively associated with indicators of well-being, including self-esteem and self-worth (Bell & Juvonen, 2020; Priest et al., 2013; Schmitt et al., 2014). Adolescence is thought to be a notably vulnerable time in relation to experiences of inequities as social acceptance and the need for peer belonging of great importance during this period of development (Albert et al., 2013; Allen & Loeb, 2015). Further, children ages 13 (equivalent to 8th grade) and younger are known to be particularly vulnerable to negative consequences related to inequity in comparison to adults (Schmitt et al., 2014). Existing research on this topic has concluded with calls to better understand how experiences of inequity during this period are related to development (Debnam et al., 2014; Priest et al., 2013; Schmitt et al., 2014).

Equitable School Climate. Research has primarily focused on the correlates and consequences of *interpersonal* experiences of inequity (e.g., targeted racial discrimination perpetrated by a teacher or peer; Griffin et al., 2020). However, students' experiences with inequity are also systemic and embedded within the institutional policies and practices of school buildings and the broader school community. For example, having students' race, culture, and gender reflected in school curricula can be evidence of school climate that promotes equity, whereas a school that employs differential discipline practices based on teachers' subjective interpretation of student behavior, whether by race, gender, or socioeconomic status, even if not directed at a specific student themselves, reflects a school climate of inequity (Jones, 2020). To comprehensively understand the impact of inequities on students' development, is it also important to consider the correlates and potential consequences of these *systemic* experiences of inequity, like an equitable school climate. School climate as a general construct is an important factor that

contributes to student success and positive outcomes across academic, behavioral, social, and emotional domains (Bradshaw et al., 2021; Wang & Degol, 2016). Conceptualized as a three-dimensional construct, it incorporates students' perceptions of safety, engagement, and the school environment. An equitable school climate has been found in factor analyses to be a subdomain of engagement; it reflects students' affective connection to the school and its members, and beliefs that these members are invested in them (Bradshaw et al., 2014). Together, equity theory and empirical school climate research suggest that an equitable school climate is relevant for students, yet not much is known about an *equitable school climate* specifically, with a dearth of empirical research examining the association between an equitable school climate and student outcomes. We know of only one study that has focused on the affective correlates of students' perceptions of an equitable school climate; this study concluded that an equitable school climate was associated with students' connection and engagement with school (Debnam et al., 2014). Additional research is needed to understand the association between an equitable school climate and students' psychosocial outcomes.

Psychosocial Outcomes: Retaliatory Aggressive Beliefs, Stress, and Future Aspirations

In the present study, we focus on three indicators of students' psychosocial functioning which reflect competencies crucial to successful development both inside and outside of school: students' endorsement of retaliatory aggressive beliefs, feelings of stress, and future aspirations (Mahoney et al., 2020). We selected these three specific outcomes because they represent different aspects of student success, from a social, emotional, and behavioral perspective. Retaliatory aggression refers to an aggressive response to provocation motivated by a desire to cause harm (Allen & Anderson, 2017; Huesmann et al., 1992). Retaliatory aggression is closely associated with the tendency to attribute hostile intent in interpreting others' behavior (Bailey & Ostrov, 2008; Bondü & Richter, 2016; Bradshaw & Garbarino, 2004). Consistent with social information processing theory (Crick & Dodge, 1994), retaliatory aggression escalates negative social situations and is an indicator of social challenges such as peer rejection, bullying, and extremely low or high trust in peers (Bradshaw et al., 2008; Dodge et al., 1990; Rotenberg et al., 2013). Due to the association between beliefs and practice, we focus here on

students' attitudes towards, or endorsement of, retaliatory aggression. With equity theory positing that inequitable treatment motivates efforts to restore equity, it is possible that retaliatory aggression is one such tool or strategy embraced in response to inequitable treatment; however, acting on these normative beliefs about retaliatory aggression could translate into aggressive behavior and create disciplinary challenges for students in school (Bradshaw & Garbarino, 2004).

Another concept linked with student adjustment in schools is students' perception of stress. Transactional theory of stress and coping (Lazarus & Folkman, 1987) suggests that stress emerges in response to overwhelming internal or external demands. Stress in childhood and adolescence is associated with a host of negative psychological, physical, and physiological, and behavioral outcomes (Mindes & Jewett, 1997; Smith & Carlson, 1997). Sources of stress can be acute events or chronic aspects of the environment, such as ongoing experiences of inequality. In fact, research suggests that stress from racial discrimination at school can impact both mental and physical well-being for students of color (e.g., Saleem et al., 2020). Thus, we posit that an inequitable school climate, which reflects compounding and systemic inequities in the school context, may be associated with high levels of stress among youth.

The final construct we examined in relation to an equitable school climate and was future aspirations, which refer to youths' positive orientation and ambitions for their future (Lindstrom Johnson et al., 2016). Adolescence, in particular, is a developmental stage marked by identity formation and present focus (Steinberg, 2014). Planning for future goals and the awareness that current choices are connected to future outcomes are competencies shown to differentiate adolescents who engage in safe, healthy behaviors, and those who engage in risky, unhealthy behaviors. For example, greater future aspirations are associated with inter- and intra-personal functioning, including fewer problem behaviors, lower substance use, violence, and sexual risk behaviors (Chen, 2016; Jessor, 1987; Peters et al., 2005). With a central goal of education to cultivate students' competence for managing life beyond school and ensuring youth are well-equipped to positively contribute to society (Wimberly & Noeth, 2005), we considered how an equitable school climate may relate to this outcome. Together, these three outcomes provide insight into social, emotional, and behavioral indicators of adaptation in relation to their school's

climate of equity.

The Role of Race

Given that inequitable treatment often occurs in the context of race, it is important to understand how the association between an equitable school climate and students' psychosocial outcomes may vary by students' race. The integrative model of development (Garcia Coll et al., 1996) is of particular relevance to the investigation of racial differences in the association between an equitable school climate and psychosocial outcomes for students. This model posits that social position factors, such as race and gender are critical for understanding how racism, discrimination, and oppression shape experiences in environments, such as schools, which can be promotive or inhibitive settings for developing youth's psychosocial competencies. The U.S. educational system is founded upon a long history of systemic racism which is manifested through discriminatory practices that deny students color the privileges available to White students (Feagin & Barnett, 2004). These practices can be found at all levels of schooling, from teacher-level practices such as a bias in academic groupings of students within a class, to district-level practices such as school zoning (Bates & Glick, 2013). Evidence of such practices are apparent in research demonstrating that teachers hold negative implicit attitudes towards Black and Latinx students, these students are disproportionately assigned to low ability work groups, experience greater rates of retention, and are placed in special education classes at greater rates than their White counterparts; these inequities are also apparent in the gaps in funding of schools that serve a high proportion of Black and Latinx students (Copur-Gencturk et al., 2020; Farkas, 2003; Glock & Klapproth, 2017). Research examining Asian American students' experiences with school-based racial discrimination and within group variation (e.g., East Asian student experiences as compared to other Asian American student groups) document the myriad of ways Asian American students have faced varied and increased risk of harassment and discrimination at school (Atkin et al., 2018; Luthar et al., 2021) .

Consequently, Garcia Coll et al. (1996) emphasized that students of color have unique school experiences that are nonshared with White students due to their social position in broader society. Such

experiences define unique pathways of development for students of color which include a demand to prepare for the reality of inequitable experiences. Racist, oppressive, and discriminatory practices contribute to the school's climate of equity, and do not go unnoticed by students. Students who identify as a member of a racially minoritized group report more personally discriminatory experiences than students in the dominant racial group (Priest et al., 2013). A systematic review concluded that experiences of racism are associated with a range of detrimental health outcomes for children and youth, such as loneliness, depressive symptoms, and low self-esteem (Priest et al., 2013). Racial differences in school climate have also been noted: Black students perceive a less equitable school climate than their White peers (Bottiani et al., 2016).

Racial Differences in the Effect of An Equitable School Climate. As inequitable climates are ubiquitous in the U.S., success necessitates that students from racially minoritized backgrounds persevere and overcome such inequitable environments. Garcia et al. (1996) termed *adaptive cultures* to refer to this type of resilience. It is possible that the adaptive cultures of racially minoritized students place less emphasis or importance on an inequitable climate, such that the adaptive culture serves as a protective factor that attenuates the effect of an inequitable climate, resulting in the effect of an equitable school climate on psychosocial outcomes being *less* impactful for racially minoritized students than White students (Fleming & Ledogar, 2010).

Still, students of color are not monolithic, and research suggests that racially minoritized students have distinguishably different experiences at school. Thus, although most research on race in education has focused on the differences between White students and Black students (e.g., Bottiani et al., 2016; Konold et al., 2017), scholars have called for a greater understanding of differences *among* students of color – including Black, Latinx, and Asian students (Gonzalez-Sobrino & Goss, 2019; Rosenbloom & Way, 2004). For example, students of color often contend with inequitable treatment from teachers and peers based on negative (e.g., Black students are not smart) and positively perceived stereotypes (e.g., the "model minority" stereotype; Yu, 2006) related to their phenotypic presentation and proximity to whiteness or lack thereof, perceived immigration status, and/or English language proficiency, that impact

school climate experiences (Archer-Banks & Behar-Horenstein, 2012; Qin et al., 2008; Riley et al., 2015). In addition to highlighting differences in Black, Latinx, and Asian students' experiences of racial discrimination at school (Rosenbloom & Way, 2004), research has also noted differences in the trajectory of discrimination they experience over time (Greene et al., 2006). Historical analyses and contemporary research specifically spotlight the perpetuity of anti-Black racism and argue that it is deeply rooted in the structure of schools (Wun, 2016; Young, 2011) thereby creating unique school climate experiences for Black youth that might differ from their Latinx and Asian peers. Thus, it is possible that the correlates of an equitable school climate may be unique for racially minoritized students (Black, Latinx, and Asian students) in comparison to White students, and different for Black students specifically, as they are disproportionately affected by school inequities (Bottiani et al., 2016) and contend with the indelible and insidious nature of anti-Black racism unlike their Latinx and Asian peers.

The Role of Gender

Inequitable treatment based on gender also exists at school (Brown & Stone, 2016). Two prominent gender stereotypes indicate that boys are disruptive and girls lack of interest and capacity in science, technology, engineering, and math (STEM) fields. Specifically, teachers endorse stereotypes that boys are underachieving and disruptive, despite classroom observations indicating that gender is unrelated to disruptive behavior, stereotypes that are also shared by peers (Brown & Stone, 2016). Relatedly, boys are reprimanded for minor classroom offenses, whereas misbehavior by girls is apt to be ignored (Brown & Stone, 2016). Thus, gender-based stereotypes regarding behavior results in closer monitoring and reprimands for boys' misbehavior than girls'. Despite being perceived as ideal students, girls are known to experience gender-based discrimination at school particularly in the context of STEM classes. Teachers and peers perceive boys to be more logical, capable, and interested in science and math than girls (Brown & Stone, 2016). These perceptions manifest in differential treatment which bolsters boys', while eroding girls', academic self-concepts. Thus, inequitable treatment at school can also be based on students' gender, contributes to students' perceptions of an equitable school climate, and likely impacts youths' psychosocial outcomes.

Gender Differences in the Effect of An Equitable School Climate. In addition to experiencing gender-based differential treatment at school, the effect of an inequitable school climate on students' psychosocial outcomes may be *moderated* by students' self-identified gender. This consideration was motivated by theories of gender socialization, whereby children's beliefs, behaviors, and well-being are shaped by expectations to conform to gender-specific stereotypes, which result in boys and girls being particularly adaptable or susceptible to certain experiences (Blakemore et al., 2008). Together with equity theory, the existence of gender-based discrimination and gender socialization theory suggest that the distress associated with an inequitable school climate may manifest differently in boys and girls in ways that align with gender-specific processes for coping.

For example, boys exhibit physical aggression more frequently than girls (e.g., Crick & Grotpeter, 1995), and retaliate more aggressively than girls in instances of provoked physical aggression (Zeichner et al., 2003). Gender differences in the proclivity for physical aggression generally, and retaliatory aggression specifically, are thought to be attributed to gender-based socialization which discourages girls, while reinforces boys, for such aggressive beliefs and behavior, especially in the face of challenging or stressful circumstances (Endendijk et al., 2017; Leaper & Friedman, 2007). Thus, it is possible that school inequities contribute to increases in students' endorsement of retaliatory aggression, and particularly so for boys, for whom physical aggression is more socially acceptable than girls (Crick & Grotpeter, 1995).

In contrast, gender-specific socialization encourages girls (vs. boys) to internalize negative experiences. A large body of research has documented the gender differences in internalizing symptoms, indicating that middle and high school girls report greater feelings of depression, anxiety, and stress than boys (Dubois et al., 2002; Moksnes, Byrne, et al., 2010; Moksnes, Moljord, et al., 2010; Rocchino et al., 2017). In fact, one study focused specifically on girls due to their proclivity for internalizing symptoms during this period of development found perceptions of school "unfairness", a comparable construct to equitable climate, to be associated with the development of depressive symptoms (Bell & Juvonen, 2020). The association between an inequitable school climate and stress may be stronger for girls than boys.

An emerging body of literature on future aspirations suggests that girls are more optimistic and planful about their future than boys (Lindstrom Johnson et al., 2016; Steinberg et al., 2009). Together with higher expectations, girls are noted to have higher grades and closer supportive relationships with teachers, which are known to facilitate academic success and future achievement (Spilt et al., 2012; Voyer & Voyer, 2014). Girls may be protected from the negative effects of inequity on future aspirations because of the additional support from teachers and academic confidence they experience. In contrast, with boys experiencing lower future aspirations, and lacking the other protective factors that may facilitate positive future aspirations, it is possible that the negative impacts of inequities at school may manifest stronger in this area for boys than girls.

The Intersection of Race and Gender

Students' experiences are shaped not only by their race *or* gender identity, but also by their simultaneous experience of being a part of multiple social categories, such as race *and* gender. Crenshaw (1991) posited that racism and sexism readily intersect which results in unique systems of oppression and lived experiences for those who identify across groups, a phenomenon which Crenshaw termed intersectionality. Indeed, some research has suggested that experiences of discrimination and associated outcomes differ between Black girls and Black boys, findings attributed to the intersectionality of race and gender (Seaton et al., 2010; Seaton & Tyson, 2019). Additional research highlights the need for considering intersectional identities when understanding the school climate experiences of Latinx and Asian American students (Ocampo & Soodjinda, 2016; Sánchez et al., 2005). Taken together, research suggests understanding more intricately *for whom* students' perceptions of an equitable school climate are associated with their psychosocial development, is necessary for extending school psychology literature and practical knowledge about the ways the interaction of simultaneous experiences of social categories might impact schooling and be associated with outcomes. To our knowledge, relatively fewer studies in school climate literature have explored such interactions, particularly among racially minoritized student groups. We embraced an intersectional lens in the present study by exploring whether the association between an equitable school climate and students' psychosocial outcomes differed by students' race *and*

gender; this investigation was largely exploratory to help inform directions for future research.

Present Study

Although inequities at school have been reported, much of the research on this topic has centered on individuals' personal experiences of inequitable treatment. The present study focused instead on an *equitable school climate,* whereby extending this body of work to consider the effect of not only personal experiences of inequity, but also the effect of an institution's climate of equity on students. Moreover, it extends the field by examining how the intersection of gender and race influences the effect of an equitable school climate on psychosocial outcomes. The present study explored: (RQ_1) Whether students' perceptions of an equitable school climate were associated with their endorsement of retaliatory aggression, feelings of stress, and future aspirations. Guided by equity theory and ecological systems theories highlighting the importance of context, such as schools, in the development of youths' psychosocial outcomes (Bronfenbrenner & Morris, 1998), we hypothesized that students experiencing a more equitable school climate would experience greater psychosocial outcomes. We further explored whether these associations were moderated by (RQ_{2a}) race, (RQ_{2b}) gender, or (RQ_{2c}) race and gender. Our hypotheses pertaining to race and gender were guided by empirical and theoretical research about the development of students of color and gender development (Garcia Coll et al., 1996; Blakemore et al., 2008). We hypothesized that racially minoritized students, and specifically Black students who are commonly tasked with preparing and coping with anti-Black racism, may demonstrate greater resilience in the face of inequities than White students (Garcia Coll et al., 1996). We hypothesized outcome-specific results with regards to gender, with girls demonstrating greater resilience to inequity in terms of retaliatory aggression and future aspirations, and boys demonstrating greater resilience to inequity in relation to stress. We had no a priori hypotheses about the intersection of race and gender given the limited and equivocal nature of race and gender interaction research within school climate literature.

Method

Study Design and Procedure

Data for this study came from middle and high students in Maryland whose schools participated

in a statewide project focused on measuring and improving the school environment – the Maryland Safe and Supportive Schools (MDS3) Initiative. Data were collected between 2014-2015. As part of this initiative, the Maryland State Department of Education (MSDE) approached school districts to voluntarily participate in the project. Within interested districts, administrators met with principals who granted school-level commitment to the project. All participating schools completed the MDS3 School Climate Survey (Bradshaw et al., 2014), which was created by the Johns Hopkins Center for the Prevention of Youth Violence in collaboration with MSDE and other project partners. This anonymous, online survey was administered to students via a process of passive parental consent and student assent. School staff followed written protocol while administering the online survey, which students completed in their language arts class. Participation rates exceeded 90% across the schools. These data were approved for analysis by the relevant institutional review boards. For additional information, see Bradshaw et al. (2014) and Waasdorp et al. (2020).

Participants

Students from 112 middle and high schools participated in the project. Because of this study's focus on race, only students who identified as White, Black, Latinx, or Asian/Pacific Islander were retained in these analyses (90% of total respondents). Students self-identifying as Native American, Native Hawaiian/Pacific Islander, and Other were omitted from analyses for statistical and conceptual reasons; the samples for the Native American (2%) and Native Hawaiian/Pacific Islander (< 1%), groups were too small to model statistically, and because those identifying as Other (7%) were not known, no meaningful conclusions could have been drawn from these results. The final analytic sample included 57,027 students (50% girls; 54% White, 29% Black, 11% Latinx, 6% Asian) nested within 3160 classes (*M* students per class = 18, *SD* = 8), within 112 schools (*M* classes per school = 28, *SD* = 14). Student demographics are provided in Table 1A, and student- and school-level descriptives are provided in Table 1B.

Measures

All student-reported measures in this study come from the MDS3 School Climate Survey (Bradshaw et al., 2014). The measure was created to be consistent with the U.S. Department of Education's model of school climate, is widely used, and has undergone considerable research to confirm its validity and reliability. The measure was specifically created to reduce burden on students, and thus is comprised of abbreviated (i.e., shortened) versions of previously developed measures. All answer choices were measured on a four-point Likert scale, with response options ranging from 1 to 4 (1 = *Strongly Agree*; 4 = *Strongly Disagree*). Some minor modifications were made to the original scales to promote consistency in item format and to conform with the Likert style response options. All items were averaged within scale, with high scores representing greater endorsement of the construct. In the current study, we focus on specific subscales of this measure, all of which have acceptable alphas and a consistent factor structure (Bradshaw et al., 2014; Shukla et al., 2017; Waasdorp et al., 2020). The MDS3 School Climate Survey also exhibits strong factorial invariance by culture (Mexico vs. United States; Shukla et al., 2017), school level (Waasdorp et al., 2020), gender (Bradshaw et al., 2014), and race (Bradshaw et al., 2014).

Equitable School Climate. Students' perceptions of an equitable school climate were measured using the 4-item Culture of Equity subscale of the MDS3 School Climate Survey (Debnam et al., 2014; Bradshaw et al., 2014; including "At this school, students of all races are treated the same", "At this school, all students are treated the same, regardless of whether their parents are rich or poor", "At this school, boys and girls are treated equally well", and "The school provides instructional materials that reflect my culture, ethnicity, and identity"; 4-items; α = .83; grade-specific α ranged from .82-.84; race-specific α ranged from .82-.84). Items were reversed such that higher values indicated greater perceptions of equity. Importantly, these items assessed students' perception of the general school climate, not their personal experiences of discrimination.

Psychosocial Outcomes. Students reported their endorsement of retaliatory aggressive beliefs, feelings of stress, and future aspirations.

Retaliatory aggression. Students' support for retaliatory aggression was measured using four items adapted from the Normative Beliefs about Aggression Scale (Huesmann & Guerra, 1997; including

"It is okay to hit someone if they hit me first", "If people do something that makes me really mad, they deserve to be beaten up", "I believe that revenge is a good thing", and "I believe it is okay to hurt people who hurt you first; α = .84; grade-specific α ranged from .80-.86; race-specific α ranged from .78-.86). To reduce burden, this scale was abbreviated to just four items; this measure has been successfully used in multiple studies with multiple samples and shown to be valid and reliable (Bradshaw et al., 2009a; Bradshaw et al., 2009b; Bradshaw et al., 2013).

Stress. Feelings of stress were measured using two items (Brown et al., 2011; "Felt that difficulties were piling up so high that you could not overcome them" and "Feel stressed"; *r* = .68; grade-specific *r* ranged from .64-.69; race-specific *r* ranged from .63-.71).

Future aspirations. Students' future aspirations were measured using four items (Lindstrom Johnson, Pas, & Bradshaw, 2016; including "I will go to college after I graduate from high school", "I am excited about my future", "I have goals in my life", and "I can find lots of ways around any problem"; α = .78; grade-specific α ranged from .76-.80; race-specific α ranged from .78-.79).

Student-level demographics. Students also reported their *mother's level of education* (1 = Did not graduate high school, 2 = Graduated from high school, 3 = Attended some college, 4 = Graduated from college) as an indicator of socio-economic status. They also self-reported their *grade* level (6-12). Students self-reported their "*race/ethnicity*" using the state-approved race/ethnicity code options of Asian/Pacific Islander, Black/African American, Hispanic/Latino, Native American/American Indian, Native Hawaiian, White/Caucasian, or other. Similarly, they self-reported the state-approved *gender/sex* options of male or female.

School-level demographics. School and state records data indicated for each school the total *enrollment*, percent of *students suspended*, percent of *students eligible for free or reduced meals (FARMS)*, and percent of students who identified as *non-White*. Student *mobility* was calculated as the proportion of the students who entered or left the school. In addition, each school received a *diversity* index calculated in accordance with Budescu and Budescu (2012; Debnam et al., 2014), which reflected the probability that any two students randomly selected within a school would be of different races. Aside

from classroom identifiers, no class-level data were systematically collected in this study.

Analytic Strategy

Preliminary analyses. Descriptive statistics, correlations, and intraclass correlations (ICCs) were run to determine the amount of variability in outcomes attributable to the school- and classroom-levels.

RQ_1: Association between an equitable school climate and psychosocial outcomes. To determine how students' perceptions of equity at school were related to psychosocial outcomes, a series of three-level multilevel models with students (Level 1) nested in classrooms (Level 2), nested in schools (Level 3), were run in Mplus Version 8.3 (Muthen & Muthen, 2017) using the TYPE = THREELEVEL RANDOM command. At the student-level (Level 1), models included mother's education (centered at the lowest level) as a proxy for socioeconomic status, which is known to be related to student outcomes (Bradley & Corwyn, 2002), and grade (centered at 9th Grade as the middle grade) as covariates (Lindstrom Johnson et al., 2016), along with students' gender (0 = *Boy*; 1 = *Girl*). Grade was entered as a continuous predictor due to research indicating that the psychosocial outcomes of focus here, such as future aspirations, may increase linearly as students develop (Nurmi, 1991). Student race was dummy coded with White as the reference group. The decision to include race in this way was due to White students being the majority racial group in the United States, and with the educational system founded upon historic and systemic racism that has privileged White students over students of color (Feagin & Barnett, 2004). Dummy coding enabled us to assess our hypothesis regarding whether students who identify as a member of a specific racial minority group (Black, Latinx, or Asian) differed from those of White students. Students' perceptions of an equitable school climate (school-mean centered) were entered at the student-level. No data were systematically collected at the classroom level (Level 2), thus, no predictors were entered at the classroom level. A standard set of school-level (Level 3) covariates were included in the model (Debnam et al., 2014): school enrollment, proportion of students suspended, proportion of students on FARMS, proportion of students who were non-White, and student mobility were all standardized; school diversity index was grand mean centered, and students' perceptions of an equitable school climate were averaged to the school-level and also grand mean centered. The intercept of

these models (Model 1) can be interpreted as the outcome for a White, 9th grade boy whose mother did not graduate from high school, who was in an average school in terms of the school-level indices. Three models were run, predicting each of the three outcomes - retaliatory aggression, stress, and future aspirations - as continuous outcomes as consistent with previous uses of these data and measures (e.g., Lindstrom Johnson et al., 2016). Models were run in a latent framework in Mplus to appropriately account for missing data; as model fit statistics were not relevant to the research questions, they are not reported/interpreted (e.g., Debnam et al., 2014).

RQ_2: Moderation by race and gender. To determine whether the association between students' perceptions of an equitable school climate and outcomes were moderated by their race, gender, or race and gender, a series of interactions were added to the main effects model for each outcome. Because student race was dummy coded, to test the moderation by race (RQ_{2a}), Model 2 included three interactions added to the main effects model: Equitable Climate*Race: Black, Equitable Climate*Race: Latinx, and Equitable Climate*Race: Asian, which allowed us to test whether the effect of equity on the outcome differed between White and Black students, White and Latinx students, and White and Asian students. To test whether the association between equity and outcomes was moderated by student gender (RQ_{2b}), Model 3 included the interaction of Equitable Climate*Gender added to the main effects model. Finally, to test whether these associations were moderated by the intersection of race and gender (RQ_{2c}), Model 4 included three, three-way interactions added to the main effects model: Equitable Climate*Gender*Race: Black, Equitable Climate*Gender*Race: Latinx, and Equitable Climate*Gender*Race: Asian, along with all of the two-way interactions that contributed to these interactions.

To explore whether these effects differed among Black, Latinx, and Asian students, this sequence of models was subsequently run with Black students, and then Latinx students as the reference group. Because all significant results emerged in models with Black students as the reference group and no additional significant effects emerged in models with White or Latinx students as the reference group, models with Black students as reference group are presented in Tables 3-5. Models with White and Latinx students as the reference group are included in Appendices A-F.

Where significant effects emerged, model-implied values for outcomes were calculated separately by group (race/gender, whichever was significant) for students whose perceptions of an equitable school climate were one standard deviation lower, and one standard deviation higher than the mean. These effects were plotted. Within group, the difference between these two values were taken and are reported by group as an indicator of the relative effect of an equitable school climate by group. **Missing data.** With regards to missing data, 0-14% of data were missing on any given measure (see Table 1A-B). Models were run in the latent framework such that full information maximum likelihood (FIML) estimation could be used to account for missing data in analyses. FIML is a commonly used missing data technique known to reduce bias in parameter estimation and shown to be superior to listwise and pairwise deletion, and similar to response pattern imputation (Enders, 2001; Enders & Bandalos, 2001). FIML and multiple imputation, another method of accounting for missing data, produce essentially equivalent results when procedures are implemented in similar ways, especially when the model is well-specified (Lee & Shi, 2021). Thus, FIML was employed in these analyses to provide consistency with previous uses of these data (e.g., Debnam et al., 2014).

Results

Preliminary Analyses

Descriptive statistics and correlations among student-level measures are presented in Table 1 and Appendix A. Between 2-7% of the variance in outcomes was attributable to the school-level and 6-13% of the variance was attributable to the classroom-level. This variance indicates that students within the same class, and students within the same school, reported outcomes that were more similar to each other than students in different classrooms and schools, which violates the traditional regression assumption of independence of observations. Due to this variance at each level, three-level multilevel modeling was utilized to account for the nested nature of the data (Debnam et al., 2014). Multilevel modeling can account for this nested structure of students within classes within schools despite having no predictors at the classroom level, as was the case with this study (e.g., Chen & Chen, 2021).

Association Between an Equitable School Climate and Retaliatory Aggression

Students' perceptions of an equitable school climate were negatively associated with their endorsement of retaliatory aggression (b = -0.25, SE = 0.01, p < .001; Table 2, Model 1), such that students who perceived their schools to have a more equitable school climate reported lower endorsement of retaliatory aggression than students who perceived their schools to have a less equitable school climate.

Moderation by race. In models with Black students as the reference group, all interactions of an equitable school climate by race were significant in predicting retaliatory aggression (Table 2, Model 2): Equitable Climate*Race: White (b = -0.12, SE = 0.01, p < .001) Equitable Climate*Race: Latinx (b = -0.09, SE = 0.02, p < .001), Equitable Climate*Race: Asian (b = -0.12, SE = 0.02, p < .001), indicating that the effect differed between Black students and White, Latinx, and Asian students. In models with White students (Appendix B) and Latinx students (Appendix C) as the reference group, no additional interactions of an equitable school climate by race were significant. These effects, plotted in Figure 1A, indicate that although the direction of the effect was the same for all students, the magnitude of the effect of an equitable school climate on retaliatory aggression was weaker for Black students than White, Latinx, and Asian students. Specifically, the difference in endorsement in retaliatory aggression by race between students who reported perceptions of an equitable school climate that were one standard deviation below and above the mean were: -0.25 for Black students, -0.43 for White students, -0.39 for Latinx students, and -0.43 for Asian students.

Moderation by gender. The effect of Equitable Climate*Gender was not significant (Table 2, Model 3).

Moderation by race and gender. The three-way interactions of Equitable Climate*Race*Gender were not significant (Table 2, Model 4), regardless of the reference group for race (Appendices A-B).

Association Between an Equitable School Climate and Stress

Students' perceptions of an equitable school climate were negatively associated with their feelings of stress (b = -0.28, SE = 0.01, p < .001; Table 3, Model 1), such that students who perceived their schools to have a more equitable school climate reported lower feelings of stress than students who perceived their schools to have a less equitable school climate.

Moderation by race. In models with Black students as the reference group (Table 3, Model 2), all interactions of an equitable school climate by race were significant in predicting stress: Equitable Climate*Race: White (b = -0.12, SE = 0.02, $p < .001$). Equitable Climate*Race: Latinx (b = -0.10, SE = 0.02, $p < .001$), and Equitable Climate*Race: Asian (b = -0.15, SE = 0.03, $p < .001$). In models with White students (Appendix D) and Latinx students (Appendix E) as the reference group, no additional interactions of an equitable school climate by race were significant. These effects, plotted in Figure 1B, indicate that although the direction of the effect was the same for all students, the magnitude of the effect of an equitable school climate on stress was weaker for Black students than White, Latinx, and Asian students. The difference in stress by race between students who reported perceptions of an equitable school climate that were one standard deviation below and above the mean were: -0.29 for Black students, -0.47 for White students, -0.45 for Latinx students, and -0.53 for Asian students.

Moderation by gender. The interaction of Equitable Climate*Gender was a significant predictor of stress (b = -0.08, SE = 0.01, $p < .001$; Table 3, Model 3). This effect, plotted in Figure 2A, demonstrates that the direction of the effect was the same for all students, but the magnitude of the effect of an equitable school climate on stress was stronger for girls than boys. The difference in stress by gender between students who reported perceptions of an equitable school climate that were one standard deviation below and above the mean were: -0.37 for boys and -0.48 for girls.

Moderation by race and gender. The three-way interactions of Equitable Climate*Race*Gender were not significant (Table 3, Model 4), regardless of the reference group for race (Appendices D-E).

Association Between an Equitable School Climate and Future Aspirations

Students' perceptions of an equitable school climate were positively associated with their future aspirations (b = 0.22, SE = 0.01, $p < .001$; Table 4, Model 1) such that students who perceived their schools to have a more equitable school climate reported greater future aspirations than students who perceived their schools to have a less equitable school climate.

Moderation by race. In models with Black students as the reference group (Table 4, Model 2), all interactions of an equitable school climate by race were significant in predicting future aspirations:

Equitable Climate*Race: White (b = 0.04, SE = 0.01, p < .001). Equitable Climate*Race: Latinx (b = 0.05, SE = 0.01, p < .001), and Equitable Climate*Race: Asian (b = 0.05, SE = 0.02, p = .01). In models with White students (Appendix F) and Latinx students (Appendix G) as the reference group, no additional interactions of an equitable school climate by race were significant. These effects, plotted in Figure 1C, indicate that although the direction of the effect was the same for all students, the magnitude of the effect of an equitable school climate on future aspirations was weaker for Black students than White, Latinx, and Asian students. The difference in future aspirations by race between students who reported perceptions of an equitable school climate that were one standard deviation below and above the mean were: 0.29 for Black students, 0.35 for White students, 0.36 for Latinx students, and 0.37 for Asian students.

Moderation by gender. The interaction of Equitable Climate*Gender was a significant predictor of future aspirations (b = -0.07, SE = 0.01, p < .001). These results, plotted in Figure 2B, indicate that although the direction of the effect was the same for all students, the magnitude of the effect of an equitable school climate on future aspirations was stronger for boys than girls. The difference in future aspirations by gender between students who reported perceptions of an equitable school climate that were one standard deviation below and above the mean were: 0.38 for boys, and 0.28 for girls.

Moderation by race and gender. The three-way interactions of Equitable Climate*Race*Gender were not significant (Table 4, Model 4), regardless of the reference group for race (Appendices F-G).

Discussion

The present study investigated the association between middle and high school students' perceptions of an equitable school climate and several important psychosocial outcomes for youth. Results indicated that students who perceived their schools to be more equitable were less likely to endorse retaliatory aggressive beliefs, were less stressed, and had greater future aspirations than students who perceived their schools to be less equitable. The second goal of this study was to assess whether these associations varied by students' race, gender, or intersection of race and gender. The effect of an equitable school climate on students' psychosocial outcomes consistently differed between Black students

and White, Latinx, and Asian students, with the effect weaker for Black students than White, Latinx, and Asian students. Outcome-specific effects were found with regards to gender: the effect of an equitable school climate on stress was stronger for girls than boys, and its effect on future aspirations was stronger for boys than girls.

These findings extend the current literature on equity in education in three distinct directions. First, the present study focused on an *equitable school climate*, whereas most research has focused on students' personal experiences of inequitable treatment at school (Priest et al., 2013). Second, we considered the impacts of equity on students' self-reported *psychosocial outcomes*, whereas most research on equity in education has focused on disciplinary or academic outcomes. Third, we teased apart *for whom* an equitable school climate is more/less impactful by considering the moderating roles of race and gender, whereby attending to the potential role of intersectionality in testing these associations. Together, our findings suggested that an equitable school climate is an important contextual factor associated with meaningful psychosocial experiences for students, and that these associations do differ by students' race and gender.

An Equitable School Climate is Related to Greater Psychosocial Outcomes for Students

Findings consistently indicated that students who perceived their schools to be more equitable reported greater psychosocial outcomes: low endorsement of retaliatory aggression, low stress, and greater future aspirations. A one-unit difference in perceptions of an equitable school climate was associated with relatively similar differences across outcomes (i.e., betas of -.25 for retaliatory aggression, .28 for stress, and .22 for future aspirations). Theoretically, this study provides support for assertions that an inequitable climate takes a toll on students' psychological and social functioning (Garcia Coll et al., 1996; Huseman et al., 1987). Empirically, this study expands our understanding of the role of an equitable school climate, which initial evidence demonstrated to be related to students' connection with and engagement at school (Debnam et al., 2014). As the outcomes examined in this study are known to be related to students' current experiences and predictive of later success (e.g., Bradshaw et al., 2008; Chen & Vazsonyi, 2013), understanding that an equitable school climate may facilitate these outcomes further

bolsters the empirical rationale for school psychologists and other educators to support efforts to increase equity at school.

Activists like bell hooks (2003) have asserted that education can be used as a tool towards freedom. The present study demonstrates that schools can work towards this end by promoting an equitable climate, whereby fostering key psychosocial competencies that will carry students through the transition to adulthood. Promoting equity is also aligned with contemporary goals of education like equipping students with the skills necessary to become successful citizens (Heleta & Bagus, 2020; Mahoney et al., 2020). Thus, promoting an equitable school climate is of both theoretical and empirical significance, bridging efforts in education, developmental psychology, public health, and social activism.

Equity at school has recently been integrated into new conceptualizations of important developmental competencies that support learning and thriving into adulthood (Jagers et al., 2019; Mahoney et al., 2020). For example, social-emotional learning (SEL) initiatives may be used as an approach to create more equitable learning environments by making issues such as race, power, prejudice, discrimination, social justice, and empowerment, a focal point in SEL research and practice (Mahoney et al., 2020; Jagers et al., 2019). Although the present study considered an equitable school climate to be a predictor of students' psychosocial outcomes, which reflect some of the core social and emotional competencies SEL programs strive to teach, emerging research may consider how equity can be an *outcome* associated with SEL programs and other school-based initiatives that focus on race and gender.

The Association between an Equitable School Climate and Psychosocial Outcomes is Weaker for Black Students than White, Latinx, and Asian Students

Informed by the integrative model of development which posits that the adaptive cultures of racially minoritized students are assets, we hypothesized that the effect of an equitable school climate might be weaker for racially minoritized students than White students (Garcia Coll et al., 1996). Results partially supported that hypothesis. Although an equitable school climate was consistently associated with the endorsement of retaliatory beliefs, stress, and future aspirations across all students, the *magnitude* of this effect was weaker for Black students than White, Latinx, and Asian students. These findings are

likely a result of Black students having unique experiences at school due to the legacy of anti-Black racism which situates Black people at the bottom of the "racial hierarchy" across institutions, including the educational system (Dumas, 2016; Lopez & Jean-Marie, 2021). Consequently, Black children are often prepared, by parents and caregivers, for racism and other forms of inequity that are experienced at an early age (Scott et al., 2020).

Research has shown that cultural assets, such as racial socialization and racial identity can protect Black youth from the negative effects of racism and discrimination (Banerjee et al., 2018; Griffin, Gray, et al., 2020), including perceptions of a negative school climate (Butler-Barnes et al., 2018). In a resilience framework, such cultural assets may serve as protective factors that weaken the effects of attending a school with an inequitable climate (Gaylord-Harden et al., 2012). Indeed, in their meta-analysis exploring ethnic-racial socialization practices and children of color's psychosocial and behavioral adjustment, Huguley et al. (2019) found that the positive association between ethnic-racial socialization and some outcomes was strongest for Black youth as compared to other children of color. These findings underscore the notion that while some societal and developmental experiences are shared amongst students of color, they also have varying adaptive cultures that might influence the effect of an inequitable school climate. Studies investigating racial differences in the importance of perceptions of equity and other potential buffering factors (e.g., racial identity, racial socialization), and more specifically the adaptive culture of Black students, would help to understand the processes through which the effect of an equitable school climate on students' psychosocial is uniquely weaker for Black students than White, Latinx, and Asian students.

In addition to demonstrating that these processes work differently for Black students, results also highlighted that the effect of an equitable school climate was similar for White, Latinx, and Asian students. These findings are, in part, consistent with a meta-analysis which concluded that the effects of racial discrimination on health effects were similar among Asian and Latinx individuals, yet are inconsistent with the meta-analysis' finding that effects were also similar for Black individuals (Carter et al., 2017). Note that this meta-analysis was conducted with adult populations and did not include White

individuals. Further research into the adaptive cultures of Latinx and Asian students, and investigations into racial differences/similarities in potential buffering factors would help to elucidate why similar effects were found among White, Latinx, and Asian students.

The Effect of an Equitable School Climate Varied by Gender

Hypotheses regarding whether the effect of an equitable school climate on students' psychosocial outcomes varied by gender were partially supported: boys demonstrated greater resilience in the face of an inequitable school climate with regards to stress, and girls demonstrated greater resilience in the face of an inequitable school climate with regards to future aspirations. Results were consistent with the different gender socialization processes of girls and boys, whereby girls are socialized to internalize stress (Blakemore et al., 2008). As such, the distress that accompanies being in a school with inequitable treatment of students manifests more strongly in feelings of stress for girls than boys. In contrast, with boys at risk for low future aspirations (Lindstrom Johnson et al., 2016), and also lacking the protective factors associated with high future aspirations (Spilt et al., 2012; Voyer & Voyer, 2014), distress that accompanies attending a school with an inequitable climate appears to take a greater toll on boys' future aspirations than girls'. Interestingly, the effect of equity on retaliatory aggression was not moderated by gender, which indicates that an inequitable climate is associated with higher retaliatory aggression at a similar strength for boys and girls. Equity theory posits that experiences of inequity motivate efforts to restore equity (Huseman et al., 1987). With retaliating aggressively one method restoring equity, these results suggest that although the effect of an inequitable climate has differential effects on boys' and girls' stress and future aspirations, it may have similar effects on efforts to restore equity. Future research should examine how an inequitable climate may be associated with other methods of restoring equity, such as social activism and civic engagement (Hope & Spencer, 2017).

This study considered the intersection of identities by testing whether these associations differed by race *and* gender. No significant effects emerged from these analyses, demonstrating that for the outcomes assessed in this study, the differences in the effects of an equitable school climate lay between Black students and White, Latinx, and Asian students, and boys and girls, rather than the unique

intersection of race and gender. Both Black girls and Black boys experience and therefore, prepare, for anti-Black racism in school. These analyses did not capture the salience (significance depending on immediate context) or centrality (overall importance to self-definition) of students' racial or gender identities, which may have provided important insights regarding these null findings. With some research suggesting that school climate experiences among racially minoritized groups vary by gender (Ocampo & Soodjinda, 2016; Sánchez et al., 2005; Seaton et al., 2010; Seaton & Tyson, 2019), future research should continue to consider the role of intersectionality (Crenshaw, 1991), and in doing so, should consider whether their studies are adequately powered to detect such nuanced findings.

Limitations and Future Research Directions

Equity theory posits a causal relationship between experiences of inequity and experiences of distress. Yet, the present analyses leveraged data from a large-scale study where students' perceptions of an equitable school climate and their psychosocial outcomes were collected at the same timepoint. As such, we were unable to test the directionality of these associations. Future longitudinal research would allow for a stronger test of the causal relationship between these constructs.

Differences in the effect of an equitable school climate on students' psychosocial outcomes emerged according to students' race and gender. Theoretical models offer several processes through which we might find such results, but these mechanisms have yet to be tested (Blakemore et al., 2008; Garcia Coll et al., 1996). Future research exploring these processes should elucidate why such associations exist. For example, assessing the relative importance of an equitable climate or other potential buffering factors by students' race may provide some clarity, as theoretical perspectives posit that personal factors, including cultural assets, may influence the extent to which inequities relate to outcomes (Garcia Coll et al., 1996; Gaylord-Harden et al., 2012; Huseman et al., 1987).

The present study focused on the association between an equitable school climate and a set of psychosocial outcomes across adolescence in a sample of 6th-12th grade students. Research has suggested that awareness of social inequities and efforts to rectify them increase with age (Elenbaas et al., 2020; Rizzo & Killen, 2020), and, more specifically, that adolescents' beliefs about the causes of inequities shift

across development (Diaz et al., 2022). Future research could adopt a developmental approach to this topic by investigating whether the effect of an equitable school climate on student outcomes varies across development. In addition, the present study focused on the effect of students' perceptions of an equitable school climate, and how this may interact with their own race and gender to affect their psychosocial outcomes. The larger school context (e.g., school racial composition, school-level FARMS, etc.) may also be intertwined with these associations, and future research could consider cross-level interactions to determine the extent to which school context impacts these associations.

On this matter, the present study controlled for several school-level covariates in these analyses, with results indicating that some school-level characteristics were associated with students' psychosocial outcomes. Specifically, school-level perceptions of a more equitable climate were associated with lower endorsement of retaliatory aggression, less stress, and greater future aspirations. In addition to indicating that students' own perceptions of an equitable school climate are associated with their own experiences of retaliatory aggression, stress, and future aspirations, these results indicate that being a student whose school, as a whole, is perceived as more equitable is associated with more desirable outcomes for students. Future research could continue to explore contextual characteristics that may impact students' experiences at school.

The measure of an equitable school climate utilized in this study and others (Bottiani et al., 2014; Debnam et al., 2014) captures youths' perceptions that students in their school are treated equally regardless of race, gender, and socioeconomic status, and that instructional materials reflect their culture. There is a noted distinction between equity and equality, however, with *equality* referring to the equal treatment of individuals, and *equity* meaning that all individuals receive the support they need to succeed, even if treatment that varies by need (Center for Public Education, 2016; Espinoza, 2007). We used the term equitable school climate to be consistent with previous uses of this measure (e.g., Debnam et al., 2014), and found that students' perceptions of equal treatment at school were related to psychosocial outcomes. Further investigation is needed to assess how a climate in which students receive the support they need to succeed is related to developmental outcomes. A more specific assessment of equity may

yield stronger associations with students' developmental competencies (Center for Public Education, 2016; Espinoza, 2007). In addition, the measures assessing an equitable school climate, retaliatory aggression, stress, and future aspirations employed in this study were relatively brief (2-4 items each). It is possible that the measure does not fully represent the construct. Future research with alternative measures of these constructs would add to the confidence in these results. Finally, additional research on the measurement invariance of such measures by race, gender, SES, and grade level would be useful (Pendergast et al., 2017; Svetina et al., 2020).

Implications for Practice

Results from the present study are consistent with existing research demonstrating that inequitable treatment at school is associated with poor outcomes for students, suggesting that teacher-, school-, and policy-level efforts to increase equity at school may benefit students' social, emotional, behavioral, and academic outcomes (Anderson et al., 2019; Bradshaw et al., 2010). One promising point of intervention is to work to dismantle stereotype threat, explicit bias, and implicit bias in teachers and administrators, which are thought to contribute to inequitable treatment (McIntosh et al., 2014; Okonofua et al., 2016). The fully manualized Double Check intervention program, for example, aims to increase teachers' cultural awareness and inclusive teaching and has demonstrated improvements in teachers' self-reported culturally responsive behavior management and observations of supportive teaching practices (Bradshaw et al., 2018). In relation to the results of the present study, it will be useful to determine the extent to which such interventions may also impact students' perceptions of equity at school.

Our findings also point to the need for school psychologists to practice in ways that explicitly attend to race. The contrast - embracing a color-evasive perspective - has the potential to omit the impact of history, culture, and identity from the conversation. In addition, school psychologists, in their role as mental health experts supporting students, have the responsibility of directly naming and addressing racism and its byproducts, such as bias and microaggressions if observed during practice. School psychologists can offer cultural competence training for school staff and/or seek out professionals of color with expertise in this domain to provide professional development.

Interpreting these findings within Garcia Coll et al.'s (1996) theory suggests that the effect of an equitable school climate was weaker for Black students potentially due to their adaptive culture. Even so, inequity is systemic, and the promotion of equity demands the removal of patriarchal systems founded in racism and white supremacy so that racially minoritized students no longer need to create and sustain adaptive cultures for them to live and thrive in school. Educators must move beyond teaching skills that promote resilience and simultaneously work to dismantle the systems and practices that work to promote inequities. In addition to their work with individual students, school psychologists, in particular, can support this systemic effort by encouraging schools to: adopt materials that accurately represent the histories, including strengths, of people of color; include classroom and school building visuals that depict and celebrate students of color; implement programming that helps youth name systems of oppression and engage in efforts of resistance; and ensure fair cultural representation in the curriculum.

Conclusion

The present study demonstrated that an equitable school climate was associated with positive outcomes for students. Despite the strength of these associations varying by students' race and gender, results call for school and systemic-level interventions to dismantle systems which lead to the inequitable treatment of students. Additional intervention work is needed to build the evidence base of effective approaches to increasing equitable school climates (Bradshaw et al., 2021).

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Table 1

A. Student Demographics

	N	%
Gender		
Boys	28595	50%
Girls	28353	50%
Missing	79	< 1%
Grade		
6th	9630	17%
7th	8752	15%
8th	7606	13%
9th	8878	16%
10th	8332	15%
11th	7592	13%
12th	6184	11%
Missing	53	< 1%
Race		
White	30992	54%
Black	16452	29%
Latinx	6150	11%
Asian/Pacific Islander	3433	6%
Mother's Education	48798	
Did not graduate HS	4385	8%
Graduated from HS	11454	20%
Attended some college	8402	15%
Graduated from college	24557	43%
Missing	8229	14%

B. *Student- and School-Level Descriptives*

	N	% Missing	*M*	*SD*	Alpha	ICC (School)	ICC (Class)
Student-Level							
Equity	51057	10%	2.80	0.75	0.83	0.06	0.10
Retaliatory Aggression	52368	8%	2.36	0.82	0.84	0.07	0.13
Stress	49419	13%	2.30	0.98	r = .68	0.04	0.08
Future Aspirations	51733	9%	3.47	0.58	0.78	0.02	0.06
School-Level							
Enrollment	112	0%	1061.60	437.14	-	-	-
Suspensions (%)	112	0%	12.51	10.88	-	-	-
FARMS (%)	112	0%	39.09	18.33	-	-	-
Non-White (%)	112	0%	53.01	26.02	-	-	-
Diversity	112	0%	0.53	0.17	-	-	-
Mobility (%)	112	0%	18.60	18.14	-	-	-

Table 2
Association Between Students' Perceptions of an Equitable School Climate and Retaliatory Aggression, Moderated by Race and Gender

	Model 1			Model 2			Model 3			Model 4		
	Beta		*SE*	Beta		*SE*	Beta		*SE*	Beta		*SE*
Intercept	2.82	*	0.02	2.83	*	0.02	2.82	*	0.02	2.74	*	0.02
Student-Level												
Mother's Education	-0.09	*	0.00	-0.09	*	0.00	-0.09	*	0.00	-0.09	*	0.00
Grade (Centered at 9th)	0.03	*	0.01	0.03	*	0.01	0.03	*	0.01	0.03	*	0.01
Gender (1 = *Girls*)	-0.27	*	0.01	-0.27	*	0.01	-0.27	*	0.01	-0.10	*	0.01
Race: White	-0.28	*	0.02	-0.29	*	0.02	-0.28	*	0.02	-0.15	*	0.02
Race: Latinx	-0.26	*	0.02	-0.26	*	0.02	-0.26	*	0.02	-0.20	*	0.02
Race: Asian	-0.39	*	0.02	-0.40	*	0.02	-0.39	*	0.02	-0.31	*	0.03
Equitable Climate	-0.25	*	0.01	-0.17	*	0.01	-0.24	*	0.01	-0.16	*	0.01
2-Way Interactions												
Equitable Climate***Race**												
Equitable Climate*Race: White				-0.12	*	0.01				-0.13	*	0.02
Equitable Climate*Race: Latinx				-0.09	*	0.02				-0.08	*	0.03
Equitable Climate*Race: Asian				-0.12	*	0.02				-0.14	*	0.04
Equitable Climate***Gender**												
Equitable Climate*Gender							-0.01		0.01	-0.02		0.02
3-Way Interactions												
Equitable Climate*Gender*Race: White										0.02		0.03
Equitable Climate*Gender*Race: Latinx										-0.04		0.03
Equitable Climate*Gender*Race: Asian										0.04		0.05
School-Level												
Enrollment	-0.01		0.01	-0.01		0.01	-0.01		0.01	-0.01		0.01
Percent Suspensions	-0.01		0.01	-0.02		0.01	-0.01		0.01	-0.02		0.01
Percent FARMS	0.03	*	0.01	0.03	*	0.01	0.03	*	0.01	0.03	*	0.01
Percent Non-white	-0.02		0.01	-0.02	*	0.01	-0.02		0.01	-0.02	*	0.01
Diversity	-0.20	*	0.07	-0.20	*	0.06	-0.20	*	0.07	-0.20	*	0.06
Percent Mobility	-0.01		0.01	-0.01		0.01	-0.01		0.01	-0.01		0.01
Equitable Climate	-0.63	*	0.06	-0.63	*	0.06	-0.63	*	0.06	-0.63	*	0.06
Model Fit												
AIC	803976			849944			877400			880302		
BIC	804388			850437			877839			880983		

Note. * $p < .05$; Unstandardized betas are reported; Model 4 also controlled for the interactions of Gender*Race; Black students were the reference group for race, models with White and Latinx students as the reference group (Appendices A-B) did not yield additional significant interaction results.

Table 3
Association Between Students' Perceptions of an Equitable School Climate and Stress, Moderated by Race and Gender

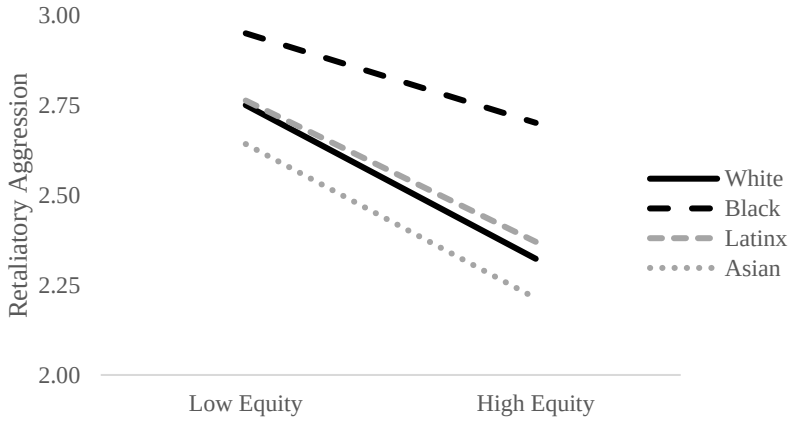
	Model 1			Model 2			Model 3			Model 4		
	Beta		*SE*	Beta		*SE*	Beta		*SE*	Beta		*SE*
Intercept	1.86	*	0.02	1.86	*	0.02	1.86	*	0.02	1.91	*	0.02
Student-Level												
Mother's Education	-0.03	*	0.01	-0.03	*	0.01	-0.03	*	0.01	-0.03	*	0.01
Grade (Centered at 9th)	0.06	*	0.01	0.06	*	0.01	0.06	*	0.01	0.06	*	0.01
Gender (1 = *Girls*)	0.37	*	0.02	0.37	*	0.02	0.37	*	0.02	0.28	*	0.02
Race: White	0.21	*	0.01	0.21	*	0.01	0.21	*	0.01	0.13	*	0.02
Race: Latinx	0.08	*	0.02	0.07	*	0.02	0.08	*	0.02	0.04		0.03
Race: Asian	0.19	*	0.02	0.18	*	0.02	0.19	*	0.02	0.11	*	0.03
Equitable Climate	-0.28	*	0.01	-0.20	*	0.01	-0.25	*	0.01	-0.17	*	0.02
2-Way Interactions												
Equitable Climate*Race												
Equitable Climate*Race: White				-0.12	*	0.02				-0.10	*	0.02
Equitable Climate*Race: Latinx				-0.10	*	0.02				-0.09	*	0.03
Equitable Climate*Race: Asian				-0.15	*	0.03				-0.11	*	0.04
Equitable Climate*Gender												
Equitable Climate*Gender							-0.08	*	0.01	-0.06	*	0.02
3-Way Interactions												
Equitable Climate*Gender*Race: White										-0.03		0.03
Equitable Climate*Gender*Race: Latinx										-0.03		0.04
Equitable Climate*Gender*Race: Asian										-0.09		0.06
School-Level												
Enrollment	0.03	*	0.01	0.03	*	0.01	0.03	*	0.01	0.03	*	0.01
Percent Suspensions	-0.05	*	0.01	-0.05	*	0.01	-0.05	*	0.01	-0.05	*	0.01
Percent FARMS	-0.05	*	0.01	-0.05	*	0.01	-0.05	*	0.01	-0.05	*	0.01
Percent Non-white	0.05	*	0.01	0.05	*	0.01	0.05	*	0.01	0.05	*	0.01
Diversity	0.20	*	0.07	0.21	*	0.07	0.20	*	0.07	0.20	*	0.07
Percent Mobility	-0.02		0.01	-0.02		0.01	-0.02		0.01	-0.02		0.01
Equitable Climate	-0.33	*	0.08	-0.33	*	0.08	-0.33	*	0.08	-0.33	*	0.08
Model Fit												
AIC	817652			863654			891033			894235		
BIC	818064			864147			891472			894916		

Note. * $p < .05$; Unstandardized betas are reported; Model 4 also controlled for the interactions of Gender*Race; Black students were the reference group for race, models with White and Latinx students as the reference group (Appendices C-D) did not yield additional significant interaction results.

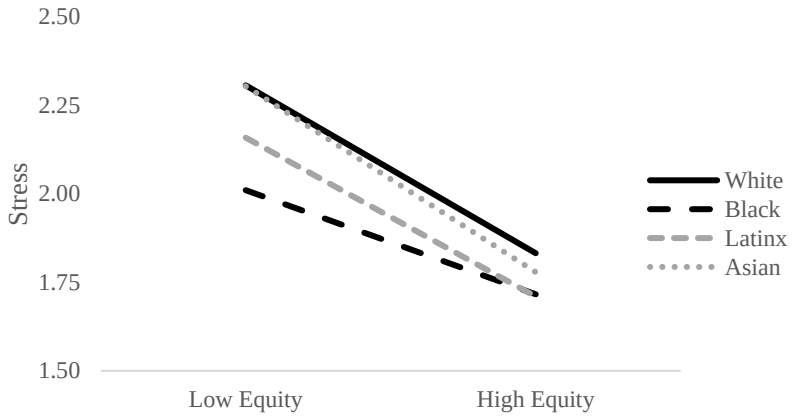
Table 4
Association Between Students' Perceptions of an Equitable School Climate and Future Aspirations, Moderated by Race and Gender

	Model 1			Model 2			Model 3			Model 4		
	Beta		*SE*	Beta		*SE*	Beta		*SE*	Beta		*SE*
Intercept	3.30	*	0.01	3.30	*	0.01	3.30	*	0.01	3.29	*	0.02
Student-Level												
Mother's Education	0.08	*	0.00	0.08	*	0.00	0.08	*	0.00	0.08	*	0.00
Grade (Centered at 9th)	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Gender (1 = *Girls*)	0.08	*	0.01	0.08	*	0.01	0.08	*	0.01	0.09	*	0.01
Race: White	-0.06	*	0.01	-0.05	*	0.01	-0.06	*	0.01	-0.05	*	0.01
Race: Latinx	-0.04	*	0.01	-0.03	*	0.01	-0.04	*	0.01	-0.02		0.01
Race: Asian	-0.05	*	0.01	-0.05	*	0.01	-0.05	*	0.01	0.00		0.02
Equitable Climate	0.22	*	0.01	0.19	*	0.01	0.26	*	0.01	0.23	*	0.01
2-Way Interactions												
Equitable Climate*Race												
Equitable Climate*Race: White				0.04	*	0.01				0.04	*	0.02
Equitable Climate*Race: Latinx				0.05	*	0.01				0.05		0.02
Equitable Climate*Race: Asian				0.05	*	0.02				0.04		0.03
Equitable Climate*Gender												
Equitable Climate*Gender							-0.07	*	0.01	-0.08	*	0.02
3-Way Interactions												
Equitable Climate*Gender*Race: White										0.01		0.02
Equitable Climate*Gender*Race: Latinx										0.01		0.04
Equitable Climate*Gender*Race: Asian										0.02		0.04
School-Level												
Enrollment	-0.01		0.01	-0.01		0.01	-0.01		0.01	-0.01		0.01
Percent Suspensions	0.01		0.01	0.01		0.01	0.01		0.01	0.01		0.01
Percent FARMS	-0.01		0.01	-0.01		0.01	-0.01		0.01	-0.01		0.01
Percent Non-white	0.01	*	0.01	0.02	*	0.01	0.01	*	0.01	0.02	*	0.01
Diversity	0.02		0.03	0.02		0.03	0.02		0.03	0.02		0.03
Percent Mobility	0.01		0.00	0.01		0.00	0.01		0.00	0.01	*	0.00
Equitable Climate	0.26	*	0.04	0.26	*	0.04	0.26	*	0.04	0.26	*	0.04
Model Fit												
AIC	769554			815619			842870			846178		
BIC	769966			816112			843308			846858		

Note. * $p < .05$; Unstandardized betas are reported; Model 4 also controlled for the interactions of Gender*Race; Black students were the reference group for race, models with White and Latinx students as the reference group (Appendices C-D) did not yield additional significant interaction results.



A.



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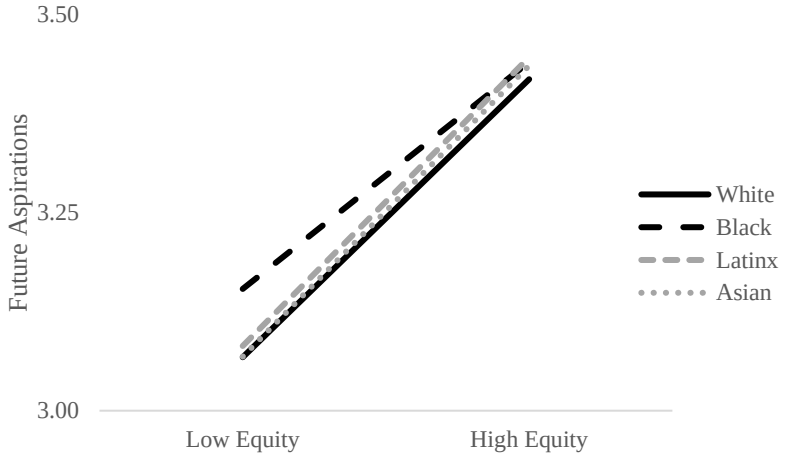
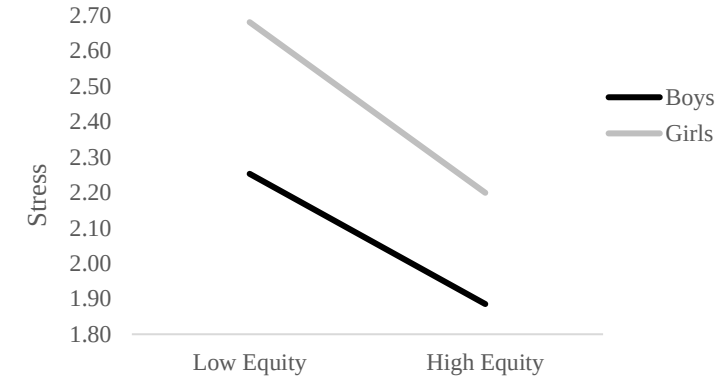
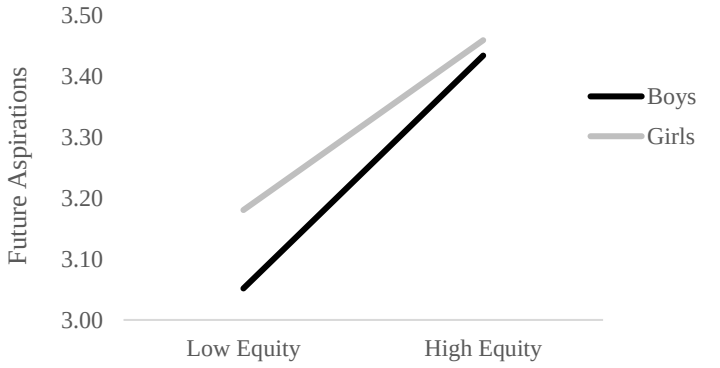


C.

Figure 1. Across all outcomes, the effect of an equitable school climate was weaker for Black students than for White, Latinx, and Asian students. Low/high equity reflects one standard deviation below/above the mean.



A.



B.

Figure 2. The effect of an equitable school climate on stress was stronger for girls than boys (Panel A), whereas the effect of an equitable school climate on future aspirations was stronger for boys than girls (Panel B). Low/high equity reflects one standard deviation below/above the mean.