

Closing the Achievement Gap: The Association of Racial Climate with Achievement and Behavioral Outcomes

Erica Mattison · Mark S. Aber

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Abstract This study investigated the relationship between school racial climate and students' self-reports of academic and discipline outcomes, including whether racial climate mediated and/or moderated the relationship between race and outcomes. Using the Racial Climate Survey-High School Version (M. Aber et al., unpublished), data were gathered from African American ($n = 382$) and European American students ($n = 1456$) regarding their perceptions of racial climate. About 18% of the respondents were low-income and approximately 50% were male. Positive perceptions of the racial climate were associated with higher student achievement and fewer discipline problems. Further, race moderated the relationship between racial climate and both achievement and discipline outcomes. Finally, racial differences in students' grades and discipline outcomes were associated with differences in perceptions of racial climate. Results suggest careful attention should be given to the racial climate of secondary schools, particularly for adolescents who perceive schools as unfair.

Keywords School racial climate · Student perceptions · Academic achievement · Discipline · Racism · Racial fairness

Over the years researchers have reported a consistent pattern of racial differences in student achievement and discipline. While substantial numbers of students of all races graduate from high school unprepared academically,

this failure is not evenly distributed. African American and Latino students have lower average reading, mathematics and science scores compared to their white peers (Campbell et al. 1999, 2001). Additionally minority students are disproportionately suspended from schools (Costenbader and Markson 1998; The Advanced Project and Civil Rights Project 2000), and African American students in particular are suspended on average two to three times more frequently than White students (Brooks et al. 1999).

Although research on the achievement and discipline gaps has raised awareness of racial disparities in schooling, it has over-emphasized the characteristics of students (e.g., genetics, attitudes toward school) and families (e.g., socioeconomic status, parental attitudes) as explanations for these racial differences (McEvoy and Welker 2000). The purposes of this study were to explore the association between school racial climate and high school students' achievement and discipline outcomes, to examine whether race moderated these associations and to explore whether racial climate mediated the relation between race and outcomes.

School Climate, Achievement and Discipline

Evidence of high achieving schools in racially segregated and economically depressed urban areas calls into question explanations of the achievement gap that focus narrowly on students' race or socioeconomic status (SES) (Brookover and Erickson 1975). Among other variables such as teacher preparation, high student expectations, and high parent and community involvement (Jussim et al. 1996; Christensen et al. 1992), school climate has been proposed as a possible moderator of the associations of socioeconomic status and race with academic success (Comer 1980). Theory in this area suggests that student performance is, in part, a

E. Mattison · M. S. Aber (✉)
Department of Psychology, University of Illinois at Urbana-Champaign, 603 East Daniel Street, Champaign, IL 61820, USA
e-mail: maber@spsych.uiuc.edu

function of school climate, or the quality of interpersonal interactions within schools (Haynes et al. 1997), including those among and between staff, students, and parents. From this perspective, students both shape and are shaped by school climate.

Evidence in support of this theory is limited but promising. In general, students', parents', and teachers' positive perceptions of school climate have been found to be associated with increased academic success and fewer discipline problems (Brookover et al. 1978; West 1980; Esposito 1999). Few studies, however, examine the impact of climate across racial groups. Thus, it is not clear whether school climate accounts for racial differences in performance, and if so, which aspects of climate are responsible. Moreover, most measures of school climate fail to attend directly to how race, and how perceptions of race condition the interpersonal interactions that constitute climate. In other words, they do not examine what we would call the racial climate of the school.

In studies that examine how school climate, race and/or socio-economic composition of schools work together to shape achievement, students' perceptions of school climate have been found to be as good a predictor of school-level student achievement as school racial and socioeconomic composition (Brookover et al. 1978). This effect appears even more pronounced in schools where the majority of students are African American (Brookover et al. 1978). While socioeconomic status and racial composition of schools explained differences in student achievement across schools, differences in school climate appear to account for much of these effects. This latter result has also been found for teachers' perceptions of climate (West 1980). In these studies, school climate was defined as perceptions of a school's academic norms, expectations and beliefs.

Parents' perceptions of school climate have also been found to play an important role in students' academic and social development. In a study of predominantly African American and low-income Head Start families, parents' perceptions of school climate, especially perceptions of fairness in teacher/student relationships, were positively associated with children's school adjustment for kindergarten through second grade (Esposito 1999). The teacher/student relationship subscale was the strongest climate predictor of performance. Perceptions that teachers were fair to students—gave them the grades they deserved, liked them, treated each as an individual, etc.—were related to increased school achievement.

School Climate and Behavioral Outcomes

While much of school climate research has focused on academic achievement, evidence indicates perceptions of

school climate may be related to a broader range of behaviors, specifically discipline problems. In a study of African American and white ninth grade students, differences in perceptions of school climate were found across schools that differed in rates of suspensions (Bickel and Qualls 1980). Students in schools with higher suspension rates had, on average, more negative perceptions of the school climate. Interestingly, this effect was not consistent across race—it held for whites, but not for African American students. White females in low suspension schools had the most positive perceptions of climate of any group—more favorable than white students in high suspension schools, and, more favorable than those of African American students in the same schools. In contrast, African American females had the most negative perceptions of school climate in both low and high suspension schools. The extent to which these group level findings reflect a relationship between climate perceptions and suspensions at the level of individual students is not known and deserves further study.

Students' perceptions of school climate have also been found to play a role in boys' behavioral problems (Kuperminc et al. 1997). School climate perceptions were associated with sixth and seventh grade boys' externalizing problems measured via both self and teacher report. This finding was most pronounced for African American boys. Those African American boys with positive perceptions of climate had fewer externalizing problems than those with negative perceptions of climate. It appears that positive perceptions of the climate may serve a protective function for African American boys.

The above review suggests perceptions of school climate are related to academic and discipline outcomes. The overall findings suggest race, class, and school climate each have independent associations with achievement and discipline. These studies also hint that these associations may vary by race. Whether and how such interactions exist at the level of more specific climate dimensions warrants further examination. Moreover, whether racial differences in outcomes can be accounted for by racial differences in perceptions of school racial climate has yet to be investigated.

Racial Climate and Schooling

School racial climate taps those aspects of the broader school climate that reflect how race and perceptions of race matter in schooling. Racial climate has been the focus of a number of studies at the college level (see e.g., Cabrera et al. 1999), but only a few studies at the secondary school level. Racial differences have been observed in perceptions of racial climate among high school students (Green et al. 1988; Bacon et al. 1991). Most relevant for our purposes

here, perceptions of equal treatment and/or fairness were found to differ across race: white students perceived their schools to be fairer than did students of color (Bacon et al. 1991). Furthermore, high school racial climate may have consequences for student outcomes. One aspect of interracial climate, interdependence, or students' willingness to work with students of other ethnic backgrounds toward a common goal, has been found to promote ethnic identity development (Pellebon 2000). To date, however, studies have yet to examine the relationship between racial climate and academic achievement or disciplinary outcomes at the high school level. Studies at the college level suggest such research is warranted. For example, perceptions of exposure to prejudice and discrimination have been found to impinge on college student outcomes. This was true for both white and African American students—perceptions of prejudice and discrimination were related to goal commitments among white students and social experiences among African Americans (Cabrera et al. 1999). Thus, while African Americans and Whites may have similar perceptions of the climate, such perceptions may be associated with different outcomes.

To a significant extent, research attention to racial climate on college campuses followed concerns that a negative climate compromised the achievement and retention of students of color (Cabrera et al. 1999). The absence of racial climate research at the secondary school level may reflect the relative lack of voice that young students have in schools, a problem that is only exacerbated in many communities for students of color and their families (Weis and Fine 1993). It is likely that educators' discomfort with and concerns about the appropriateness of discussing volatile racial issues with adolescents have also contributed to the lack of work in this area (Aber et al., unpublished). In any case, a growing body of theory and research on various aspects of secondary schooling suggests that matters of race may indeed affect students' experiences in schools and deserve attention.

One view of how race matters in schooling focuses on racial stratification. Racial stratification exists and operates in the way black students are perceived and treated and in their perceptions and responses to schooling in the context of racial subordination. Racial stratification in education operates through educational policies (e.g., "abilities" tracking, assignment to special education, Euro-centric curricula) and practices (e.g., teacher expectations, communication patterns) which deny blacks equal access to education and deny blacks equal rewards for their educational accomplishments as compared to whites (Ogbu 1994). Ogbu (1994), for example, has theorized that African American students equate standard English, the school curriculum, and the standard practices of school staff with White American culture which leads African

American students to consciously or unconsciously oppose or be ambivalent toward learning. Such students are thought to view the general enterprise of schooling as illegitimate and culturally insensitive. Thus, they avoid adopting serious academic attitudes and remain unengaged in their schoolwork. While Ogbu's theory offers descriptions of the behavior of African American students, his theories have been criticized for being overly structuralist and determinist in analyzing minority group experiences (Trueba 1988); and failing to demonstrate causal relationships between structural factors and behaviors (Erickson 1987). Others have called into question the validity of the acting white hypothesis (Ainsworth-Darnell and Downey 1998; Harpalani 2002). The construct of perceived racial climate, measured at the individual level, helps to bridge these two perspectives by allowing for individual differences in perceptions of how structural inequalities impact individual behavior. Examination of race differences in perceptions of racial climate may also shed light on the "acting white" phenomenon.

An alternative explanation of how racial discrimination/stratification impacts black youth examines black and white students' perceptions of the opportunity structure (Mickelson 1990; Ogbu 1978). Accordingly, those black students who do not perceive potential returns on their education, adopt the belief that education will not benefit them, and therefore disengage from school. Thus many non-white youth, whatever their ability or learning score poorly on intelligence and achievement tests. A third view focuses on the effect of societal stereotypes. Work on stereotype threat suggests that when confronted with the societal stereotype of black intellectual inferiority, black students' performance on academic tests suffers (Aronson et al. 1998; Steele and Aronson 1995). These analyses of how race matters in schooling suggest racial differences in student outcomes derive not only from differences in family background and social class, but also from students' racially based perceptions of, experiences in, and responses to their school environments, in other words, through perceptions of school racial climate. Aspects of school racial climate highlighted by this work include students' perceptions of racial fairness, cultural sensitivity, equitable school policies and practices, and experiences of racism. Taken together, prior work suggests that racial climate is likely to be related to high school students' school adjustment.

The present project grew from community concerns that the racial climate of the local public schools might account, at least in part, for documented racial disparities in achievement and discipline (for more detail concerning the local context in which this study took place, see Aber et al. 2007). This study focused on perceived school racial climate and thus emphasized the importance of how different

groups perceive what happens in their schools. Particular attention was devoted to examining how race and issues related to race impact school racial climate.

The following hypotheses were examined:

1. African Americans and males will perceive the racial climate more negatively than Whites and females, respectively.
2. African Americans and males will report lower grades and higher rates of suspension and detention than Whites and females, respectively.
3. Positive perceptions of the racial climate will be associated with students' reports of higher grades and fewer suspensions and detentions, above and beyond the associations of race and gender with these outcomes.
4. Perceptions of racial climate will mediate the association of race on students' reports of achievement and behavior outcomes.
5. Race will moderate the association of climate on students' reports of achievement and behavior outcomes (i.e., there will be racial differences in the association between racial climate and outcomes).

Method

Participants

Participants in this study were 1,838 high school students (grades 9th–12th) attending two public schools in a moderate-sized, mid-western, university town. This study analyzed the responses of the African American students ($N = 382$) and European American students ($N = 1,456$) due to the focus on racial equity for African American students in the local community. The sample was approximately 50% male ($N = 932$) and 50% female ($N = 906$). Eighteen percent of the sample was low-income as indicated by their eligibility to receive federal free or reduced priced lunch. For analyses presented here race was coded (0) for African American participants and (1) for European American participants and gender was coded (0) for male participants and (1) for female participants.

Survey Administration

Teachers administered surveys to students in classrooms during regular school hours. Students were informed about the purpose of the survey, that participation was voluntary, and that students may decide not to complete the survey at any time point without penalty. Survey respondents included approximately 90% of students in attendance on the days the surveys were administered. Informed consent

forms were not required due to code §46.117 (c)(1) of the Federal Human Subject Regulations, which waived this requirement.

Measures

Racial Climate

The Racial Climate Survey-High School Version (RCSHSV) (Aber et al., unpublished), was a multidimensional assessment tool that measured high school students' perceptions of their school's racial climate. The RCSHSV consisted of seven demographic questions, 62 statements regarding students' perceptions of their school, and a 3-item experience of racism section. The survey concluded with questions asking whether or not students had received a suspension during the school year, the number of detentions received in the last year, and whether they would be willing to work to end inequities in the school district.

This study examined three of the six school racial climate subscales. The Racial Fairness subscale measured students' perceptions that all students were treated fairly and contained five items ($\alpha = .88$). Sample items for this scale include: "At my school, students are disciplined fairly regardless of race" and "Black students are treated fairly at my school." The Experiences of Racism subscale measured students' perceptions of how often they experienced racism in school and contained four items ($\alpha = .76$). Sample items for this scale include: "How often has a teacher treated you badly because of your race?" and "How often has another student treated you badly because of your race?" The Need for Change subscale measured students' perceptions of the need to change the school system to better address racial inequities and contained three items ($\alpha = .84$). Sample items for this scale include: "The school district should reduce the difference in gifted and talented enrollment between Black and White students." and "The school district should reduce the difference in special education enrollment between Black and White students." For the Racial Fairness and Need for Change items, respondents rated whether they (5) strongly agreed, (4) agreed, (3) were neutral/not sure, (2) disagreed, or (1) strongly disagreed with each item. Items on the Experiences of Racism subscale had a different response system, with options ranging between (1) never, (2) a few times, (3) monthly, (4) weekly, and (5) daily.

Dependent Variables

Students' grades (GPA) were measured using students' self-reports. The scale responses ranged from receiving mostly As (5), Bs (4), Cs (3), Ds (2), and Fs (1). Students

indicated whether or not they had received a suspension within the academic year and used a yes (2) or no (1) response format. Detentions were measured using students' indication of the number of detentions received within the year. Scale responses ranged from 1 to 4 (1 = none, 2 = 1–4, 3 = 5–9, and 4 = 10 or more detentions).

Results

Attrition Analyses

The original sample of African American and white students who completed the school racial climate survey consisted of 1,838 students. However, only 1,686 African American and white students had complete racial climate and outcome data, a loss of 152 cases. Attrition analyses were performed to compare students who were not selected for the analysis due to missing data against those selected. The racial composition of the study sample consisted of slightly more white students than the original sample. The study sample was 86.4% white (18.6% African American) while the original sample was 79.2% white (20.8% African American). Of those 152 cases dropped from the analysis (attrition sample), 55% were white and 45% were African American.

One-way ANOVAS were performed to examine differences between the study and attrition samples on racial climate and outcome scales. There were significant differences in perceptions of racial climate and self-reported achievement and discipline outcomes, with the study sample as compared to the attrition sample reporting more positive perceptions of climate and higher achievement and fewer disciplinary referrals. For the racial climate scales, the study sample perceived more racial fairness ($F(1, 1812) = 7.03, p = .008$), less experiences of racism ($F(1, 1759) = 19.02, p = .000$), and less need for change compared to the attrition sample ($F(1, 1800) = 8.41, p = .000$). For the outcome variables, the study sample reported receiving higher grades, [B+ vs. B ($F(1, 1795) = 8.07, p = <.005$)], fewer suspensions ($F(1, 1794) = 10.77, p = .001$) and detentions ($F(1, 1795) = 20.29, p = .000$) compared to the attrition sample.

Racial Climate and Outcomes by Race and Gender

Prior to testing study hypotheses, data were examined for possible differences across the two participating high schools. The larger school ($N = 1008$) had fewer African American (15.6%) and more European Americans (84.4%) than the smaller school ($N = 671$) (22.4% African American and 77.6% European American). A 2×2 MANOVA examining school and race differences on the three racial

climate scales revealed a main effect for race ($F(3, 1673) = 109.79; p = .000$), but no independent effect for school ($F(3, 1673) = .347; p = .791$), and no race by school interaction ($F(3, 1673) = .844; p = .470$). Thus, all remaining analyses collapsed data across both schools.

To test the first hypothesis, a 2×2 MANOVA examined race and gender differences on the three racial climate scales: racial fairness, experiences of racism and need for change. This analysis yielded significant differences for both race ($F(3, 1677) = 113.29, p = .000$) and gender ($F(3, 1677) = 6.77, p = .000$) at the multivariate level, but no race by gender differences ($F(3, 1677) = 1.21, p = .304$). Post-hoc analyses at the univariate level yielded significant differences on all variables. Differences between African Americans and white students on the predictor variables are reported in Table 1. In general, African Americans saw the climate more negatively than whites (see Table 1). Gender differences on predictor variables are reported in Table 2. In general, there were slight gender differences in perceptions of racial climate, with girls having more negative racial climate perceptions than boys.

Half of white students (51%) agreed students were treated and disciplined fairly regardless of race compared to one-third of African American students (31%). Few white or African American students agreed they were treated badly or experienced racism in schools (3% and 8%

Table 1 Mean and (standard deviation) for predictor and outcome variables by race

	African American	European American	F ($df = 1$)
Racial fairness	2.98 (1.03)	3.49 (.81)	88.16*
Experiences of racism	1.91 (.84)	1.63 (.65)	43.16*
Need for change	3.37 (.78)	2.41 (.91)	295.94*
Grades	3.49 (.74)	4.21 (.75)	236.56*
Suspensions	1.15 (.36)	1.04 (.18)	70.28*
Detentions	2.26 (.99)	1.69 (.89)	103.79*

* $p < .05$

Table 2 Mean and (standard deviation) for predictor and outcome variables by gender

	Female	Male	F ($df = 1$)
Racial fairness	3.35 (.87)	3.43 (.88)	4.34*
Experiences of racism	1.64 (.62)	1.73 (.76)	6.72*
Need for change	2.67 (.94)	2.51 (.98)	4.98*
Grades	4.17 (.77)	3.98 (.82)	24.24*
Suspensions	1.04 (.19)	1.07 (.26)	7.38*
Detentions	1.63 (.82)	1.96 (1.01)	27.15*

* $p < .05$

respectively). About 10% of white students agreed schools needed to change compared to close to half of African American students (40%). Overall, African American students had more negative perceptions of the climate and more need to change schools as compared to white students.

To test the second hypothesis, a 2×2 MANOVA examined race and gender differences on the three outcome variables: grades, suspensions, and detentions. This analysis yielded significant differences for both race ($F(3, 1677) = 94.74, p = .000$) and gender ($F(2, 1677) = 13.18, p = .000$) at the multivariate level, but no race by gender differences ($F(3, 1677) = 1.05, p = .370$). Post-hoc analyses at the univariate level revealed significant differences on all variables. African Americans received lower grades, more suspensions and detentions than whites (see Table 1). On average, white students reported receiving a letter grade higher than African American students. White students' mean grades ranged from A– to B+ compared to B to B– for African Americans. For school discipline, the majority of both white and African American students reported not being suspended (proportions of suspensions by race: White–1/28, African American–1/6). African Americans reported receiving twice as many detentions per year. Overall, African American students had less positive experiences in schools compared to European American students. African American students also reported receiving lower grades and more suspensions and detentions compared to white students. In regards to gender differences, male students received slightly lower grades, more suspensions and detentions than females (see Table 2).

Correlations among racial climate and outcome variables ranged from .12 to .40 (see Table 3). Tolerance levels were above .5, indicating multi-collinearity was not a significant problem; the regression analyses were conducted as planned.

Multiple Regression Analyses

Three hierarchical regression analyses were undertaken to test the third hypothesis that school racial climate would predict grades, suspensions, and detentions independent of

students' race and gender. In these models, gender and race were entered in the first block and second blocks respectively. In the third block, the racial climate variables racial fairness, experiences of racism, and need for change were entered. To test the fourth hypothesis, in the fourth and final block, the interactions of race and racial climate and gender and racial climate were examined. Interaction terms were computed by taking the product of the mean centered predictor variables.

To examine whether socio-economic status might influence the outcomes under study here, the following regression analyses were initially run controlling for class (measured via students' lunch status—free/reduced price vs. full price). Because the pattern of results was virtually identical to that from analyses that did not control for class and there were high levels of missing data on the lunch status variable ($N = 682$ cases missing lunch status), we dropped lunch status from the analyses reported below.

Academic Achievement

To test the third hypothesis that positive perceptions of the racial climate would be associated with higher grades, a hierarchical linear regression was conducted predicting students' self-report of grades. Results are presented in Table 4. Gender had a small but significant effect on achievement. Race had the largest effect (R^2 change = 12.2%).

The hypothesis that positive perceptions of the climate would be associated with higher grades was supported. Some school racial climate variables were significantly related to students' grades although they explained substantially less variance, 3.8%, compared to race (see Table 4). More positive perceptions of racial fairness were associated with higher grades (see Table 4). Perceptions of the need for change were associated with lower grades.

The results indicated that the association between race and grades was partially mediated by racial climate (our fourth hypothesis). In follow-up analyses, which examined whether the indirect effect of race on students' grades via racial climate was significantly different from zero, both

Table 3 Correlations among racial climate and outcome variables

	Grade	Suspension	Detention	Racial fairness	Experiences of racism	Need for change
Grade	–	–.26**	–.40**	.21**	–.14**	–.27**
Suspension		–	.29**	–.12	.16**	.13**
Detention			–	–.17**	.19**	.14**
Racial fairness				–	–.40**	–.28**
Experiences of racism					–	.13**
Need for change						–

** $p < .01$

Table 4 Hierarchical multiple regression: academic achievement

	B	SE B	Beta
Gender	.19	.04	.12*
Gender	.20	.04	.13*
Race	.72	.05	.35*
Gender	.22	.04	.14*
Race	.54	.05	.26*
Racial fairness	.09	.02	.09*
Racism	-.04	.03	-.03
Need for change	-.13	.02	-.15*
Gender	.23	.04	.14*
Race	.72	.06	.35*
Racial fairness	.09	.02	.10*
Racism	-.05	.03	-.05
Need for change	-.11	.02	-.13*
Need for change by race	-.26	.06	-.13*

Note: $R^2 = .02$ for Step 1; R^2 change = .12 for Step 2; R^2 change = .04 for Step 2; R^2 change = .02 for Step 4; (ps < .05)

* $p < .05$

need for change (Sobel test statistic¹ = 9.76, $p < .0001$) and racial fairness (Sobel test statistic = -6.37, $p < .0001$) were identified as mediators.

A significant interaction of need for change and race was also found (see Table 4). Follow-up analyses revealed the relationship between need for change and grades was significant for white students only. This relationship did not hold for African Americans (see Fig. 1). Among whites, higher perceptions of the need for change were associated with lower grades. The interaction results support the fifth hypothesis of racial differences in the association between racial climate and students' grades.

Suspensions

To test the third hypothesis that positive perceptions of the racial climate would be associated with fewer suspensions, a logistic regression was conducted predicting students' self-report of suspensions. Results are presented in Table 5. As was true for academic achievement, race again had the largest effect (R^2 change = 8.7%). Gender had a small, but significant effect on suspensions.

¹ Sobel test equation— z -value = $a \times b / \text{SQRT}(b^2 \times s_a^2 + a^2 \times s_b^2)$. In the Sobel test formula, a = raw (unstandardized) regression coefficient for the association between IV and mediator; s_a = standard error of a ; b = raw coefficient for the association between the mediator and the DV (when the IV is also the predictor of the DV); s_b = standard error of b . The Sobel test calculates the critical ratio as a test of whether the indirect effect on the IV on the DV via the mediator is significantly different from zero (Preacher and Leonardelli 2001).

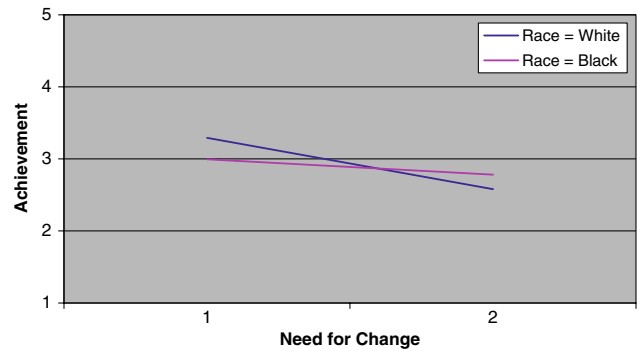


Fig. 1 Interaction of the need for change and race predicting achievement

The hypothesis that positive perceptions of the racial climate would be associated with fewer suspensions was supported. Again, some school racial climate variables were significantly related to students' suspensions although they explained substantially less variance, 4.3%, compared to race (see Table 5). More experiences of racism were associated with receiving more suspensions (see Table 5). Perceptions of the need for change were associated with receiving more suspensions.

While we are aware of no formal statistical test of mediation using logistic regression, the results suggest that the association between race and suspensions may be partially mediated by racial climate (our fourth hypothesis). In step one, race improves the prediction of assignment to the suspended or not suspended groups. In step two, climate adds to that prediction, but the predicted odds

Table 5 Logistic regression: suspensions

	B	SE B	Exp (B)
Gender	-.71*	.22	.49
Gender	-.75*	.23	.47
Race	-.16*	.22	.19
Gender	-.75*	.23	.47
Race	-1.18*	.25	.31
Racial Fairness	-.17	.13	.84
Racism	.45*	.13	1.56
Need for change	.26*	.13	1.29
Gender	-.79*	.28	.46
Race	-1.83*	.28	.16
Racial fairness	-1.96	.17	.82
Racism	.59*	.17	1.80
Need for change	.42*	.15	1.52
Need for change by race	.87*	.27	2.39

Note: $R^2 = .02$ for Step 1; R^2 change = .11 for Step 2; R^2 change = .15 for Step 2; R^2 change = .18 for Step 4; (ps < .05)

* $p < .05$

associated with race is less than in step one, suggesting that part of the race effect is captured by the effect of racial climate.

A significant interaction of need for change and race was also found (see Table 5). Follow-up analyses revealed the relationship between need for change and race was significant for White students only. This relationship did not hold for African Americans (see Fig. 2). Among whites, higher perceptions of the need for change were associated with poorer discipline outcomes. The interaction results support the fifth hypothesis of racial differences in the association between racial climate and students’ suspensions.

Detentions

To test the third hypothesis that positive perceptions of the racial climate would be associated with fewer detentions, a hierarchical linear regression was conducted predicting students’ self-report of detentions. Results are presented in Table 6. Race had the largest effect (R^2 change = 5.6%). Gender had a smaller but significant effect on detentions.

The hypothesis that positive perceptions of the racial climate would be associated with fewer detentions was supported. Some school racial climate variables were significantly related to students’ detentions although they explained substantially less variance, 2.9%, compared to race (see Table 6). More positive perceptions of racial fairness were associated with detentions (see Table 6). Students’ perception of experiences of racism was also associated with more detentions.

The results indicated that the association between race and detentions was partially mediated by racial climate (our fourth hypothesis). In follow-up analyses that examined whether the indirect association between race and student detentions via racial climate was significantly different from zero, both experiences of racism (Sobel test

Table 6 Hierarchical multiple regression: detentions

	B	SE B	Beta
Gender	-.33	.05	-.17*
Gender	-.33	.05	-.17*
Race	-.57	.06	-.24*
Gender	-.33	.04	-.17*
Race	-.45	.06	-.19*
Racial fairness	-.08	.03	-.07*
Racism	.16	.03	.12*
Need for change	.04	.03	.04
Gender	-.33	.04	-.18*
Race	-.50	.08	-.21*
Racial fairness	-.08	.03	-.08*
Racism	.17	.04	.12*
Need for change	-.04	.03	.04
Racial fairness by gender	.12	.06	.06*

Note: $R^2 = .03$ for Step 1; R^2 change = .06 for Step 2; R^2 change = .03 for Step 2; R^2 change = .01 for Step 4; (ps < .05)
* $p < .05$

statistic = -4.92, $p < .0001$) and racial fairness (Sobel test statistic = -5.59, $p < .0001$) were identified as mediators.

A significant interaction of racial fairness and gender was also found (see Table 6). Follow-up analyses revealed the relationship between racial fairness and gender was significant for both groups, but stronger for boys than for girls supporting our fifth hypothesis (see Fig. 3). Among boys, lower perceptions of racial fairness were associated with receiving more detentions.

Discussion

The results of this study are among the first to link school racial climate to high school students’ self-report of

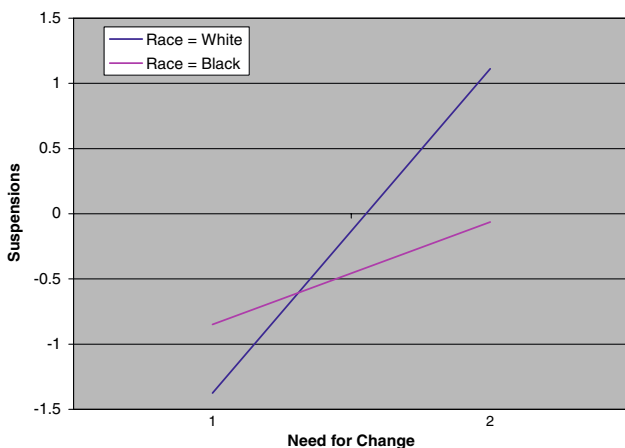


Fig. 2 Interaction of the need for change and race predicting suspensions

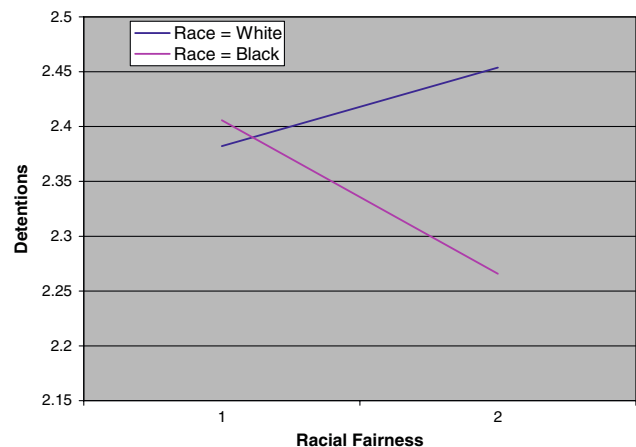


Fig. 3 Interaction of racial fairness and gender predicting detentions

academic and discipline outcomes. Positive perceptions of school racial climate were associated with students' reports of higher grades and fewer detentions and suspensions. However, not all aspects of racial climate mattered equally. Each of the three racial climate subscales—perceptions of racial fairness, experiences of racism and the need for change—was associated with different academic and discipline outcomes. Such findings underscore the importance of using a multidimensional measure of racial climate to understand how perceptions of race impinge on school related functioning.

Our results suggest that perceptions of racial climate may provide a partial explanation for the widely documented achievement and discipline gaps across race. Racial differences in students' self-report of grades and discipline outcomes were partially mediated by perceptions of racial climate. In general, African American students had more negative perceptions of racial climate compared to whites, which, in turn were associated with lower grades and more detentions and suspensions. Lastly, and somewhat surprisingly, our results suggest that a negative school racial climate may matter more for white students and boys than for African Americans and girls. Below we reflect on possible explanations for these findings and some of their implications.

Students' perceptions of racial fairness were related to students' self-report of grades and detentions. Positive perceptions of fair treatment by other students and staff were related to students' reports of receiving higher grades and fewer detentions, which is consistent with previous research which has linked perceptions of general school fairness to students' attitudes and performance (Nichols and Good 1998). Students who feel they are treated fairly and equally by staff, whatever their racial or ethnic identity, are more likely to trust in and value the opinions and behaviors of staff (Walberg and Genova 1983), which may lead them to engage in school academically. In contrast, students who feel they are singled out or treated differently in the classroom report a higher sense of alienation (Cabrera and Nora 1994). Such discrimination has been found to be particularly detrimental for African American students, whose culturally-based behaviors may not be well received by staff, leaving them feeling unfairly treated due to their racial or ethnic culture (Cabrera and Nora 1994). Our findings extend this previous research by suggesting perceptions of racial unfairness are associated with poorer student outcomes for both African American and white students' outcomes. Students, regardless of race, must perceive schooling as legitimate, respectful of them and deserving of their effort if they are to invest in the forms of achievement expected by schools. When students perceive themselves and other students as valuable members and the school environment as fair, they may then be able to engage in academic tasks (Newmann et al. 1992).

Our findings on racial climate are also consistent with previous research that has linked perceptions of the general school climate to disciplinary problems (Bickel and Qualls 1980). Students' perception of experiences of racism in schools appears to be one dimension of climate that is important in this respect. Those students who reported experiences of racism by teachers and students were more likely to report being suspended or to receive a detention. It is possible that a climate of racism creates disincentives for students to engage in schoolwork, promoting delinquent behaviors. These findings highlight students are cognizant of racially based unfair treatment by students and teachers, which may ultimately affect their behaviors. For example, perceptions that the school is racist may set in motion a series of reactions including fighting, insubordination, etc., for which students are disciplined. In this case, misbehavior may be precipitated by perceived racist school structures or racist interactions with students and staff. On the other hand, too frequent use of suspensions may signal to students that they are the targets of discrimination or they are not desired in the school (Haynes et al. 1997). Students may feel that suspensions are used inappropriately (for minor as well as major offenses) and in situations where it is unwarranted (Haynes et al. 1997). In the present sample, black students were eight times more likely to report receiving suspensions and twice as likely to report receiving detentions compared to their white peers. It is likely that students may interpret the higher rates of suspensions and detentions given to blacks as racist or discriminatory. In other words, the experience of being disciplined may affect the development of more negative racial climate perceptions. In fact, we suspect that the relationship between racial climate and outcomes is bi-directional.

While perceptions of racial fairness and racism appear to matter for all students, perceptions of the need for change appeared to be related to the academic and discipline outcomes of white students only. Perceptions of the need to reduce differences in gifted and talented programs, special education programs, and suspension rates between black and white students were associated with self-reports of receiving lower grades and more suspensions—but only for white students. This may be partially or wholly explained by greater variance in the need for change variable for white students compared to African Americans, which would increase the possibility of detecting significant effects for white students. However, these findings could reflect that for white students having a school district, which did not address glaring racial disparities in academic and discipline outcomes (as documented by an equity audit), weakened the overall quality of education and promoted less engagement in schooling. The realization that there is a need for change may feel more disconcerting

to white students (perhaps reflecting the beginnings of critical consciousness about racism, unfairness, etc.) and its effects may be more likely to be seen in academic and discipline outcomes. For African American students, perceptions of the need for change may be a given based on their history and lived experiences. These findings warrant further investigation.

Perceptions of school racial climate may also differ by students' gender. For boys, perceptions of racial fairness were associated with their self-reports of receiving fewer detentions. This relationship, while still significant, was not as strong for girls. Similarly, Kuperminc et al. (1997) found school climate perceptions were associated more strongly with externalizing problems for boys than for girls, suggesting positive perceptions of schools are a stronger protective factor for boys. In our sample boys were 1.6 times more likely to receive detentions compared to girls, which may signal to boys that they are targets for detentions more than girls. In these cases, the heightened surveillance of behavior may lead boys to greater awareness of the potentially negative impact of the school environment on their lives (Kuperminc et al. 1997).

In sum, these results suggest perceptions of school racial climate are associated with students' reports of academic achievement and discipline outcomes. They are consistent with prior research at the college level, which found that white college students' persistence in college was both directly and indirectly affected by perceptions of discrimination (Nora and Cabrera 1996). The present study extends these findings from college samples to the high school level. Those schools where teachers and staff create a school climate that communicates racial fairness, less experiences of racism and need for change may increase student engagement in school and improve the overall quality of education. Moreover, our findings suggest improving school racial climate may benefit all students academically and behaviorally, regardless of students' race. Lastly, our findings suggest the relationship between school racial climate and academic achievement and discipline outcomes may differ depending on students' race and gender. In view of such differences in perceptions, institutional policies and practices that aim to address students' needs, foster the achievement of all students, and promote positive behaviors, should attend to students' race and gender.

School racial climate may be one, of many, sources leading to racial disparities in achievement and discipline. Not only is racial climate related to academic and discipline outcomes, it also partially mediates the association of race on these outcomes (i.e., white students had more positive perceptions of the racial climate compared to African Americans, which, in turn were associated with higher grades and fewer detentions and suspensions). Such

findings suggest that positive perceptions of the racial climate could serve as a protective factor against disciplinary problems and academic disengagement. Efforts to change racial climate might focus on minimizing experiences of racism, changing school policy, practices and social relationships that give rise to perceptions of racial unfairness and the need to change the schools. Schools can accomplish such goals in a variety of ways including: training staff to be culturally competent (e.g., workshops and in-service trainings on cultural sensitivity, institutional racism), creating school forums for staff, students, and parents to discuss school climate issues (e.g., experiences of racism, racial fairness, need for change), hiring more diverse staff, establishing goals and strategies to reduce the overall number of disciplinary and special education referrals, and implementing in-school educational programs for students focused on issues of race, culture and ethnicity.

There are several limitations to this study. One is the fact that a disproportionate number of African American students were not included in the study sample due to having missing data. We believe the likely effects of this pattern of attrition are two-fold. First, because African Americans in our sample tended to have more negative climate perceptions, lower grades and poorer discipline outcomes than their white counterparts, differential attrition across race likely resulted in a restricted range of scores on climate and outcome variables for the full sample. As a result, we suspect attenuation of the relationships between climate and outcome variables, and thus, both the mediator and moderator findings. In other words, in the current study sample, climate is likely less strongly related to outcomes variables than would have been the case had there been no attrition or no differential attrition across race. Additionally, we suspect that attrition from the African American sample was not random, but rather it was those African Americans with the most negative outcomes and perceptions of climate who were not included in the sample. To the extent this is true, we would expect the attrition effects just described to be stronger than they would have been had attrition of African Americans been random. Moreover, this nonrandom African American attrition likely attenuated race differences in both climate and outcome variables.

Another limitation of the study is that both the school climate measure and the student outcome measures are based on self-report. Such self-report measures may have led to rater response bias in our sample. For example, the literature has consistently found that boys are more likely to receive lower grades and more discipline referrals than girls. However, in our sample, the differences between boys' and girls' reports of outcomes, while statistically significant, were small. We believe it is possible that the

boys in our study were more likely to inflate their grades and deflate the number of discipline referrals they received, which made the difference between girls' and boys' reports of their grades and discipline outcomes smaller. Future studies can control for the effects of self-report measures by using teacher reports and/or archival school data. In addition, the interpretation of mediating mechanisms is also limited by self-report data collected at one point in time. The interpretation of mediating mechanisms implies a temporal dimension suggesting racial differences in perceptions of racial climate and its relationship to students' outcomes is a process that unfolds over time. We were unable to conclusively test this hypothesis with cross-sectional survey data. A more robust test of mediating mechanisms would utilize longitudinal data to examine changes in students' perceptions of racial climate and outcomes across racial groups over time. Moreover, future studies should examine how perceptions of racial climate may influence psychological processes (e.g., frustration, mental disengagement from school, lack of respect for teachers) which, in turn, lead to increased disciplinary referrals and lower grades.

Additionally, our results suggest that earlier studies on school climate (Esposito 1999; West 1980) that failed to factor in race may have over-emphasized the importance of school climate on student outcomes. In our data, school racial climate was related to students' academic and discipline outcomes, but students' race was a stronger predictor than climate; racial climate only explained modest variation in students' grades, suspensions and detentions over and above race. However, when the analysis was re-run without the race variable, school racial climate explained more variance in outcomes suggesting there is variance that race and school racial climate share in the prediction of outcomes. Future research should continue to disentangle the effects of race and racial climate.

In addition, while this study focuses on the individual's perception of school climate and its relationship to academic and discipline outcomes, it is important not to lose sight of the fact that school racial climate likely also functions as a setting level variable. Given that our data came from only two schools, it was not possible to view climate this way in this study. Future research should aim to address school racial climate from this perspective by drawing a larger sample of schools. Data analytic techniques such as hierarchical linear modeling (HLM) allow for both individual- and setting-level predictors to be examined simultaneously (Raudenbush and Bryk 1992). Given that students are nested within schools, multi-level modeling can be utilized to examine the relationship between school outcomes (e.g., grades, detentions, and suspensions) and (a) individual level factors (i.e., perceptions of school racial climate); and (b) school factors

(i.e., school climate for racial diversity and characteristics of the setting environment).

Ultimately, schools attempting to address racial disparities in achievement and discipline must work to reconnect individuals into the school environment and address systemic factors that contribute to student disengagement and school failure. In the setting where our research was conducted, the results of the school racial climate survey were used in several ways to address racial disparities throughout the local school district. Following a presentation to the school board, which discussed the results of the survey and recommendations for improving the climate of local schools, the school racial climate report was adopted by the school board. The report has also been cited by a court appointed monitor and the federal district court judge reviewing the consent decree as grounds for the school board to address issues of equity. The school racial climate report also led to several diversity trainings across the district, community fora about school racial climate, in addition to the creation of a community based group—the Coalition for Action on Racial Equity and Excellence in Education—whose goal is to increase community voice in educational policy and practice. Effort should be directed to testing the effects of interventions of this type on both schools' racial climate and students' educational outcomes.

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