

# Changes in White College Students' Color-Blind Racial Ideology Over 4 Years: Do Diversity Experiences Make a Difference?

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In this longitudinal study, we explored how White students' ( $N = 857$ ) color-blind racial ideology (CBRI; i.e., beliefs that serve to deny, minimize, and/or distort the existence of racism) changed over time and the factors associated with these patterns of change. Specifically, we investigated whether gender, diversity attitudes (i.e., openness to diversity and interest in social issues), and college diversity experiences (i.e., diversity-related courses/activities and close interracial friendships) predicted patterns of CBRI change. Findings indicated that gender and diversity attitudes were related to initial levels of CBRI, such that women and students who were more open to diversity issues at the beginning of college were more likely to report lower levels of CBRI; gender was also related to a greater decrease in CBRI changes over the college experience. Furthermore, college diversity experiences predicted changes in CBRI over time, such that students who completed a greater number of diversity courses and activities and those who had a greater number of close Black friends showed a significantly greater decrease in CBRI over their 4 years in college; interestingly, students who reported having no Latino friends compared with having some close Latino friends showed a significantly greater decrease in CBRI over time.

*Keywords:* color-blind racial ideology, college students, diversity courses, contact hypothesis

The belief that the United States has moved beyond race(ism) was popular even before the historic 2008 election of Barack Obama as the 44th President of the United States. For over a decade and a half, scholars have challenged emerging articulations of racial color blindness—a set of beliefs asserting race is no longer relevant in understanding the lived experiences of people of color and that society has overcome its painful legacy of racism. Unfortunately, the aspirational goal of creating a color-blind society is not viable in the current moment because racial inequities still exist. Several publications appeared in the late 1990s contesting the possibility of a race-neutral or postracial America in light of the present-day forms of racial discrimination and prejudice (e.g., Carr, 1997; Cose, 1997). For example, the *American Psychological Association* (1997) published a pamphlet entitled "Can—or Should—America Be Color-blind?" Drawing on social

psychological research documenting the negative effects of racial stereotyping on people of color, the American Psychological Association concluded that race matters and given the existence of prejudice, it is impossible to ignore race. Moreover, recent research findings in psychology revealed negative consequences for people of color when individuals act as if race is not important (e.g., Apfelbaum, Pauker, Sommers, & Ambady, 2010; Holien & Shelton, 2012).

Social scientists have empirically examined the context and negative consequences of adopting a color-blind racial ideology (CBRI) perspective. Findings indicated a link between greater CBRI and a host of racial and diversity attitudes primarily among White adults, including increased fear of racial minorities (Spanierman & Heppner, 2004; Spanierman, Poteat, Wang, & Oh, 2008), greater levels of racial and gender intolerance (Neville, Lilly, Duran, Lee, & Brown, 2000), lower support for affirmative action (Awad, Cokley, & Ravitch, 2005; Mazzocco, Cooper, & Flint, 2012; Oh, Choi, Neville, Anderson, & Landrum-Brown, 2010), and decreased multicultural counseling competencies (Gushue, 2004; Neville, Spanierman, & Doan, 2006; Spanierman, Poteat, et al., 2008). Although there is growing support for the link between greater CBRI and increased racial intolerance, at this point we know very little about the stability of CBRI over time or the factors that may be associated with patterns of change.

The primary purpose of the current study was to address the gaps in the literature by using individual growth modeling to describe potential patterns of change in CBRI among White col-

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lege students during their 4 years in college. We selected this population because White individuals on average report greater levels of CBRI than people of color, and traditionally aged college students are at a stage in their lives where they might be challenging previously held assumptions about social issues. The exploration during these impressionable years, moreover, takes place in an educational context that can facilitate greater interrogation of the complexities of race and racism and thus challenge CBRI through coursework and other diversity-related experiences. In fact, research supports the association between diversity courses in decreasing students' CBRI (e.g., Case, 2007; Cole, Case, Rios, & Curtin, 2011; Colven-Burque, Zugazaga, & Davis-Maye, 2007; Kernahan & Davis, 2007).

Our conceptual approach in this study was informed by Astin's (1993) input-environment-outcome model. In his influential book, *What Matters in College*, Astin summarized data from a 4-year longitudinal study in which he examined input or precollege variables (e.g., family characteristics) and their associations with college environment factors (e.g., formal instruction) on a range of educational and developmental outcomes, including civic development. In the current study, we specifically focused on three sets of variables as potential predictors of patterns of change in CBRI. We tested whether gender was related to students' early college CBRI and potential changes as they progressed through their college experience. We also investigated whether other types of *diversity attitudes* (i.e., openness to diversity and interest in social issues) were related to both early college CBRI and potential changes over time. Of particular importance to us as counseling psychology researchers was the examination of the college *diversity experiences* (i.e., courses, activities, and close interracial friendships) that may be related to potential changes in students' CBRI over time. These college environmental factors are at the level in which psychologists, educators, and student affairs professionals can potentially make a difference in the lives of students by promoting a greater understanding of race and racism (i.e., decreasing CBRI).

### Defining CBRI

There are a variety of interrelated definitions of CBRI. Some psychology researchers characterize CBRI as a prejudice-reduction strategy (e.g., Apfelbaum et al., 2010; Correll, Park, & Smith, 2008; Ryan, Hunt, Weible, Peterson, & Casas, 2007). The argument from this perspective is that well-intentioned people ignore race or do not acknowledge a person's race as a way to create more racially inclusive environments. The research findings unequivocally indicate that racial color-blindness is ineffective as a prejudice-reduction strategy. In fact, when White people ignore race, it has deleterious consequences for people of color, including poorer work adjustment among racial and ethnic minority adults (Plaut, Thomas, & Goren, 2009) and an unwillingness to intervene when witnessing racism among children (Apfelbaum et al., 2010).

Drawing on the interdisciplinary research, we view CBRI as a set of beliefs that deny, minimize, and distort the existence of racism in its many forms (e.g., individual, interpersonal, cultural, and institutional) and the role of race in people's lives (Bonilla-Silva, 2001, 2003; Frankenberg, 1993; Neville, Awad, Brooks, Flores, & Bluemel, 2013). From this perspective, CBRI has supplanted old-fashioned, blatant forms of racism and represents new

forms of racial intolerance in the post-civil rights era. We conceptualize CBRI as a system-justifying ideology or a worldview that helps to rationalize racial inequities; this process allows people to ignore racism in explaining societal disparities and instead to blame the targets of racism for their plight. Empirical research supports the association between high CBRI and greater modern racism (Awad et al., 2005; Neville et al., 2000) and other types of system-justifying ideologies such as social dominance orientation or preference for group-based hierarchies (Pinterits, Poteat, & Spanierman, 2009; Worthington, Navarro, Loewy, & Hart, 2008).

### Gender and CBRI

Across a range of social indicators, men are more likely than women to express higher levels of intolerance, including increased homophobia (e.g., Gough, 2002; Herek, 2002), greater endorsement of social dominance orientation (e.g., Küpper & Zick, 2011), and negative evaluations of policies designed to promote increased representation in the workplace (e.g., Harrison, Kravitz, Mayer, Leslie, & Lev-Arey, 2006). Some speculate that part of the gender difference in social attitudes is rooted in the relative higher group position of men, particularly heterosexual White men, and the desire to protect one's group interest within the social structure (i.e., to maintain power, privilege, and the status quo; Küpper & Zick, 2011). Also, White men have fewer experiences with societal oppression and thus may be less aware of these forces than women. Emerging data suggest that men score higher on CBRI indicators than do women (e.g., Neville et al., 2000; Worthington et al., 2008). It stands to reason that given the existence of gender discrimination, women may become more aware of gender and other societal oppressions through their personal experiences as they progress through college.

At this point, little is known about gender and its relations to changes in racial beliefs. Although there may be an initial gender gap, there is contradictory information about the degree to which college experiences may differentially impact men and women. Some studies indicate that women become even more open to diversity issues as they progress through college compared with their male counterparts (Astin, 1993; Whitt, Edison, Pascarella, Terenzini, & Nora, 2001). Yet, other findings indicate no gender differences in the rate of change in diversity attitudes over time (e.g., Todd, Spanierman, & Poteat, 2011). The varied outcomes assessed in the studies may account for the equivocal findings. For example, Whitt and her colleagues (2001) found differences on a measure of openness to diversity, and Todd et al. (2011) examined changes on emotional responses to racism (e.g., White guilt). Thus, in the present study, we add to the debate by examining gender as a potential predictor of patterns of change in CBRI. Although in this study, we used the same data set as Todd et al. (2011), the focus of the present article is substantially different. The present study centers on exploring changes in beliefs about racism over time, and the Todd et al. (2011) study focused on changes in race-related affect over time. Similar to the concept of openness to diversity as assessed in Astin's (1993) and Whitt and colleagues' (2001) work, CBRI captures a cognitive dimension of racial attitudes. We thus hypothesized that women will enter college with lower levels of CBRI and that over time, they would show a greater rate of decrease in CBRI compared with their male counterparts.

## Diversity Attitudes and CBRI

Although there are myriad diversity attitude correlates of CBRI, in this study we focused on interest in social issues and openness to diversity issues more generally. Previous studies found that students who believe in social justice causes (e.g., Awad et al., 2005; Lewis, Neville, & Spanierman, 2012; Oh et al., 2010) and who are more open about diversity issues (e.g., Spanierman, Neville, Liao, Hammer, & Wang, 2008) have lower levels of CBRI and thus demonstrate a greater critical understanding of racial inequity in the United States. These findings thus indicate that openness is related to lower CBRI scores in general. Because research indicates that openness to diversity is related to increased understanding of racial inequality, we assert that such students will seek out diversity experiences on campus, and as such, we should expect a greater rate of change in their attitudes over their college careers.

## College Diversity Experiences and CBRI

Collegiate conditions matter in students' commitment to social justice and multicultural awareness (Engberg & Mayhew, 2007). Two types of experiences have received mounting support in the psychology and higher education literature: diversity courses/activities and meaningful interracial interactions. The research overwhelmingly indicates that students who participate in a specific educational intervention (e.g., Soble, Spanierman, & Liao, 2011) or complete a general diversity course (Atwater, 2008; Case, 2007; Cole et al., 2011; Colven-Burque et al., 2007; Kernahan & Davis, 2007) report a significant decrease in CBRI and that this decrease is stable over time (Kernahan & Davis, 2009). Kernahan and Davis (2009), for example, found that students who completed a diversity course decreased CBRI compared with students who completed a nondiversity type of course, and this change was maintained over a year. When broadening the concept of diversity activities to include both courses and campus-sponsored lectures and events, findings show that students who complete more diversity activities report lower CBRI after their first year in college than students who report no or lesser engagement in such activities (Lopez, 2004; Spanierman, Neville, et al., 2008).

There is a dearth of information on the association between diversity courses and activities on students' CBRI after their first year of college. Does taking more diversity courses or attending diversity activities over one's tenure in college provide additional gains in terms of decreasing students' CBRI? The answer to this question has implications for practice on college campuses. If the answer is yes, then it would seem appropriate to encourage students to take courses that focus on social issues and diversity throughout their college career and not just in the first year. We hypothesized that more is better in terms of reducing CBRI; students who completed a greater number of diversity-related activities over the course of their collegiate career would have increased opportunities to think critically about race and racism and thus challenge assumptions that racism is a thing of the past (i.e., CBRI) compared with students who participate in no or very few such activities.

Students' peers also play a crucial role in their academic and social development. Astin (1993) concluded, "The student's peer group is the single most potent source of influence on growth and development during the undergraduate years" (p. 398). He observed that young adults adopted the dominant values and aspira-

tions of their peer groups. Research focusing on racial beliefs more specifically has suggested that having a diverse peer group or having meaningful interracial friendships can increase White students' awareness about prejudice and race(ism). For many White students, college represents one of the first times they have opportunities to establish friendships with people who are different than themselves in terms of race, ethnicity, and social class. Drawing on Allport's (1954) contact hypothesis, meaningful interracial interactions can increase exposure to diverse perspectives and decrease racial and ethnic prejudice. Meta-analyses provided support for the significant association between positive intergroup contact and lower racial prejudice (Pettigrew & Tropp, 2000, 2006).

Consistent with intergroup contact theory and our conceptualization that CBRI represents contemporary expressions of racism, empirical findings suggest more interracial friendships are related to lower CBRI (Hurtado, 2005; Spanierman, Neville, et al., 2008). In one of the first studies in this area, Hurtado (2005) found that increased positive interaction with racially and ethnically diverse peers was related to lower CBRI in students' second year in college. On the basis of the above-mentioned literature, we expected that students with a greater number of interracial friendships would have increased opportunities over time to learn more about race and racism than students' with few or no interracial friendships.

## Purpose of the Present Investigation

The purpose of this study was to build on the literature by examining potential changes in White college students' CBRI during their 4-year university experience. First, we investigated whether gender and early college diversity attitudes were related to differences in initial CBRI. Consistent with the empirical literature, we hypothesized that initial CBRI could be explained by (a) gender, with men reporting higher CBRI, and (b) diversity attitudes, with students with lower levels of appreciation for diversity and interest in social issues reporting higher CBRI. Second, we were particularly interested in understanding changes in CBRI over time. We explored whether CBRI did in fact change over time and whether (a) gender, (b) diversity attitudes, and (c) college diversity experiences correlated with changes in CBRI over a 4-year period. On the basis of previous research on changes in diversity beliefs over time (e.g., Whitt et al., 2001), we hypothesized that women would show a greater decline in CBRI over time than their male counterparts. We assert that students who enter college with greater levels of sensitivity to diversity issues are more likely to continue to explore diversity issues—including issues related to race—throughout their time in college; thus, we hypothesized that increased sensitivity to diversity issues at college entrance would be related to more rapid decline in CBRI compared with students who expressed less sensitivity and openness to diversity issues primarily because the students would be interested in and more motivated to learn about race(ism). Finally, because college provides students with increased opportunities to explore beliefs about race and racism through coursework, diversity-related activities, and interracial friendships, we expected that greater engagement in these types of college diversity experiences provides students with increased opportunities to challenge beliefs about race and racism. We thus hypothesized that comple-

ing greater numbers of diversity courses/activities and having more interracial friendships throughout college would be related to a greater decline in CBRI over 4 years.

## Method

### Participants

Participants were part of a larger five-wave, 4-year longitudinal study at a large predominantly White university in the midwest (Spanierman, Neville, et al., 2008; Todd et al., 2011). In fall 2004, which was the first semester of data collection, the university had almost 40,000 undergraduate, graduate, and professional students (University Department of Management Information [DMI], 2004). The racial composition of the university was 6% African American/Black, 11.4% Asian/Pacific Islander, 5.6% Hispanic/Latino/o, <.2% Native American/American Indian, 63% White, 12% international students from various countries, and 1.8% did not report their ethnic background. There were approximately 53% men and 47% women students at the university.

A total of 857 White undergraduate students participated in this study and completed an online survey during at least one of the five time points (Time 1 = college entrance,  $n = 543$ ; Time 2 = end of first year,  $n = 445$ ; Time 3 = end of second year,  $n = 197$ ; Time 4 = end of third year,  $n = 286$ ; Time 5 = end of fourth year,  $n = 254$ ). Among the total sample, approximately 49% were women ( $n = 423$ ), 45% were men ( $n = 387$ ), and 5.5% did not report their gender ( $n = 47$ ). Participants ranged in age from 18 to 24 years during the entire course of the study. See Table 1 for descriptive information on the study measures.

### Measures

**CBRI.** The Color-Blind Racial Attitudes Scale-Short Form (CoBRAS-SF; Neville, Low, Liao, Walters, & Landrum-Brown, 2007) is a 14-item scale that assesses the extent to which individ-

uals deny, distort, and/or minimize the existence of racism and racial issues. Items reflect an unawareness of racial privilege (e.g., "Everyone who works hard, no matter what race they are, has an equal chance to become rich"), institutional discrimination (e.g., "Social policies, such as affirmative action, discriminate unfairly against White people"), and racial issues (e.g., "Talking about racial issues causes unnecessary tension"). Participants respond to items on a 6-point Likert-type scale ranging from 1 (*strongly disagree*) to 6 (*strongly agree*). We used the average total scale score of the CoBRAS-SF (i.e., total score divided by the number of items). Higher scores reflect greater levels of CBRI. Previous studies using the longer version have reported that higher CoBRAS scores are related to higher modern racist attitudes, gender intolerance, and a belief in a just world (Neville et al., 2000). In addition, previous studies have reported total score internal consistency coefficients (Cronbach's alpha) ranging from .81 (Awad et al., 2005) to .91 (Neville et al., 2000). Internal consistency estimates with the short version have ranged from  $\alpha = .76$  with a racially diverse sample (Spanierman, Neville, et al., 2008) to  $\alpha = .89$  with an all-White sample (Spanierman, Poteat, et al., 2008). Higher scores on the CoBRAS-SF have also been related to lower democratic attitudes (Spanierman, Neville, et al., 2008), lower support for affirmative action (Oh et al., 2010), and lower social justice attitudes (Lewis et al., 2012). The internal consistency coefficients across the five time points for this study ranged from  $\alpha = .76$  (Time 1) to  $\alpha = .85$  (Time 2).

**Sociodemographic information.** Participants completed a demographic questionnaire at Time 1 that included items about participant age, gender, ethnic background, country of birth, and high school multicultural courses completed.

**Diversity attitudes.** Two variables were used to assess diversity attitudes. Assessed at Time 1 and Time 2, the Miville-Guzman Universality-Diversity Orientation Scale-Short (MGUDS-S; Fuertes, Miville, Mohr, Sedlacek, & Gretchen, 2000) is a 15-item scale used to assess students' appreciation of culturally similar and

Table 1  
*Descriptive Statistics*

Scale	Beginning of first year		End of first year		End of second year		End of third year		End of fourth year		Average
	M	SD	M	SD	M	SD	M	SD	M	SD	
CoBRAS	3.49	0.64	3.47	0.71	3.36	0.77	3.25	0.86	3.21	0.78	
UDO	4.46	0.71	4.39	0.70	—	—	—	—	—	—	
Social Justice	—	—	2.75	0.42	—	—	—	—	—	—	
Asian friends	2.38	0.88	2.42	0.76	2.52	0.80	—	—	2.25	0.77	2.38
Black friends	2.09	0.82	2.20	0.74	2.18	0.75	—	—	1.97	0.72	2.13
Latino friends	2.07	0.86	2.12	0.76	2.16	0.79	—	—	2.00	0.74	2.09
Native friends	1.33	0.66	1.32	0.58	1.35	0.60	—	—	1.21	0.49	1.32
White friends	4.35	0.60	4.18	0.61	4.25	0.65	—	—	4.26	0.64	4.28
Diversity Courses	—	—	0.56	1.06	0.51	0.59	0.83	0.75	0.55	0.50	0.61
Diversity Activities	—	—	1.46	2.56	2.28	2.98	0.66	1.40	3.39	4.71	1.71
Sample size (RR)	$n = 544$ (45%)		$n = 445$ (37%)		$n = 197$ (16%)		$n = 286$ (24%)		$n = 254$ (21%)		

Note. CoBRAS = Color-Blind Racial Attitudes Scale; scores range from 1 to 6. UDO = universal diverse orientation; scores range from 1 to 6; Social Justice scores range from 1 to 4. Asian, Black, Latino, Native American, White close friends scores range from 1 (*none or almost none*) to 5 (*all or almost all*). Diversity courses actual response range was from 0 to 12. Diversity activities actual range was from 0 to 22. RR = response rate. Dashes indicate no data at that time point.

different groups (e.g., "Knowing about the different experiences of other people helps me understand my own problems better") and comfort with cultural differences (e.g., "I often feel a sense of kinship with persons from different ethnic groups"). Participants responded to items on a 6-point Likert-type response format ranging from 1 (*strongly disagree*) to 6 (*strongly agree*). Higher scores reflect a greater openness to and appreciation of cultural diversity. In an initial validity study, [Miville et al. \(1999\)](#) found that the MGUDS was positively associated with White racial identity attitudes among a sample of White college students. The internal consistency of the MGUDS-S has ranged from  $\alpha = .73$  ([Thompson, Brossart, Carlozzi, & Miville, 2002](#)) to  $\alpha = .83$  ([Singley & Sedlacek, 2004](#)). We averaged the scores for participants across Time 1 and Time 2 and included this as the variable in our model. We used this approach because the MGUDS was not assessed at every time point and thus could not be included as a time-variant factor at Level 1. Also, using a composite with Time 2 scores allowed the inclusion of students who participated at Time 2 but not at Time 1. For the present study, the internal consistency coefficient was  $\alpha = .86$  (Time 1 and Time 2), and MGUDS scores at Times 1 and 2 were strongly correlated ( $r = .71$ ).

Assessed only at Time 2, the Preference for Thinking and Interacting Scale ([Hurtado, 2003](#)) measured participants' interest in social justice issues. This 10-item scale is rated on a 4-point Likert-type response format ranging from 1 (*strongly disagree*) to 4 (*strongly agree*). In previous studies ([Hurtado, 2003, 2005](#)), this measure was divided into two subscales: Interest in Social Issues (e.g., "I often think about the amount of power people in different segments of society have") and Interest in Poverty Issues (e.g., "I enjoy talking with other people about the reasons and possible solutions to poverty"). Previous studies have reported internal consistency coefficients ranging from .60 (Interest in Poverty Issues) to .68 (Interest in Social Issues). For the purposes of this study, the total scale score was used, with higher scores indicating greater interest in social issues. The internal consistency coefficient in the present study was  $\alpha = .78$ .

**Diversity experiences.** We assessed college diversity experiences with three distinct measures: (a) diversity-related courses, (b) diversity-related activities, and (c) interracial friendships. These indicators were included at Time 2 to Time 5 assessments.

**Diversity-related courses.** At each wave, participants were asked to indicate the number of diversity-related courses they had completed while at the university in response to four types of courses (i.e., ethnic studies, gender and women's studies, intergroup dialogues, and general diversity) on a 4-point scale (0 = *none*, 1 = *one*, 2 = *two*, 3 = *three or more*). On the basis of participants' last completed wave of data, we computed a total score from the items and then averaged this based on the number of years they had been in college in order to control for some participants having completed later waves than others. Higher scores indicate having completed a greater number of diversity-related courses.

**Diversity-related activities.** Participants also were asked to indicate the number of diversity-related activities (e.g., Black History Month events and Asian American Heritage Month) they were aware of and had participated in during the past year from a list of 11 diversity-related activities on a 4-point scale (0 = *not aware of this*, 1 = *no, have not participated in this*, 2 = *participated in this a little* [once or twice], 3 = *participated in this quite*

*a bit* [three or more times]). We recoded the responses such that the response options "not aware of this" and "no, have not participated in this" were combined, resulting in each item being scaled from 0 to 2 (0 = *not aware/did not participate*, 1 = *participated in this a little*, 2 = *participated in this quite a bit*). We created an overall average score for diversity-related activities from participants' total scores for the four time points (Time 2–Time 5), with higher scores indicating a greater number of diversity-related activities that participants attended over the four time points.

**Interracial friendships.** Participants responded to a five-item scale that indicated the racial background of their close friends. The question specifically asked participants to identify their current close friends who were African American/Black, Asian American, Latina/o, Native American, and White using a 5-point Likert-type scale ranging from 1 (*none or almost none*) to 5 (*all or almost all*). For the purpose of this study, we examined the responses for the reported amount of Black, Asian American, Latina/o, and Native American friends (i.e., almost none to almost all) separately. We calculated a score that represented the amount of interracial friends reported by the participants, with higher scores indicating a higher amount of close interracial friends. We calculated separate scores for each of the five racial groups as opposed to a total interracial friendship score; this enabled us to explore potential differences in the composition of the interracial friendship (e.g., amount of Black friends, amount of Latino/a friends, etc.).

## Procedure

Participants in this study were recruited as part of a larger project, which examined the development and consequences of diversity attitudes among a racially diverse sample of university undergraduates. Data were collected at five time points: at the beginning of students' first year in college (Time 1), at the end of their first year (Time 2), at the end of their second year (Time 3), at the end of their third year (Time 4), and at the end of their fourth year (Time 5). Initially, the researchers obtained a list of a random sample of 1,200 White first-year students from the University DMI as potential participants. For each time point, potential participants were sent individualized e-mail invitations requesting their participation in the web-based survey. As an incentive, participants were offered the chance to enter their name in a drawing to win one of several cash prizes. The response rate for the Time 1 sample was 45% ( $n = 544$ ). For Time 2 through Time 5, participants were recruited from the original list of 1,200 participants. Therefore, participants did not have to complete the first time point to be recruited for subsequent time points. The response rates for Time 2 through Time 5 were as follows: 37% ( $n = 445$ ), 16% ( $n = 197$ ), 24% ( $n = 286$ ), and 21% ( $n = 254$ ), respectively. All procedures remained the same as Time 1.

## Missing Data

We used multilevel modeling (MLM) to test predictors of change in students' CoBRAS scores. One advantage of MLM over other methods is that it accounts for and allows missing data across participants ([Singer & Willet, 2003; Snijders & Bosker, 1999; Tabachnick & Fidell, 2007](#)). Data from all participants, even those

who participated at only one time point, contribute to the estimation of fixed effects (e.g., the extent to which diversity attitudes predict CoBRAS scores); however, participants with more missing data due to less frequent participation across the time points contribute less information to the estimate of random effects variance (i.e., estimation of the variability in how CoBRAS scores change over time).

We tested for patterns of missing data using SAS PROC MIXED with maximum likelihood estimation and empirical standard errors. In general, if data are not missing at random, this may lead to minor biased estimates (Collins, Schafer, & Kam, 2001; Schafer & Graham, 2002). The amount of missing data in CoBRAS scores was fairly comparable for men and women, although slightly lower among women with a small effect size,  $F(1, 796) = 11.27, p < .001, \eta^2_p = .01$ . The amount of missing data also was unrelated to levels of universal diverse orientation (UDO), interest in social justice issues, number of diversity courses or activities reported during college, or average number of racial or ethnic minority friends ( $p > .05$ ).

To explore whether the results were influenced by missing data, we created 20 multiply-imputed data sets in which missing values were replaced with plausible simulated values based on the actual data. We used the PROC MI procedures to create these data sets and to test the same models in the same sequence as in the standard approach (i.e., using the PROC MIXED procedure). In brief, this required performing the analyses on all the imputed data sets, after which the results were synthesized to calculate the overall effects using the PROC MIANALYSE procedure. We documented the same pattern of effects for each of the models from both methods.

## Results

### MLM Analytic Approach

We used MLM to best capture these data, which are nested at different levels; longitudinal data involve observations of the same individuals over time. In other words, multiple observations are “nested within” individuals. Level 1 relates to measurement occasions (i.e., different time points), and factors at this level include the indicator of time as well as time-variant factors. A Level 1 model example is:

$$\text{Level 1: } \text{CoBRAS}_{it} = \pi_{0i} + \pi_{1i}(\text{Time})_{it} + e_{it}.$$

The  $t$  subscript represents the measurement occasion (e.g., Year 1 of college), whereas the  $i$  subscript represents the specific participant. We centered Time such that the intercept (i.e., Time = 0) represented students’ CoBRAS scores at the first wave. This allowed for a conceptually interpretable intercept in our models: the  $\pi_{0i}$  coefficient represents students’ CoBRAS scores at college entrance. Each subsequent wave was scaled such that it represented the number of years since this initial wave of data collection. Thus, the  $\pi_{1i}$  slope coefficient represents student  $i$ ’s change in CoBRAS scores as they progress each year through college. In this particular model, the  $e_{it}$  residual represents the variability in student  $i$ ’s CoBRAS scores not accounted for by Time.

Level 2 relates to the individual and includes individual characteristics and factors treated as time invariant (e.g., the gender of an individual). Level 2 of the model in the previous example is:

$$\text{Level 1: } \text{CoBRAS}_{it} = \pi_{0i} + \pi_{1i}(\text{Time})_{it} + e_{it}$$

$$\text{Level 2: } \pi_{0i} = \beta_{00} + r_{0i}$$

$$\pi_{1i} = \beta_{10} + r_{1i}.$$

The  $\beta_{00}$  coefficient represents the overall average CoBRAS score across students at college entrance (i.e., an individual’s CoBRAS score at college entrance,  $\pi_{0i}$ , is expected to be the population average,  $\beta_{00}$ ), whereas the  $\beta_{10}$  coefficient represents the overall average rate of change in CoBRAS as students progress through college. The  $r_{0i}$  residual represents the variability in student  $i$ ’s initial CoBRAS scores at college entrance from the population average, whereas the  $r_{1i}$  residual represents the variability in student  $i$ ’s rate of change in CoBRAS scores from the population average as they progress through college. If the variability in the intercept or slope is significant, then factors can be added to test whether they account for this variability (e.g., gender could be included as a potential factor that accounts for variability in initial differences in CoBRAS scores or in the rate of change in CoBRAS scores over time). The ability to test for and explain such heterogeneity of variance is an advantage of MLM over other methods such as repeated measures analysis of variance or ordinary least squares regression (Snijders & Bosker, 1999; Tabachnick & Fidell, 2007).

### Preliminary Analyses and Foundational Model of Change

We tested our models on the basis of the procedures outlined by Singer and Willet (2003). Estimates of all fixed and random effects for each model are in Tables 2 through 4, as are goodness-of-fit indices. We tested the fixed effects using empirical standard errors because model-based standard error estimates may be incorrect if the covariance structure is miss-specified (Verbeke & Molen-

Table 2  
*Gender Predicting Change in CoBRAS Over Time*

Variable	$\beta$	SE	95% CI
Fixed effects			
Intercept	3.41***	0.03	[3.35, 3.48]
Time	-0.09***	0.01	[-0.11, -0.06]
Gender	0.17**	0.05	[0.08, 0.27]
Time × Gender	0.04*	0.02	[0.003, 0.09]
Model fit indices			
-2LL			2845.2
AIC			2861.2
BIC			2898.8
Analogue $R^2$			.01
Random-effects variance components			
Level 1 residual			0.12***
Intercept			0.31***
Time			0.02***

Note. Gender = dichotomized gender (0 = female; 1 = male). Time is scaled such that the intercept represents CoBRAS at college entrance, and the slope represents change in CoBRAS each year. CoBRAS = Color-Blind Racial Attitudes Scale; CI = confidence interval; -2LL =  $-2 \log \text{likelihood}$ ; AIC = Akaike’s information criterion; BIC = Bayesian information criterion.  
\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

berghs, 2000). We used several indices of the goodness of fit for our models: the  $-2\log\text{likelihood}$ , Akaike's information criterion (AIC), and Bayesian information criterion (BIC). Lower values on these indices indicate better model fit to the data. Values on these indices are best used for comparing different models to identify which provides a better fit relative to the other, as there are no standards for "good" model fit values with these indices. To supplement these indices, we used the HLMRSQ SAS macro (Recchia, 2010) to compute analogue  $R^2$  statistics (Snijders & Bosker, 1999). The traditional/standard  $R^2$ , a familiar index in linear regression analyses, cannot be directly applied to multilevel data because the variance in scores exists across multiple levels of the nested data. However, analogue  $R^2$  computations have been proposed, which the application of this SAS macro syntax provides.

First, we tested the unconditional means model to partition the variance in CoBRAS scores to within individuals (Level 1) and between individuals (Level 2). No independent variables are included in this model. This model allowed us to calculate the intraclass correlation coefficient (ICC), which represents the proportion of total variance in CoBRAS scores between students. The ICC was .69 (i.e., 69% of the total variance in CoBRAS scores was between students). Thus, students not only differed significantly from one another on their average CoBRAS scores but also demonstrated notable variability in their own reported scores across assessments.

### Changes in CoBRAS Scores Over Time

We tested unconditional growth models to examine whether and how students' CoBRAS scores changed throughout college. We examined linear change as well as quadratic/accelerated change over time. We tested for this more complex pattern of change in the quadratic model because there could be potential periods during which CoBRAS scores may be more likely to change than others. The simpler model with only a linear effect best fit the data. The more complex quadratic model resulted in a matrix that was not positive-definite, suggesting that the quadratic model was too complex for the actual data. Thus, we used the linear growth model as the foundation on which we built and tested subsequent MLMs.

In our unconditional growth model, we also tested whether students differed in their initial CoBRAS at college entrance (i.e., to test for variability in the  $\pi_{0i}$  intercept) and whether students differed in how their CoBRAS scores changed as they progressed through college (i.e., to test for variability in the  $\pi_{1i}$  Time slope). We identified differences in students' CoBRAS scores at college entrance ( $Z = 14.17, p < .001$ ). Also, students' CoBRAS scores changed over time ( $\beta_{10} = -0.07, p < .001, 95\% \text{ CI } [-0.09, -0.05]$ ). The negative coefficient indicated students' CoBRAS scores decreased by .07 points each year as they progressed through college. Further, we identified variability in how CoBRAS scores changed over time ( $Z = 5.38, p < .001$ ). In our three subsequent models (i.e., gender model, diversity attitudes model, and college diversity experiences model), we tested factors that could account for variability in CoBRAS scores at college entrance and that could account for variability in their change over time.

### Does Gender Predict Change in CoBRAS Scores Over Time?

We built on the unconditional linear growth model to test whether gender was associated with differences between students in their CoBRAS scores at college entrance and changes in CoBRAS scores as they progressed through college (see Table 2). Gender (female = 0; male = 1) was included at Level 2. The model is:

$$\text{Level 1: } \text{CoBRAS}_{it} = \pi_{0i} + \pi_{1i}(\text{Time})_{it} + e_{it}$$

$$\text{Level 2: } \pi_{0i} = \beta_{00} + \beta_{01}(\text{Gender})_i + r_{0i}$$

$$\pi_{1i} = \beta_{10} + \beta_{11}(\text{Gender})_i + r_{1i}.$$

Gender ( $\beta_{01} = 0.17, p < .01, 95\% \text{ CI } [0.08, 0.27]$ ) was associated with differences in CoBRAS scores at college entrance: Men reported higher CoBRAS scores than women. Also, gender predicted variability in how CoBRAS scores changed as students progressed through college ( $\beta_{11} = 0.04, p < .05, 95\% \text{ CI } [0.003, 0.09]$ ). CoBRAS scores decreased at a slightly greater rate for women than men. However, this accounted for only a marginal proportion of variance, in that the analogue  $R^2$  for Level 2 was .01 (i.e., it accounted for 1% of the variance between individuals in intercepts and slopes) (see Figure 1).

### Do Diversity Attitudes Predict Changes in CoBRAS Scores Over Time?

In the diversity attitudes model, we tested whether UDO and interest in social justice issues predicted differences between students in their CoBRAS scores at college entrance and changes in CoBRAS scores over time (see Table 3). The model is:

$$\text{Level 1: } \text{CoBRAS}_{it} = \pi_{0i} + \pi_{1i}(\text{Time})_{it} + e_{it}$$

$$\text{Level 2: } \pi_{0i} = \beta_{00} + \beta_{01}(\text{UDO})_i$$

$$+ \beta_{02}(\text{Interest in Social Justice Issues})_i + r_{0i}$$

$$\pi_{1i} = \beta_{10} + \beta_{11}(\text{UDO})_i$$

$$+ \beta_{12}(\text{Interest in Social Justice Issues})_i + r_{1i}.$$

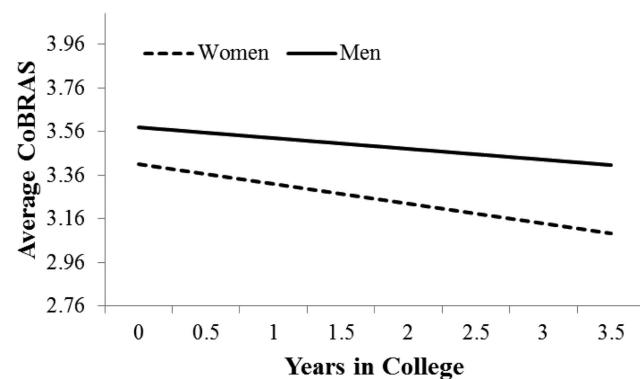


Figure 1. Change in CoBRAS over time differed for women and men. CoBRAS = Color-Blind Racial Attitudes Scale.

Table 3  
*Diversity Attitudes Predicting Change in CoBRAS Over Time*

Variable	$\beta$	SE	95% CI
Fixed effects			
Intercept	5.64***	0.22	[5.22, 6.07]
Time	0.16	0.10	[-0.04, 0.35]
UDO	-0.22***	0.05	[-0.31, -0.13]
Social justice attitudes	-0.43***	0.08	[-0.58, -0.28]
Time $\times$ UDO	-0.01	0.02	[-0.05, 0.03]
Time $\times$ Social Justice Attitudes	-0.06	0.03	[-0.13, 0.01]
Model fit indices			
-2LL			1882.5
AIC			1902.5
BIC			1944.3
Analogue $R^2$			.20
Random-effects variance components			
Level 1 residual			0.12***
Intercept			0.25***
Time			0.02***

Note. CoBRAS = Color-Blind Racial Attitudes Scale; CI = confidence interval; UDO = universal diverse orientation; -2LL =  $-2 \log$  likelihood; AIC = Akaike's information criterion; BIC = Bayesian information criterion.

\*\*\*  $p < .001$ .

UDO ( $\beta_{01} = -0.22$ ,  $p < .001$ , 95% CI [-0.31, -0.13]) and interest in social justice issues ( $\beta_{02} = -0.43$ ,  $p < .001$ , 95% CI [-0.58, -0.28]) were associated with differences in CoBRAS scores at college entrance. Students who reported higher UDO and higher interest in social justice issues than others reported lower CoBRAS scores at entrance. Neither variable predicted differences in how CoBRAS scores changed over time. Students reported decreases in their CoBRAS scores at similar rates regardless of their UDO or interest in social justice issues. The analogue  $R^2$  for Level 2 was .20 (i.e., it accounted for 20% of the variance between individuals).

### Do College Diversity Experiences Predict Changes in CoBRAS Scores Over Time?

In the college diversity experiences model, we tested whether diversity courses completed, level of participation in diversity activities, and the number of students' racial minority friends were associated with changes in CoBRAS scores (see Table 4). At Level 2, we included these variables to assess their covariance with CoBRAS scores at college entrance and with how CoBRAS scores changed over time. The model is:

$$\text{Level 1: } \text{CoBRAS}_{it} = \pi_{0i} + \pi_{1i}(\text{Time})_{it} + e_{it}$$

$$\text{Level 2: } \pi_{0i} = \beta_{00} + \beta_{01}(\text{Courses})_i + \beta_{02}(\text{Activities})_i + \beta_{03} - \beta_{06}(\text{Racial minority friends})_i + r_{0i}$$

$$\begin{aligned} \pi_{1i} = & \beta_{10} + \beta_{11}(\text{Courses})_i + \beta_{12}(\text{Activities})_i + \beta_{13} \\ & - \beta_{16}(\text{Racial minority friends})_i + r_{1i}. \end{aligned}$$

The average number of diversity courses and average total activities were associated with different changes in CoBRAS scores

over time (see Figures 2 and 3). CoBRAS scores decreased each year at a greater rate among students who tended to take more diversity courses and participate in more diversity activities than others. In terms of interracial friendships, the overall number of students' friends who were Black and friends who were Latino predicted different changes in CoBRAS scores. CoBRAS scores decreased each year at a greater rate among students who tended to report a larger number of Black friends (see Figure 4). In contrast, CoBRAS scores decreased each year at a lesser rate among students who tended to report a larger number of Latino friends (see Figure 5). When calculating the estimated CoBRAS scores from the results of this model and comparing the estimated scores over the 4-year period, at best this indicated a reduction of half of a point in CoBRAS.

### Discussion

As the first multiyear longitudinal study exploring changes in CBRI over time, findings extend previous research and provide helpful information about pathways in reducing CBRI and thus increasing greater levels of awareness about race and racism among White college students. Results from this study provide further documentation of the link between CBRI and diversity-related attitudes and practices. Similar to previous studies and

Table 4  
*Diversity Experiences Predicting Change in CoBRAS Over Time*

Variable	$\beta$	SE	95% CI
Fixed effects			
Intercept	3.69***	0.12	[3.46, 3.92]
Time	-0.003	0.05	[-0.10, 0.10]
Courses	-0.09	0.07	[-0.22, 0.04]
Activities	-0.02	0.01	[-0.05, 0.00]
Black friends	0.00	0.05	[-0.09, 0.09]
Asian friends	-0.14***	0.04	[-0.23, -0.06]
Latino friends	0.07	0.04	[-0.02, 0.16]
Native American friends	0.07	0.06	[-0.04, 0.18]
Time $\times$ Courses	-0.05*	0.02	[-0.08, -0.01]
Time $\times$ Activities	-0.01*	0.004	[-0.02, -0.002]
Time $\times$ Black Friends	-0.06**	0.02	[-0.10, -0.02]
Time $\times$ Asian Friends	-0.01	0.02	[-0.04, 0.02]
Time $\times$ Latino Friends	0.04*	0.02	[0.01, 0.08]
Time $\times$ Native American Friends	0.03	0.02	[-0.02, 0.08]
Model fit indices			
-2LL			2310.2
AIC			2346.2
BIC			2424.6
Analogue $R^2$			.11
Random-effects variance components			

Level 1 residual	0.12***
Intercept	0.30***
Time	0.01***

Note. Courses, activities, and specified racial group friends represent the overall average number of courses taken, average total activities engaged in, and amount of specified racial group friends across time points. CoBRAS = Color-Blind Racial Attitudes Scale; CI = confidence interval; -2LL =  $-2 \log$  likelihood; AIC = Akaike's information criterion; BIC = Bayesian information criterion.

\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

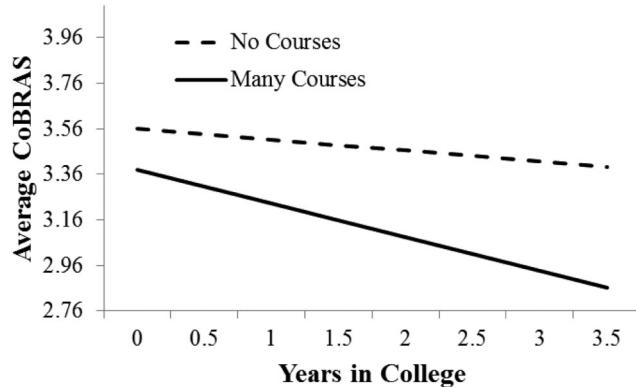


Figure 2. Change in CoBRAS over time was partially dependent on the extent to which students took diversity courses during their time at college. The trajectory for students who took "many courses" represents students whose tendency to take diversity courses was greater than one standard deviation above the mean (slightly over two courses per year). CoBRAS = Color-Blind Racial Attitudes Scale.

consistent with our hypotheses, we found that gender and diversity attitudes were related to initial levels of CBRI, such that men and students who were less open to diversity issues in the beginning of college were more likely to report greater levels of CBRI or the denial and minimization of race(ism). Additionally, women as compared with men showed a greater decline in CBRI over 4 years. This latter finding provides support for our assertion that women enter college with greater levels of racial awareness and that they continue to explore and change their racial beliefs at a slightly greater rate than men. However, the argument that this pattern also would be present for students who entered college with higher levels of sensitivity to diversity issues was not supported in our study. Thus, students with increased sensitivity to diversity issues did not show a greater decline in CBRI over 4 years compared with students with less sensitivity. It appears that other processes are important in helping to explain changes in students' racial beliefs.

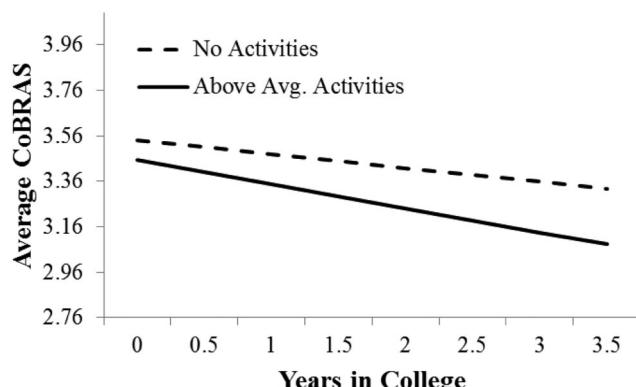


Figure 3. Change in CoBRAS over time was partially dependent on the number of activities students had taken during their college experience. The trajectory for students who had "above avg. activities" represents students whose average (avg.) activity level was greater than one standard deviation above the mean. CoBRAS = Color-Blind Racial Attitudes Scale.

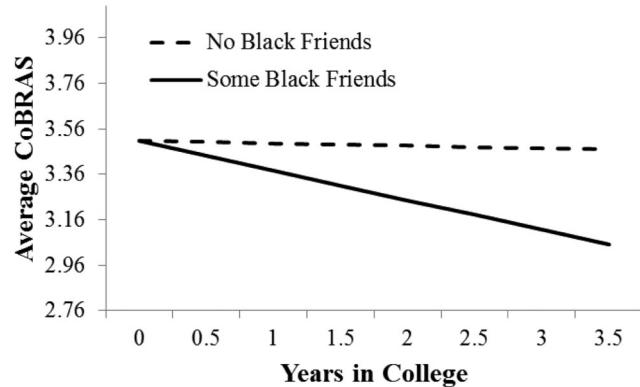


Figure 4. Change in CoBRAS over time was partially dependent on the typical proportion of students' close friends who were Black. The trajectory for students who had "some Black friends" represents students whose typical proportion of Black friends was greater than one standard deviation above the mean (generally, they reported having "some" Black friends based on response options of "none," "very few," "some," "the majority," and "all or almost all"). CoBRAS = Color-Blind Racial Attitudes Scale.

The most meaningful findings from this study support the association between the college context and White students' racial beliefs over time. Specifically, college diversity experiences such as diversity courses and activities as well as close friendships with Black peers were associated with changes in CBRI over time. Students who took a greater number of diversity courses reported a significantly greater rate of decrease in their CBRI over the 4 years than students who took fewer courses. The important role of multiple diversity experiences over time is further supported by findings from our Level 2 analysis of campus diversity activities (e.g., attending an Asian American Heritage Month event). On the basis of our findings, increased exposure to diversity-related cultural and intellectual activities over 4 years was significantly related to how students in this sample thought about race(ism);

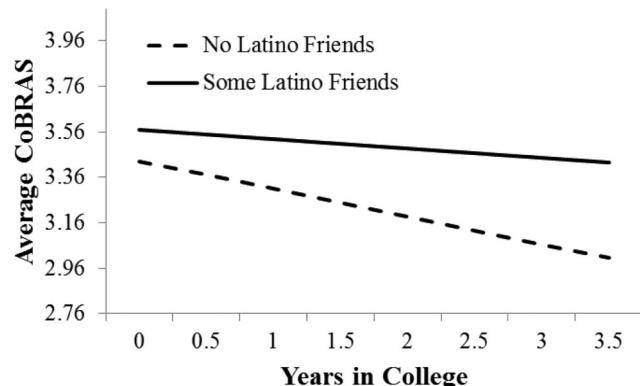


Figure 5. Change in CoBRAS over time was partially dependent on the typical proportion of students' close friends who were Latino. The trajectory for students who had "some Latino friends" represents students whose typical proportion of Latino friends was greater than one standard deviation above the mean (generally, they reported having "some" Latino friends based on response options of "none," "very few," "some," "the majority," and "all or almost all"). CoBRAS = Color-Blind Racial Attitudes Scale.

thus, more courses and also more activities were related to a steeper decline in CBRI overtime. These findings support our hypothesis that taking advantage of more diversity courses/activities while in college provides students opportunities for continued exploration of their racial beliefs.

Our findings are consistent with the growing diversity training literature. In their narrative review of 178 studies on diversity training opportunities on college campuses and in various workplaces, *Bezrukova, Jehn, and Spell (2012)* concluded that integrated training programs were viewed more positively than stand-alone courses. Integrated training speaks to the ways in which exposure to diversity training is part of the institutional culture. Having the opportunity to take multiple diversity-related courses and/or attend extracurricular lectures/activities is consistent with an integrated training model—as opposed to a stand-alone training model in which only one course or experience is endorsed to address the needs of educating people about diversity. More directly related to the present findings, our results extend *Cole and her colleagues' (2011)* and *Kernahan and Davis' (2009)* research indicating that students completing one diversity course had immediate and longer term (1-year) effects on CoBRAS scores compared with students who completed a nondiversity class. The findings in this study, however, further suggests that taking a greater number of diversity-related courses throughout college is related to a steady decrease in CoBRAS scores compared with students who did not complete any diversity-related courses. Thus, change is not static; students who completed more overall diversity courses also showed progressive change over time.

Our findings lend partial support to the intergroup contact hypothesis. Consistent with intergroup contact theory, more interracial close friendships with Black peers were associated with longitudinal changes in CBRI. Specifically, students with a greater number of close Black friends showed a decrease in CBRI over time, whereas the level of CBRI remained somewhat stable among students with no close Black friends. These results extend *Hurtado's (2005)* work in which she found that increased positive interracial interactions with peers at college entrance were related to lower levels of CBRI in students' second year of college. Similar to our findings on diversity courses and activities, it seems that increased positive contact with Black peers helps students to challenge CBRI and thus increase their awareness of race(ism) in society.

Contrary to the intergroup contact hypothesis, we found that students with greater numbers of close Latino friends showed little change in CBRI over the 4 years, but those with no close Latino friends showed a greater decrease in CBRI over time. Additionally, the interaction between interracial friendships was not significant for close friendships with American Indian or Asian American peers. These findings may reflect the nature of race relations in the state in which the school is located; the Black–White race relations in the state is tense and seated in a history of racial violence as reflected in race riots and extreme racial polarization on social issues. Historically, there has been a small percent of other racial and ethnic minority groups in the state, and their contemporary histories do not reflect the same type of tension as do Black–White relations. Thus, having close friendships with Black friends may provide students opportunities to connect on a personal level and to be open to listening to their friends' perspectives on race(ism). In terms of the unexpected findings with Latino

peers, it may be that participants interacted with Latino peers from suburban environments and that issues of race were not discussed. More information is needed on the nature of the close interracial relationships and the type of conversations peers have with one another in these types of relationships.

## Limitations and Future Directions

Our findings have important implications for understanding changes in CBRI across the college experience, yet there are some noteworthy limitations. One limitation was the use of one large midwestern university, which affects the generalizability of the findings. It is possible that if more universities were sampled from various geographical locations, the findings may have yielded different results. University students from more diverse cities may have a different level of awareness of issues of race and racism based on their potential for greater precollege exposure to diversity. Future research could examine the effect of these geographical differences by sampling universities from various geographic regions. In this study, we used sex as a proxy for gender; future researchers may want to extend the research by exploring potential changes in understanding of CBRI as a function of gender-related constructs such as gender role socialization along with other social identity variables such as ethnic and racial identity attitudes, and socioeconomic status.

There were a few limitations with the present design. First, we were unable to determine causality despite our longitudinal survey design. Future research should consider using experimental designs, such as intervention studies, to explore factors within diversity courses that contribute to changes in CBRI over time. Second, given the dearth of research in the area, we were primarily interested in examining the overall change across the college experience. As a result, the design of the present study did not allow for an examination of more subtle changes within shorter time periods. Future research might examine more nuanced variability that occurs within the course of a year by spacing assessments more closely to one another. Such research could also incorporate qualitative research methods to examine the experiential components of college diversity experiences that impact the change process for White students' CBRI. Third, the main issue here was the way in which the diversity courses item was worded (i.e., asking how many courses were taken while in college rather than in the past year). The wording of the item did not allow for us to treat diversity courses as a time-variant factor because we did not specify that participants should consider only the number of courses they had taken in that given year. Future researchers should ask specifically how many courses students took in each semester or year of study and whether the courses were required or elective. And last, a related methodological concern was the relatively small sample size, which prevented us from testing a more comprehensive overall model in which all variables of interest and their interactions were taken into consideration. Future researchers should particularly investigate the potential interaction between diversity experiences coming into college and completion of diversity courses while in college on changes in students' views about race(ism).

Although our findings indicate that college diversity experiences were associated with greater changes in CBRI over time, it appears that this change was slow. When calculating the change in

CoBRAS scores based on initial estimated CoBRAS scores and final estimated scores (i.e., after 4 years in college) from the diversity experiences model, at best our findings indicate only a marginal reduction in CoBRAS over 4 years. This equated to slightly less than a one standard deviation reduction. At this point, we have little information about what this level of change means in practical terms (e.g., to what extent this results in observable behavioral changes). Future research should include larger samples so that more complex models may be tested (e.g., models testing if a combination of diversity experiences produce greater changes over small periods of time). Exploration is also needed about the impact of the varying degrees of changes in CBRI on students' behaviors. For example, does a half of a point lower CoBRAS score translate to changes in actual behavior, such as engaging in fewer racial microaggressions or increased participation in activities to address social justice issues?

## Conclusion and Implications

Psychology and educational researchers have identified challenging or disrupting CBRI as an important socioeducational outcome of the college experience (e.g., Cole et al., 2011; Hurtado, 2005; Lopez, 2004; Spanierman, Neville, et al., 2008). Adding to the growing literature on the effectiveness of a one-course intervention in reducing CBRI, we found that more is better in producing changes in White students' CBRI over time. The greater number of diversity courses students take and also the larger number of extracurricular diversity activities they attend, the more likely they will continue to challenge CBRI and thus gain greater awareness of race(ism) throughout their college years. Thus, although scholars have found a one-course diversity requirement will produce desired changes (e.g., Chang, 2002), our findings suggest psychologists, student affairs personnel, and academic units should encourage students to take diversity courses throughout their time in college; by doing so, students will continue to benefit from these learning opportunities. We know that interracial interactions—in this study, specifically close friendships between White and Black students—play a role in White students' awareness of race and racism over an extended period of time. At this point, however, we know very little about how college environments promote meaningful interracial interactions. Psychologists on college campuses can work with academic units and administrators to identify ways to promote positive interracial interactions in classes, residential halls, and extracurricular spaces.

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