

Can Higher Education Meet the Needs of an Increasingly Diverse and Global Society? Campus Diversity and Cross-Cultural Workforce Competencies

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In this article, Uma Jayakumar investigates the relationship between white individuals' exposure to racial diversity during college and their postcollege cross-cultural workforce competencies. Using survey data from the Cooperative Institutional Research Program, housed in the Higher Education Research Institute at the University of California at Los Angeles, the author uses structural equation modeling to show that for whites from both segregated and diverse precollege neighborhoods, their postcollege leadership skills and level of pluralistic orientation are either directly or indirectly related to the structural diversity and racial climate of their postsecondary institutions, as well as their level of cross-racial interaction during the college years. The author concludes that postsecondary institutions may provide lasting benefits to white students by promoting a positive racial climate for a racially diverse student body. These findings support the theory put forth by Gurin, Dey, Hurtado, and Gurin (2002) for explaining the benefits of racial diversity at the postsecondary level.

The United States' population increased by 2.8 million between 2004 and 2005, and people of color accounted for 81 percent of the growth (U.S. Census Bureau, 2006). At this rate, one in every two U.S. residents will be a designated racial/ethnic "minority" by 2050 (U.S. Department of Labor, 2001). Yet, as we become an increasingly diverse nation and global society, neighborhoods and schools are paradoxically returning to levels of racial segregation not seen since the 1960s (Kozol, 2005; Orfield & Lee, 2006). What this means for

higher education is that most incoming students have primarily been exposed to people of their same race prior to college entry. White students in particular tend to have minimal interaction with people of other racial backgrounds before college (Orfield & Kurlaender, 2001). Moreover, as the United States rapidly retreats from what progress had been made toward racially integrated educational environments following the civil rights movement, white students continue to be overrepresented at a number of the nation's most selective colleges and universities (National Center for Education Statistics, *Integrated Postsecondary Education*, 2007; Census Bureau, 2007). In light of these trends, supporters of integration are particularly alarmed by the mounting effort by skeptics of race-conscious policies to eliminate the two major practices that originally contributed most to the advancement of racial equity in education: desegregation efforts (once mandated by the U.S. Supreme Court) and affirmative action programs.

Within the past five years, the U.S. Supreme Court has heard four landmark cases opposing race-conscious admissions practices in education. Two of the cases, *Grutter v. Bollinger* and *Gratz v. Bollinger*, challenged affirmative action programs at the University of Michigan.¹ More recently, *Parents Involved in Community Schools v. Seattle School District No. 1* and *Meredith v. Jefferson County Board of Education* ended school assignment plans that considered race in distributing students within school districts. Furthermore, in the 2008 election, Nebraska became the fourth state in the nation to pass anti-affirmative action legislation. If the aftermath of a decade without race-conscious policies in California, the first state to ban affirmative action, is any indication of what to expect,² such legislation will lead to drastic statewide declines in the numbers of black and Latino students at top universities.

One central argument for continuing affirmative action rests on the notion that increasing representation of students of color on college and university campuses improves *all* students' preparation for citizenship and the workforce. Supreme Court Justice Sandra Day O'Connor, writing for the majority in the 2003 *Grutter v. Bollinger* ruling, explained, "Diversity promotes learning outcomes and better prepares students for an increasingly diverse workforce, for society, and for the legal profession. Major American businesses have made clear that the skills needed in today's increasingly global marketplace can only be developed through exposure to widely diverse people, cultures, ideas, and viewpoints" (*Grutter v. Bollinger*, 539 U.S. 306, 330 [2003]).

It is clear from Justice O'Connor's statement that corporate and national interests played an integral role in the defense of affirmative action in the eyes of the Court, and rightly so. Even before the anti-affirmative action climate intensified across the nation, the business community had begun to question higher education's capacity to prepare future generations for success in a diverse workforce and society. In Bikson and Law's (1994) extensive research on sixteen corporations and sixteen academic institutions across the nation, corporate respondents emphasized the importance of *cross-cultural workforce*

competencies, asserting that colleges are failing to develop students who can “work effectively with individuals whose norms, preferences, beliefs, styles, and values are quite different from their own” (p. 14).

The business community’s criticisms are also reflected in numerous reports that convey one common message: College graduates lack “crossfunctional skills,” which include leadership, teamwork, problem-solving, analytical thinking, and global consciousness, and such skills can only be acquired through greater access to diverse peers (Newman, Couturier, & Scurry, 2004). For this reason, Fortune 500 companies and other large corporations filed amicus briefs or supporting documents to the U.S. Supreme Court in favor of affirmative action programs during the *Grutter* and *Gratz* cases. Largely based on anecdotal evidence and experience, they argued that exposure to racial diversity in college has the long-term benefit of preparing students to understand multiple perspectives, to negotiate conflict, and to relate to different worldviews.

In keeping with the times, universities will need to produce cross-culturally competent citizens who can lead and compete in a diverse and global marketplace. As a final stopping point for young adults before they enter the workforce, higher education has an important role to play in ensuring that the next generation of workers is up to the growing challenges of an increasingly diverse global community. The question then becomes: Can racial diversity help colleges and universities accomplish this goal, particularly in the case of white students who are most likely to lack such exposure both before and during the college years? The purpose of this study is to shed light on this question by examining data from college graduates who have entered the workforce or professional schools, to understand if and how their undergraduate diversity experiences are related to their diversity experiences and cross-cultural competencies *after* college. While research and anecdotal evidence suggest that diversity is associated with cross-cultural workforce competencies, the lasting effects of campus diversity remain empirically underexamined.

Most of the existing research examines outcomes of diversity while students are still in college, or as they are graduating. Only two published studies (Gurin, 1999; Bowen & Bok, 1998) have examined the potential lasting benefits beyond college. Bowen and Bok’s (1998) groundbreaking work about the long-term consequences of considering race in higher education admissions is a longitudinal study of the 1976 and 1989 cohorts of students at selective colleges in which they used multivariate and logistic regression to examine the factors affecting black and white students’ performance in college, degree attainment, and postcollege participation in civic and community affairs. Bowen and Bok also report postcollege graduates’ retrospective beliefs about whether their interactions with diverse peers in college have contributed to their ability to work and socialize with people of different races, though their study does not empirically examine this relationship between interracial interactions in college and workforce-related outcomes. Gurin’s (1999) expert testimony to the U.S. Supreme Court addressed this gap. She concluded through descriptive

and multivariate regression analyses of students who were surveyed from 1985 to 1994 that college diversity experiences are positively associated with post-college outcomes related to living and working in a diverse society. This study expands on these seminal works by using more-advanced statistical methodology and more-recent longitudinal data to examine the cumulative impact of diversity experiences in childhood neighborhoods, secondary schools, and college on cross-cultural workforce competencies among white adults.

Literature

A review of the higher education literature suggests that racially and ethnically diverse student populations enable colleges to provide all of their students with skills and abilities that will presumably prepare them for future employment. Studies of college students have demonstrated a relationship between campus racial diversity and student growth, in both personal and academic spheres, during the college years (Antonio, 2001, 2004; Antonio et al., 2004; Astin, 1993a, 1993b; Chang, 1996; Chang, Astin, & Kim, 2004; Engberg, 2007; Gurin, 1999; Gurin et al., 2002; Hurtado, 2001; Hurtado, Engberg, & Ponjuan, 2003; Milem, 1994; Pascarella, Bohr, Nora, & Terenzini, 1996). Scholars have outlined three types of diversity, all of which are interdependent: structural, interactional, and classroom (Gurin, 1999; Gurin et al., 2002). The first of these, *structural diversity*, is simply the numerical representation of students of color within an institution (Gurin et al., 2002; Hurtado et al., 1999). The second, referred to in the literature as both *interactional diversity* (Gurin et al., 2002) and *cross-racial interaction* (Chang, 1996), is the extent and quality of one's engagement with people of different racial/ethnic backgrounds. And the third, *classroom diversity*, encompasses formal exposure to diverse peoples and their perspectives through curricular and cocurricular offerings, and is referred to in this study as *curricular diversity*.

Hurtado et. al (1998) conceptualize the institutional context for creating diverse learning environments, which supports the inclusion of a fourth construct: *campus racial climate*. This construct is defined by normative perceptions and attitudes and the ambiance of the environment (Hurtado et al., 2003; Peterson & Spencer, 1990). Together, these four constructs are thought to influence individual students' experiences around diversity, arguably setting the stage for their preparation to enter a diverse, global workforce. Since this study focuses on the potential influence of structural diversity, campus racial climate, and cross-racial interaction, I will explain these concepts in greater detail.

Structural Diversity

White students continue to be overrepresented at a large majority of the nation's most prestigious institutions (Chang, 1996; Gurin et al., 2002; Hur-

tado, Carter, & Sharp, 1995). While simple numerical representation does not guarantee any specific outcomes, the weight of evidence indicates that a diverse student body is related to more frequent cross-racial interaction (Antonio, 2001; Chang, 1996; Chang, 1999; Chang, Astin, & Kim, 2004; Engberg, 2007; Gurin, 1999; Gurin et al., 2002; Hurtado, Dey, & Treviño, 1994), the exhibition of greater learning outcomes and citizenship skills (Gurin et al., 2002), and the development of more diverse friendship groups within college (Antonio, 2001). Nonetheless, some critics question the assertion that structural diversity is necessary to achieve these and other outcomes generally associated with diversity (D'Souza, 1991; Wood & Sherman, 2001), contending, for instance, that the same benefits can also be acquired through alternate means (Wood & Sherman, 2001; Umbach & Kuh, 2006).

Notably, in *Grutter v. Bollinger*, Justice Clarence Thomas expressed his disagreement with the majority opinion that diversity positively impacts student developmental outcomes and workforce benefits, instead reducing the issue to "racial aesthetics." Thomas cited research by Wood and Sherman (2001), who insist that numerical diversity is not a necessary component for attaining the educational benefits associated with diversity on college campuses because the structural diversity variable in their study becomes insignificant when cross-racial interaction is included in the regression equation. However, a possibility that was not considered is that cross-racial interaction is a mediating variable dependent on the presence of structural diversity. Unfortunately, as with other diversity studies that have applied multiple regression analysis, the Wood and Sherman (2001) study does not provide insight into whether structural diversity has a significant indirect effect on developmental outcomes attributed to cross-racial interaction in college. In other work cited by critics, Umbach and Kuh (2006) found that students attending liberal arts institutions with little structural diversity reported greater improvements in understanding diversity than students at larger and more diverse colleges. These types of arguments claiming that diversity is inconsequential have been used to make a case against purposeful recruitment of students of color.

Another argument favored by affirmative action opponents is that increasing diversity on college campuses, rather than prompting greater levels of interracial interactions, leads to the fractioning off—or balkanization—of racial minorities into mini-segregated subgroups and to increased racial hostility (e.g., D'Souza, 1991). In fact, most of the diversity literature indicates that a racially diverse student body leads to more frequent cross-racial interaction for all students; but other research suggests that because of factors like a negative campus racial climate, this is not always the case (e.g., Chang, Astin, & Kim, 2004; Chang, Denson, Saenz, & Misa, 2006; Hurtado et al., 1998). These discrepancies in the literature regarding the impact of structural diversity result from both the empirical ambiguity and lack of research about what does or does not make diversity "work" (Chang et al., 2006).

Racial Climate

Although the factors that institutions must address to foster an inclusive racial climate are relatively clear (see Hurtado et al., 1998, 1999), creating an inclusive racial climate on campus is a less than straightforward undertaking that requires different strategies from campus to campus (Richardson & Skinner, 1990). Given the ambiguous and intangible nature of racial climate or race relations on campus, quantitative scholars have measured it by attempting to capture how students of color feel on campus in one of two ways: through an institution-level measure of aggregated student responses (e.g., Chang et al., 2006) or based on individual student perceptions (e.g., Hurtado, 1992; Hurtado, Engberg, & Ponjuan, 2003). Both strategies have unanimously yielded positive assessments of the value of a welcoming racial climate.

In examining an aggregated measure of cross-racial interaction, Chang et al. (2006) found that attending an institution with positive race relations was beneficial to students beyond the benefit of their own personal interactions across race. Even after controlling for individual-level cross-racial interaction, Chang et al.'s (2006) institutional measure of cross-racial interaction was positively associated with students' knowledge of and ability to accept different races/cultures as they graduated college. By the same token, a negative campus racial climate has been found to compromise the growth and development of all students. Hurtado, Engberg, and Ponjuan's (2003) examination of students before college entry and two years into college indicated that while the benefits of interacting with diverse peers persisted across formal contexts (e.g., classroom discussion, multicultural curriculum) and informal contexts (e.g., dining, partying), the benefits appeared to be undermined when institutional leaders allowed a hostile racial climate to go unchecked and/or failed to facilitate quality interactions across groups. Clearly, success in establishing a welcoming racial climate is manifested in (and can be measured by) the extent to which students feel comfortable interacting with people of different racial backgrounds. In this sense, racial climate may be the link that determines whether structural diversity leads to positive personal interactions across race and favorable gains in adulthood (Chang et al., 2006; Hurtado, 1992; Hurtado et al., 1998, 1999). In short, when students perceive a hostile climate, interaction with diverse peers is less likely to facilitate the development of pluralistic orientation or other, related developmental outcomes.

Cross-Racial Interaction

It is clear from the research that structural diversity is most powerful when an institution also promotes high levels of cross-racial interaction. Studies have shown that these interactions are related to students' growth in a variety of areas, including critical and active thinking (Gurin, 1999; Gurin et al., 2002; Pascarella et al., 1996); the ability to understand someone else's perspective (Hurtado, Engberg, & Ponjuan, 2003); pluralistic orientation (Engberg, 2007); leadership skills, as well as cultural awareness and understanding (Antonio, 2001; Astin,

1993a, 1993b; Chang, 1996; Milem, 1994); civic values or interest (Chang et al., 2004; Gurin et al., 2002); academic and social self-concept (Chang, 1999; Gurin et al., 2002); complex thinking (Antonio et al., 2004); and cognitive development (Astin, 1993a, 1993b; Gurin et al., 2002; Hurtado, 2001).

Engberg (2007), for example, found that across disciplinary contexts, positive cross-racial interaction is related to intergroup learning and a more pluralistic orientation among students. Other research offers similar findings (Engberg, Meader, & Hurtado, 2003; Hurtado et al., 2002), but Engberg adds to this work by highlighting the importance of thinking about one's own and others' social identities (e.g., intergroup learning) in the development of a pluralistic orientation. Likewise, Antonio's (2001) research suggests that interactions between students of different races are particularly valuable to students with "racially homogenous friendship circles" (p. 612) because these interactions present unique interpersonal challenges not confronted elsewhere.

Conceptual Framework: Theory of the Impact of Diversity

The college years comprise a unique set of circumstances that render racial/ethnic diversity a valuable source of student development. Borrowing from key thinkers across multiple disciplines, Gurin et al. (2002) developed a theoretical foundation for explaining the benefits of racial diversity on college campuses. Gurin et al. (2002) theorized that traditional-age college students are at a life stage where they possess the developmental maturity to gain a greater understanding of themselves and how they fit into the world around them (Erikson, 1946; Feldman & Newcomb, 1969; Pascarella & Terenzini, 1991, 2005). Late adolescence is a time when individuals move away from accepting the words of authority figures as the absolute truth, begin to think for themselves, and take ownership of their ideas (Erikson, 1946, 1956; Perry, 1970). As such, college students generally arrive on campus at a time in their lives when they are ideally situated to benefit from racial diversity in every form.

Developmental theorists have explained that people generally operate in a state of automatic thinking governed by previous learning, schemes, stereotypes, and scripts (e.g., Bargh, 1997; Langer, 1978). Discontinuity or dissonance breaks the cycle of automatic responses, or "mindlessness," promoting instead active thinking and developmental growth (Piaget, 1971). Given that most people grow up in segregated neighborhoods (Orfield & Kurlaender, 2001), Gurin et al. (2002) theorized that exposure to racial diversity is likely to facilitate this valuable state of disequilibrium and the developmental benefits that follow. Breaking from ingrained scripts and habits of mind causes great anxiety and discomfort, but it is this anxiety and discomfort that stimulates active thinking. And so, when students are forced to negotiate and process discrepancies between their current experiences in college and what they had been accustomed to in the home environment, a state of disequilibrium is induced and cognitive growth is accelerated (Piaget, 1971; Gurin, 1999; Gurin et al., 2002; Hurtado, Engberg, & Ponjuan, 2003).

The literature suggests that disequilibrium is more likely induced with high-frequency interactions with diverse peers of a casual nature (e.g., interactions with acquaintances in the dining hall or classroom) as opposed to within close friendship groups. Researchers have generally found casual interactions across race to be more beneficial to educational outcomes than intermingling with people of different races who are close friends (Antonio, 1998, 1999, 2001; Astin, 1993a; Milem, 1994). Moreover, Antonio (2001) concluded that cross-racial interaction is especially beneficial for individuals with racially homogeneous friendship groups. In keeping with Gurin et al. (2002), when such interactions occur within close friendship groups, they may not provide the interpersonal challenges that can lead to developmental growth (Antonio, 2001).

Exposure to racial diversity in college is particularly critical for individuals from segregated backgrounds because they are otherwise unlikely to gain such exposure and the associated interpersonal challenges within their neighborhoods as adults. According to Braddock's (1985) perpetuation hypothesis, people who reside in segregated neighborhoods as children tend to attend segregated secondary and postsecondary schools and to also live in segregated neighborhoods as adults. Likewise, he argues that those who grow up in diverse neighborhoods are likely to attend integrated secondary and postsecondary schools and to choose diverse environments as adults. Ultimately, postsecondary educational environments present students with a potentially unique opportunity for exposure to diverse peers that may influence their comfort level around people of different racial backgrounds, as well as their lifestyle choices postcollege. To the extent that lifestyle choices after college may facilitate the development of cross-cultural competencies, they should be considered in order to properly assess the potential benefits of diverse postsecondary educational environments.

In conclusion, because most students will leave campus to enter the workforce, the college years become an important opportunity to prepare them for the demands of a global society. In particular, it is essential that they develop *cross-cultural workforce competencies*. Students' attitudes and competencies have been measured prior to college, during college, and at the completion of college, but rarely beyond that point. In other words, theoretical assumptions have been made about the persistence of key traits, even when these assumptions have not been empirically demonstrated.

Research Objective and Methodology

Ironically, at a time when there seems to be a pressing need for greater diversity on college campuses—when adaptability to diverse and global contexts will be required of our graduates as they enter the workforce—race-conscious practices are under a heightened threat. Similarly, while evidence of the educational benefits of diversity in higher education settings continues to mount, so too do the questions about the role of racial diversity in producing the

proclaimed benefits, the context in which they are realized, and whether or not racial diversity is a necessary ingredient in achieving desired results. The objective of this study was to examine whether and how the structural diversity, interactional diversity, and campus racial climate within postsecondary institutions are related to two aspects of cross-cultural workforce competencies—pluralistic orientation and leadership skills—for whites in their postcollege years. To this end, Gurin et al.'s (2002) theory of the impact of diversity was employed and tested through the following research questions:

1. How, if at all, are structural diversity, campus racial climate, and cross-racial interaction in college related to whites' postcollege cross-cultural workforce competencies? Are these potential relationships moderated by the racial composition of one's precollege neighborhood?
2. How, if at all, is the potential relationship between cross-racial interaction in college and postcollege cross-cultural workforce competencies dependent on whether whites are engaged with people of different races in the postcollege years? Is this potential relationship moderated by the racial composition of one's precollege neighborhood?

Data Source and Sampling Procedures

The primary source of data for this study was a national longitudinal survey conducted as part of the Cooperative Institutional Research Program (CIRP), housed in the Higher Education Research Institute (HERI) at the University of California at Los Angeles (UCLA). The CIRP data used in this study includes information drawn from three survey instruments administered across a ten-year period. The first of these surveys was administered in the fall of 1994 to entering freshmen at baccalaureate-granting institutions. The same students were surveyed again in 1998 and then in 2004. Final response rates were close to 50 percent. Additional data on institutional characteristics were obtained from the U.S. Department of Education's Integrated Postsecondary Education Data System (IPEDS) from both the fall data file collected in 1997 (released in 2000) and the data file from fall 2000 and spring 2001 collections (released in 2003). Data were weighted to estimate the number of 1994 first-time full-time (FTFT) freshmen who completed a degree within six years. The weighting procedures also corrected for response bias favoring women and students attending private universities in the sample.

Based on several theoretical and methodological justifications, I limited my analysis to white students at predominantly, and traditionally, white institutions. First, research has indicated that white students are least likely to be exposed to people of different races by the time they enter the job market. Whites grow up in the most racially segregated neighborhoods and attend the most racially segregated secondary schools (Orfield & Kurlaender, 2001). They are also less likely to engage in cross-racial interaction during college, even after accounting for the higher probability that students of color have for encountering

someone of a different race (Chang et al., 2006). Second, given the common rhetoric—that affirmative action inflicts undue harm on whites—offered in support of statewide ballot initiatives to ban affirmative action practices, it is important to understand how the removal of such policies and the subsequent changes in structural diversity on campus might affect this same group of students. Third, court decisions advancing civil rights for people of color in the United States have most often occurred when such decisions also served the best interest of the dominant group (Bell, 2004). Finally, white students made up 85 percent of the data set and therefore yielded more statistical power than any other single group in assessing the viability of the cross-cultural workforce competencies model. A large sample is particularly beneficial for minimizing problems due to the multilevel nature of the data. The final data set included a sample of 7,689 whites from 226 institutions.³

In accordance with the theoretical framework, which hypothesizes that the impact of cross-racial interaction on postcollege leadership skills and pluralistic orientation will depend on the level of segregation experienced in one's precollege neighborhood, the sample was divided into two groups. Those who reported that "most" or "all" people in their neighborhood were of the same race were placed in the *segregated neighborhood subsample*, and those who said "half" to "none" of their neighbors were of the same race became part of the *racially diverse precollege neighborhood subsample*. The inclusion of separate analyses of whites from segregated and diverse precollege neighborhoods is one of the major strengths of this study, as it allows for the testing of moderation effects of neighborhood composition.

Reflecting national trends, the majority of whites in the sample had grown up in neighborhoods where most or all people were white (6,600 out of 7,689). The other 1,089 were from neighborhoods where half to all people were non-white. More than half of each subsample (about 60% in each) attended a public institution for their undergraduate education. Upon college entry, the two subsamples were almost identical on several key demographic and background characteristics (e.g., gender composition, parental education and income, marital status, personal income, higher degree attainment, age, workforce sector). Postcollege, an overwhelming majority reported that they worked full-time (approximately 85% of each subsample), and most were employed in the private sector.

Not surprisingly, and consistent with previous educational research (Massey & Denton, 1993; Orfield & Lee, 2006), whites who grew up around neighbors of the same racial background were more likely to attend a high school where most or all students were of the same race (88% of whites from a segregated neighborhood attended a segregated high school), and those who resided among people of different racial backgrounds tended to be at high schools where fewer than half of the students were white (81% of whites from a diverse neighborhood attended a diverse high school).

Variables

Based on previous research in higher education related to both the impact of college generally and the impact of diversity experiences specifically, I used numerous variables in creating a model to assess the relationship between whites' exposure to diversity during the college years and the development of cross-cultural workforce competencies. Appendix A provides a summary of variables, including information on variable coding and indices. Most measures were based on student self-assessments, which are widely accepted as credible indications of educational experiences and outcomes (Gurin et al., 2002). In their comprehensive review of the college impact literature, Pascarella and Terenzini (2005) found self-assessments of achievements to be consistent with standardized measures and to serve as valid indicators of college outcomes.

This section describes the variables in the hypothesized model in a thematic fashion, starting with cross-cultural workforce competencies, moving to the key variables of interest, and finally discussing environmental and background characteristics that were both primarily entered as control variables. Five of these variables were latent constructs hypothesized to manifest themselves through a set of observed variables. In most cases, the latent constructs were based on constructs previously employed and validated in studies using a data set different from the one used in the current study.

— Outcome Measures: Cross-Cultural Workforce Competencies

The study was designed to test the hypothesis that experiences with diversity during college lead to the development of two cross-cultural workforce competencies: *pluralistic orientation* and *leadership skills*. As latent constructs, these two outcomes are not directly measurable themselves, but are instead approximated based on quantifiable variables that have been statistically validated as reliable measures of their respective constructs. The first of these constructs, *pluralistic orientation*, was modeled after similar measures employed in previous research (e.g., Engberg, 2007; Hurtado, Engberg, & Ponjuan, 2003), which were derived from a culling of employers' surveys (e.g., Bikson & Law, 1994) about skills needed for a diverse workforce. Drawing from Perry's (1970) theory of intellectual development and Kohlberg's (1972) theory of moral development, the pluralistic orientation construct reflects the extent to which students' thinking demonstrates a dualistic versus a multiple perspective-taking orientation. The survey items ask students to rate their ability to see the world from someone else's perspective, their openness to having views challenged, their tolerance of others with different beliefs, and their ability to discuss and negotiate controversial issues, as compared with the average person of the same age.

The *leadership skills* construct reflects students' self-ratings of various aspects of leadership ability and is based on previous studies utilizing HERI data sets

(Astin, 1993a; Antonio, 2001). In the current study, the construct is expanded to include a self-assessment of one's capacity to negotiate controversial issues, reflecting the competencies required of leaders in an increasingly diverse and global society. The other survey items constituting the leadership skills measure were consistent with prior studies and included student assessments of leadership ability, public speaking skills, and social self-confidence, as compared with the average person of the same age.

— Other Key Variables of Interest

The latent construct representing *cross-racial interaction* was made up of four indicator variables that assessed how often individuals dined, dated, studied, and otherwise interacted with people of different racial backgrounds (see Appendix A). The same type of cross-racial interaction variable has been used extensively in the diversity literature (e.g., Chang 1999; Gurin et al., 2002); thus, this study builds on a rich foundation and adds to it by modeling cross-racial interaction as a latent construct and, in doing so, reducing measurement error.

For each institution, all student reports of the level of cross-racial interaction were aggregated to estimate the *campus racial climate*. Institutional climate measures are routinely operationalized in quantitative studies as the aggregated means of a given set of beliefs, attitudes, or behaviors of actors within an organization (Hurtado et al., 2003). The campus racial climate variable used in this study was first developed and employed by Chang et al. (2006) and called "campus race-relations." This study employed a multilevel approach, hierarchical linear modeling, and drew from the same data set (i.e., 1994–1998 CIRP data) that comprises the first and second time points of the current study. Chang et al. (2006) also indicated that the peer mean cross-racial interaction variable has a compositional effect, meaning that a common influence is exerted on the individual behaviors of participants within a given institution. Thus, the institution-level cross-racial interaction effect is different from but highly related to the individual-level effect of cross-racial interaction, making them both important variables to consider. For the current study, in order to maximize the number of students on whom this cultural/climate measure was based, the institutional averages were based on the full data set of students who responded to both the 1994 and the 1998 student surveys ($n = 35,710$).

Two other institution-level variables were utilized in this analysis. Structural diversity, a key construct represented in most studies that examine the educational value of diversity, was based on the percentage of students of color within an institution. Enrollment figures were drawn from the information collected as part of the Integrated Postsecondary Education Data System (IPEDS). The liberal arts variable, entered to explore a rival hypothesis regarding educational outcomes associated with structural diversity, was also derived from IPEDS and based on the 2000 Carnegie Classification system for higher education institutions.

In order to better understand the relationship between college diversity experiences and cross-cultural workforce competencies, several additional factors were considered. One characteristic that has proven to be significant in determining the impact of diversity on students is *exposure to diversity prior to college*—in particular, neighborhood and high school racial composition (Brad-dock, 1985; Gurin et al., 2002; Saenz, 2005); nonetheless, most studies have not considered these precollege factors. In addition to running separate analyses of whites from segregated and diverse precollege neighborhoods, this study also includes high school racial composition as a distinct variable in the model.

Additionally, the study considered individuals' exposure to diversity after graduation in order to assess any potential confounding effects of continued diversity exposure when evaluating the impact of diversity during the college years. The *racially integrated postcollege lifestyle* factor is derived from theoretical inquiry but has not previously been empirically explored (see Appendix A). A survey item measuring frequency of interactions across race postcollege was included as a single variable in the analysis because of a low factor loading in confirmatory factor analysis (CFA)⁴ for the integrated postcollege lifestyle factor. These postcollege diversity variables parallel measures used in previous studies—precollege exposure to diversity and cross-racial interaction during college—and have been included because studies indicate that individuals exposed to diversity before and during college are likely to gravitate toward and successfully adapt to diverse environments (e.g., workplace, neighborhood) in adulthood (Wells & Crain, 1994; Gurin, 1999), which may ultimately be related to individuals' workforce competencies as well.

— Control Variables

Other variables in the model (including demographic characteristics, student major, curricular diversity) were included primarily as control variables and were based on the literature. These variables represent the previous dispositions, preferences, and interactions that prior studies suggest might influence experiences with diversity and outcomes. While these variables were not central to answering the questions posed in this study, many of them—curricular diversity and Greek participation in particular—and their associated relationships with diversity experiences are of substantive importance.

Methodological Approach and Preliminary Analysis

This study employed structural equation modeling (SEM) to examine the relationship between predictor variables experienced at one time and outcomes experienced at a later time.⁵ The hypothesized relationship between an independent and dependent variable is called a *direct effect* and is represented by an arrow in structural model diagrams. Taken together, these hypothesized relationships make up the structural model. Direct effects, sometimes referred

to as paths or parameters, have statistical estimates (analogous to Beta coefficients in multiple regression analysis), which indicate the strength of the relationship between two variables. In SEM, the same variable may be independent in relation to one variable (e.g., campus climate predicts cross-racial interaction) and dependent in relation to another (e.g., campus climate is predicted by structural diversity). This dual role is an *indirect*, or *mediator effect*, where the impact of one variable on another is dependent on a third mediating variable. The ability to detect indirect effects is a distinguishing feature of SEM (not available in regression analysis).

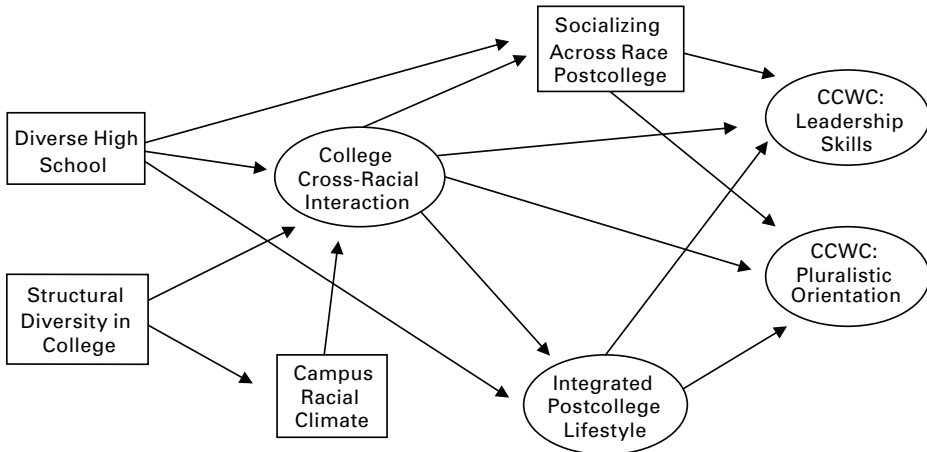
Another benefit of SEM is the potential to model latent constructs that cannot be observed or measured directly. This is possible because SEM estimates a latent (true) score based on observable measured traits that are theorized to be representative of the latent construct. The benefit is that because a latent score simply reflects a common domain shared by multiple indicator (observed) variables, measurement error is reduced.

Before testing the accuracy of the structural model of hypothesized relationships involving latent and observed variables, CFA was used to determine whether the measured survey items (e.g., self-rated ability to take multiple perspectives, self-rated tolerance of difference) represented a common domain (e.g., pluralistic orientation). This preliminary assessment provides information on the quality of each latent construct (referred to together as the *measurement model*) and is based on a review of how well each indicator variable loads onto a given factor and how reliable the hypothesized grouping of indicator variables are as accurate measures of their corresponding factor. The overall accuracy of the measurement model is gauged by goodness-of-fit indices provided by the EQS statistical software program.⁶

CFA determined that the cross-cultural workforce competency measures—pluralistic orientation and leadership skills—worked best as multidimensional constructs.⁷ This simply means that the two latent variable outcomes, pluralistic orientation and leadership skills, share one common variable: The survey measure assessing ability to negotiate controversial issues is an indicator of both latent constructs. In other CFA, the hypothesized measurement model had good overall fit to the data in both the segregated and the diverse precollege neighborhood subsamples. Additionally, an examination (or invariance testing) of the measurement model affirmed that all latent constructs carried the same meaning in both subsamples. Making comparisons between two or more groups (multigroup analysis) is possible when the observed variables are shown to measure the same abstract phenomenon in the groups being compared.

After validating the measurement model, I examined the hypothesized relationships in the structural model.⁸ Figure 1 depicts the key variables and hypothesized relationships pertaining to the research questions of this study. The cross-cultural workforce competencies model was tested separately on whites from segregated precollege neighborhoods and whites from diverse precollege neighborhoods. As with the measurement model, the overall accu-

FIGURE 1 *Key Variables and Hypothesized Relationships Pertaining to the Development of Cross-Cultural Workforce Competencies (CCWC) for Whites*



Note: This figure depicts an abbreviated version of the cross-cultural competencies model for whites. It includes the key variables and hypothesized relationships reflected in the research questions. The control variables—leadership propensity, gender, ethnic studies course work, diversity workshop, college major, liberal arts institutional type—are not shown here. In accordance with conventions of SEM, ellipses represent latent factors (i.e., those measured by a combination of other variables) and rectangles represent observed variables. Single-headed arrows indicate a direct effect of one variable on another.

racy of the hypothesized structural model in describing the data is gauged by goodness-of-fit indices.

Results

As indicated by goodness-of-fit measures, the hypothesized model provides a plausible explanation of the relationship between diversity experiences before, during, and after college and the postcollege pluralistic orientation and leadership skills of whites from segregated and diverse precollege neighborhoods.⁹ Table 1 provides parameter estimates (standardized coefficients) and significance levels for the standardized direct and indirect effects in the model for individuals from both the segregated and the diverse precollege neighborhood subsamples.¹⁰

While the cross-cultural workforce competencies model fits the data for both subsamples, and the two groups operate similarly in many regards, there are important differences in the findings across subsamples based on whether one comes from a segregated or diverse precollege neighborhood.¹¹ The remainder of this results section and discussion of the findings are organized in relation to the three college diversity variables—structural diversity, campus racial climate, cross-racial interaction—that are the focus of this study. Given the

TABLE 1 Direct and Indirect Effects for Cross-Cultural Workforce Competencies Models for Whites from Segregated and Diverse Precollege Neighborhoods

Direct effect on:	Segregated Precollege Neighborhood β	Diverse Precollege Neighborhood β
Pluralistic Orientation		
Leadership propensity	0.153***	0.156***
Ethnic studies	0.080***	0.080***
Liberal arts institution	-0.021	-0.020
Cross-racial interaction	0.123***	0.129***
Racially integrated postcollege lifestyle	0.134***	-0.002
Postcollege socializing across race	0.097***	0.091***
Leadership Skills (postcollege)		
Leadership propensity	0.748***	0.744***
Gender	-0.172***	-0.171***
Liberal arts institution	0.002	0.002
Cross-racial interaction	0.005	0.005
Racially integrated postcollege lifestyle	0.010	0.022
Postcollege socializing across race	0.076***	0.070***
Racially Integrated Postcollege Lifestyle		
Diversity of high school	0.152***	0.654***
Liberal arts institution	-0.044**	-0.020**
Cross-racial interaction	0.398***	0.033
Postcollege Socializing Across Race		
Diversity of high school	0.023*	0.039*
Liberal arts institution	-0.036**	0.005
Cross-racial interaction	0.254***	0.284***
Cross-Racial Interaction		
Leadership propensity	0.052***	0.149***
Diversity of high school	0.076***	-0.068*
Gender	0.001	0.066*
Major	-0.024	0.029
Ethnic studies course work	0.079***	0.076***
Diversity workshop	0.128***	0.122***
Membership in Greek organization	-0.042***	-0.060*
Liberal arts institution	-0.005	0.044
Structural diversity	0.004	0.004
Campus racial climate	0.411***	0.401***
Campus Racial Climate		
Structural diversity	0.744***	0.752***

* p ≤ 0.05, ** p ≤ 0.01, *** p ≤ 0.001

Note: Affected variables in bold.

<i>Indirect effects on:</i>	<i>Segregated Precollege Neighborhood β</i>	<i>Diverse Precollege Neighborhood β</i>
Pluralistic Orientation		
Leadership propensity	0.010**	0.023***
Diversity of high school	0.038***	-0.008
Gender	0.000	0.010*
Major	-0.005	0.004
Ethnic studies course work	0.016***	0.012***
Diversity workshop	0.026***	0.019***
Membership in Greek organization	-0.008**	-0.009
Liberal arts institution	-0.010**	0.007
Structural diversity	0.065***	0.047***
Campus racial climate	0.083***	0.062***
Cross-racial interaction	0.078***	0.026***
Leadership Skills (postcollege)		
Leadership propensity	0.001	0.004
Diversity of high school	0.005*	0.015
Gender	0.000	0.002
Major	-0.001	0.001
Ethnic studies course work	0.002*	0.002
Diversity workshop	0.004*	0.003
Membership in Greek organization	-0.001	-0.002
Liberal arts institution	-0.003**	0.001
Structural diversity	0.009*	0.008
Campus racial climate	0.012*	0.010
Cross-racial interaction	0.023***	0.021***
Racially Integrated Postcollege Lifestyle		
Leadership propensity	0.021***	0.005
Diversity of high school	0.030***	-0.002
Gender	0.001	0.002
Major	-0.009	0.001
Ethnic studies course work	0.032***	0.003
Diversity workshop	0.051***	0.004
Membership in Greek organization	-0.017**	-0.002
Liberal arts institution	-0.002	0.001
Structural diversity	0.128***	0.010
Campus racial climate	0.164***	0.013
Postcollege Socializing Across Race		
Leadership propensity	0.013***	0.042***
Diversity of high school	0.019***	-0.019*
Gender	0.000	0.019*
Major	-0.006	0.008
Ethnic studies course work	0.020***	0.021***
Diversity workshop	0.033***	0.035***
Membership in Greek organization	-0.011**	-0.017
Liberal arts institution	-0.001	0.013
Structural diversity	0.082***	0.087***
Campus racial climate	0.105***	0.114***
Cross-Racial Interaction		
Structural diversity	0.318***	0.301***

* p ≤ 0.05, ** p ≤ 0.01, *** p ≤ 0.001

Note: Affected variables in bold.

complexity of the hypothesized structural model (see figure 1), this presentation format allows for a thorough discussion addressing both the research questions and important related findings.

Structural Diversity Matters

This study indicates that the benefits of structural diversity persist beyond the college experience into the postcollege years. Attending a structurally diverse college can lead to the type of experiences that foster a stronger pluralistic orientation. For whites from segregated precollege neighborhoods, attending a structurally diverse college was positively related to the development of postcollege cross-cultural workforce competencies, including pluralistic orientation (indirect effect: $\beta = 0.07^{***}$) and, to a lesser degree, leadership skills (indirect effect: $\beta = 0.01^*$). For students from racially diverse precollege backgrounds, structural diversity had an indirect effect on their pluralistic orientation ($\beta = 0.05^{***}$), but no effect (direct or indirect) on their leadership skills ($\beta = 0.01$). However, any indirect effects of structural diversity on cross-cultural workforce competencies are dependent on the quality of an institution's racial climate. This caveat is further elaborated in the proceeding subsection on campus racial climate as the context for diversity.

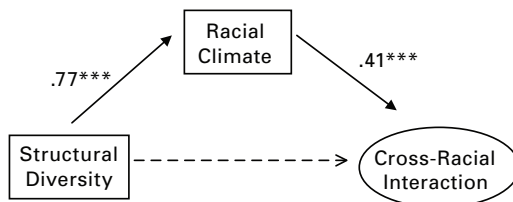
The relevance of structural diversity is further validated when comparing differences in the outcomes of students who attended structurally diverse institutions to those attending liberal arts institutions,¹² the latter of which are generally lacking in racial and socioeconomic diversity (Umbach & Kuh, 2006). Although there was no direct effect between attending a liberal arts institution and postcollege leadership abilities or pluralistic orientations, there was a slight but significant *negative* direct effect between attending a liberal arts institution and choosing a racially integrated postcollege lifestyle ($\beta = -0.04^{**}$ for whites from segregated precollege neighborhoods and $\beta = -0.02^{**}$ for whites from diverse precollege neighborhoods). In striking contrast, structural diversity was positively associated with a racially integrated postcollege lifestyle among individuals who grew up in segregated neighborhoods (total effect: $\beta = 0.13^{***}$). Furthermore, while the total effect (i.e., in this case, all indirect effects combined) of structural diversity on pluralistic orientation was positive for whites from both segregated ($\beta = 0.07^{***}$) and diverse ($\beta = 0.05^{***}$) precollege neighborhoods, the total effect of attending a liberal arts college was negative ($\beta = -0.03^*$) for whites from segregated precollege neighborhoods and insignificant for whites from diverse precollege neighborhoods.

Context for Diversity: Campus Racial Climate

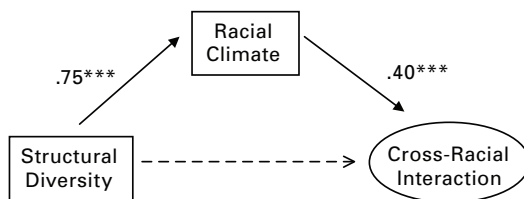
Regardless of whether individuals grow up in segregated or diverse neighborhoods, the structural diversity of their college leads to greater cross-racial interaction if a positive campus racial climate also exists. Figure 2 depicts how campus racial climate mediates the relationship between structural diversity and cross-racial interaction in college.

FIGURE 2 Mediating Effects of Campus Racial Climate on Cross-Racial Interaction

Whites from Segregated Precollege Neighborhoods:



Whites from Diverse Precollege Neighborhoods:



Note: This figure depicts a portion of the larger cross-cultural workforce competencies model for each of the subsamples. Solid lines represent paths that were statistically significant.

* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$.

Considered alone, college structural diversity was not related to cross-racial interaction (direct effect: $\beta = 0.004$ for both groups). But structural diversity was strongly related to whether students experienced a positive racial climate (direct effect: $\beta = 0.74^{***}$ and 0.75^{***} for segregated and diverse neighborhood backgrounds, respectively). Indeed, structural diversity explained 60 percent of the variance in the racial climate variable within the segregated precollege neighborhood subsample and 56 percent of the variance for the diverse precollege neighborhood sample. In turn, this positive campus racial climate was strongly related to having more cross-racial interaction during college ($\beta = 0.41^{***}$ and 0.40^{***} for segregated and diverse neighborhood backgrounds, respectively). Ultimately, structural diversity was indirectly related to cross-racial interaction because of its relationship to the campus racial climate experienced by whites from segregated (indirect effect: $\beta = 0.32^{***}$) and diverse (indirect effect: $\beta = 0.30^{***}$) neighborhoods.

In the postcollege years, whites from segregated precollege neighborhoods who attended a college that fostered a positive racial climate were more likely to choose an integrated lifestyle (indirect effect: $\beta = 0.16^{***}$) and to socialize across races (indirect effect: $\beta = 0.11^{***}$). For whites from diverse neighborhoods, the institutional racial climate was related to the degree to which indi-

viduals socialized with people of different races after college (indirect effect: $\beta = 0.11^{***}$) but not the degree to which they led a racially integrated lifestyle (indirect effect: $\beta = 0.01$). Campus racial climate was also indirectly related to postcollege pluralistic orientation ($\beta = 0.08^{***}$) and had a very slight, but significant, indirect effect on lasting leadership skills ($\beta = 0.01^*$) for whites from segregated precollege neighborhoods. For whites from diverse neighborhoods, racial climate was indirectly related to developing a pluralistic orientation ($\beta = 0.06^{***}$) but not to leadership skills ($\beta = 0.01$). These indirect effects were mediated through the direct and indirect effects of cross-racial interaction on cross-cultural workforce competencies.

The Impact of Cross-Racial Interaction

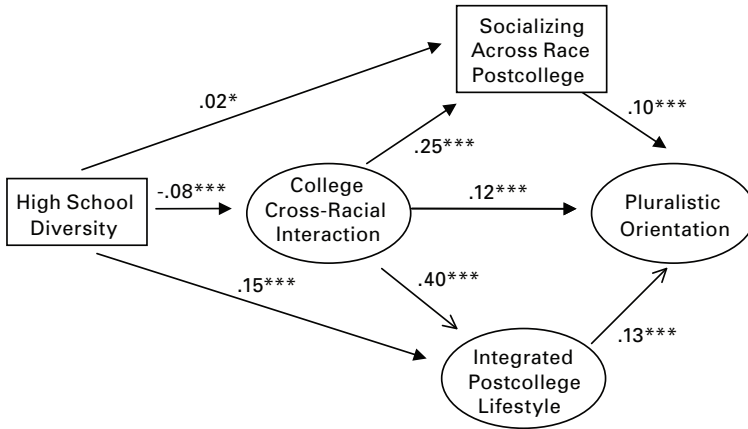
There was a substantial direct positive relationship between cross-racial interaction and pluralistic orientation postcollege for whites from both segregated and diverse precollege neighborhoods ($\beta = 0.12^{***}$ and 0.13^{***} , respectively). Interacting across race in college was even more strongly related to the development of a pluralistic orientation than was taking an ethnic studies course ($\beta = 0.08^{***}$ for both subsamples). Notably, however, white students who had taken an ethnic studies course ($\beta = 0.08^{**}$ for both subsamples) or attended a diversity workshop ($\beta = 0.13^{***}$ and 0.12^{***} for whites from segregated and diverse neighborhoods, respectively) were much more likely to engage in cross-racial interaction compared to those who had not. This is in contrast to their white peers in fraternities and sororities who exhibited a tendency to choose *not* to interact with people of different racial backgrounds from themselves in college ($\beta = -0.04^{***}$ and -0.06^* for whites from segregated and diverse neighborhoods, respectively).

In the case of only one of the cross-cultural workforce competencies—pluralistic orientation—the effect of cross-racial interaction was both direct and indirect. Figure 3 provides an illustration of these complex relationships.

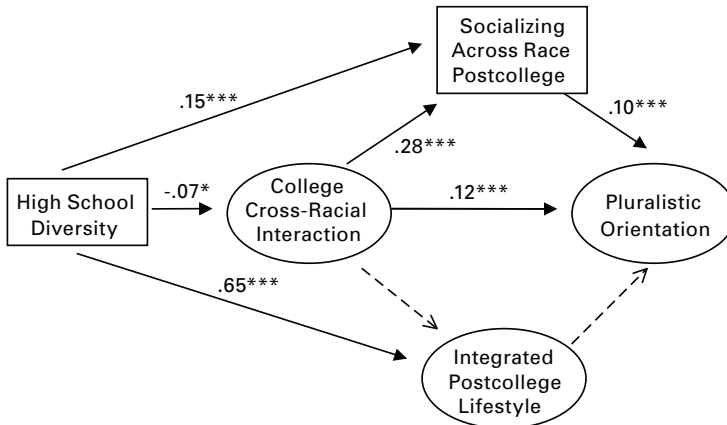
As noted, cross-racial interaction had a strong direct effect on pluralistic orientation for *all* whites. In addition, for whites from segregated precollege backgrounds, experiences of cross-racial interaction in college were strongly related to living a racially integrated lifestyle ($\beta = 0.40^{***}$) and socializing with people of different races after college ($\beta = 0.25^{***}$). Among students who grew up in diverse precollege neighborhoods, cross-racial interaction was not directly related to choosing a racially integrated postcollege lifestyle ($\beta = 0.03$) but was related to a greater likelihood of socializing with people of different races after college ($\beta = 0.28^{***}$). Subsequently, cross-racial interaction was also indirectly related to pluralistic orientation for whites from diverse neighborhoods only when they continued socializing with diverse peers postcollege. There was a significant direct effect of socializing across race postcollege on pluralistic orientation ($\beta = 0.09^{***}$) but no effect of living a racially integrated postcollege lifestyle on pluralistic orientation for whites from diverse precollege neighborhoods ($\beta = -0.002$).

FIGURE 3 Direct and Mediating Effects of Cross-Racial Interaction and Postcollege Diversity Variables on Pluralistic Orientation

Whites from Segregated Precollege Neighborhoods:



Whites from Diverse Precollege Neighborhoods:



Note: This figure depicts a portion of the larger cross-cultural workforce competencies model for each of the subsamples. Solid lines represent paths that were statistically significant.

* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$.

With regard to the other cross-cultural workforce competency—leadership skills—the influence of college cross-racial interaction was indirect. Cross-racial interaction was positively related to postcollege socializing with people of different races, and this socialization mediated the development of postcollege leadership skills (direct effect: $\beta = 0.08^{***}$ and 0.07^{***}). Together, these relationships suggest a relatively small but significant indirect relation-

ship between college cross-racial interaction and postcollege leadership skills for individuals from segregated and diverse precollege neighborhoods (indirect effect: $\beta = 0.02^{***}$ for both groups).

While cross-racial interaction in college set the stage for a deeper and more lasting behavioral commitment to a racially integrated postcollege lifestyle for whites originally from segregated neighborhoods, it did not have the same effect among whites from racially diverse neighborhoods. Nonetheless, compared to¹³ whites from segregated neighborhoods, whites from diverse precollege neighborhoods more frequently experienced racially integrated postcollege lifestyles (mean difference = 0.99*; effect size = 0.55), strong pluralistic orientations (mean difference = 0.07*; effect size = 0.51), and leadership skills (mean difference = 0.08; effect size = 0.63). It is plausible that whites from diverse precollege neighborhoods (and especially those that also attended diverse high schools) may have already attained some of the life skills necessary for working in a diverse society before entering college.

Exposure to diversity in high school was a sizable predictor of a racially integrated postcollege lifestyle for whites from diverse precollege neighborhoods ($\beta = 0.65^{***}$), while cross-racial interaction in college was not ($\beta = 0.03$). In other words, whites who grew up in diverse neighborhoods and went to diverse high schools were more likely to have a racially diverse group of friends, to work in a racially diverse setting, and to live in a racially diverse neighborhood following college graduation. This was true regardless of whether or not they had engaged in cross-racial interaction in college. In contrast, for whites from segregated precollege neighborhoods, the magnitude of the relationship between cross-racial interaction in college and postcollege lifestyle ($\beta = 0.40^{***}$) was larger than the relationship between high school diversity and postcollege lifestyle ($\beta = 0.15^{***}$).

Discussion

The ability to adapt to different perspectives and cultures has gone from being a luxury among cosmopolitan sophisticates to an absolute necessity for success in an increasingly diverse and global workplace. In spite of the exponential growth of people from diverse backgrounds in the U.S. population, most students (and, in particular, white students) primarily interact with people of their own race before entering college. These two national trends—diversification and resegregation—will continue to impact national prosperity and productivity. This study examined the role of higher education in mitigating some of the effects of varying degrees of neighborhood segregation on fostering the development of cross-cultural workforce competencies for the twenty-first century. Contrary to the discourse that frames people of color as the sole beneficiaries of affirmative action and integration, these findings demonstrate that racial diversity is also essential to the prosperity of white Americans, whether they come from segregated or diverse precollege neighborhoods.

Structural Diversity Matters

Most research on the impact of diversity in higher education supports the notion that increasing the number of students of color at an institution is a necessary step toward helping students attain the educational and developmental benefits of interacting with diverse peers (Chang, 1999; Chang et al., 2004; Gurin, 1999; Hurtado et al., 1998, 1999). Nonetheless, critics question whether structural diversity is the only means of achieving these outcomes (Bloom, 1986; D'Souza, 1991; Thernstrom & Thernstrom, 1997; Umbach & Kuh, 2006; Wood & Sherman, 2001). In examining the indirect effects of structural diversity using structural equation modeling, the current study calls into question Wood and Sherman's (2001) supposition that structural diversity does not have a unique effect on developmental outcomes, and demonstrates instead that it is significantly and positively related to the development of postcollege pluralistic orientation among *all* whites, and on leadership skills and racial integration for whites from segregated precollege neighborhoods.

Additionally, this study's findings question the generalizability of results from a recent cross-sectional study by Umbach and Kuh (2006), who reported that liberal arts colleges are more capable of fostering developmental outcomes associated with diversity, including a greater commitment to diversity after college, than are institutions with substantially greater structural diversity. Their findings were based on retrospective self-ratings of growth at a single point in time. The current longitudinal findings indicate that while structural diversity seems to benefit the development of cross-cultural workforce competence, simply attending a liberal arts college does not. Furthermore, while college structural diversity can positively influence the development of a postcollege commitment to diversity (e.g., a racially integrated postcollege lifestyle) for whites from segregated precollege neighborhoods, attending a liberal arts institution has a *negative* relationship to these commitments for these same students. In short, while students at liberal arts institutions might self-report increased openness to diversity, the results from this study suggest that students at liberal arts colleges are less likely than students from structurally diverse institutions to report postcollege behavioral commitments to diversity (i.e., integrated postcollege neighborhoods, workplaces, and friendship groups). These findings thus refute Umbach and Kuh's (2006) study and instead support previous literature that affirmed the importance of structural diversity on individual outcomes.

This study also supports the notion that higher education institutions in the twenty-first century have a critical role to play in promoting diverse and pluralistic experiences despite the persistence of residential and educational segregation. It suggests that for whites from segregated neighborhoods, attending a racially diverse college is indirectly related to a greater commitment to living a racially integrated postcollege lifestyle. This finding is consistent with Braddock's (1985) perpetuation hypothesis, which states that individuals who grow up in segregated environments are likely to continue to seek out segregated

environments throughout their lives. It also affirms previous research that demonstrates an association between structural diversity and the racial composition of college graduates' postcollege neighborhoods (Gurin, 1999; Misa, 2006). This study further suggests that structural diversity in college facilitates growth in leadership skills and pluralistic orientation that lasts through adulthood, when individuals have presumably entered the workforce.

Context for Diversity: Campus Racial Climate

Opponents of affirmative action have argued that rather than prompting greater interaction across racial/ethnic groups, increasing diversity on college campuses forces students into separate subgroups (Bloom, 1986; D'Souza, 1991; Thernstrom & Thernstrom, 1997). Many experts have challenged this notion, claiming that this racial balkanization is instead a by-product of a hostile campus racial climate, which can, among other things, hinder the development of a pluralistic orientation and compromise the growth and development of all students (Chang, 1999; Hurtado, 1992; Hurtado et al., 1999; Gurin, 1999; Milem & Hakuta, 2000).

This study supports the claims of affirmative action proponents regarding the role of campus racial climate in shaping student outcomes (e.g., Allen & Solórzano, 2001; Gilliard, 1996; Hurtado et al., 1999; Villalpando, 2002). The findings suggest that campus racial climate is important for students' development of skills and qualities relevant to national productivity and prosperity because it is highly correlated to an institution's ability to acquire sufficient numbers of students of color. The significance of a positive racial climate provides insight into why other studies (e.g., Chang et al., 2004) have not always found linear relationships between the level of structural diversity on campus and the frequency with which students engaged in cross-racial interaction.

This research contributes to a growing body of literature indicating that structural diversity is essential to creating a positive racial climate. When there is little structural diversity, people of color are more vulnerable to social stigma (Steele, 1992), more likely to experience racial tension (Hurtado, 1992), and more likely to be placed under great scrutiny and feel pressure to represent their group (Kanter, 1977). Additionally, majority group members may place people of color into existing stereotypes, making it impossible to facilitate the equal status contact between groups that is necessary for promoting the reduction of racial prejudice (Allport, 1954). In a hostile racial climate, intergroup relations suffer (Hurtado et al., 1999), and students are unlikely to experience the "confrontation with diversity and complexity" that Gurin et al. (2002) claim enhances thinking processes, stimulates developmental growth, and prepares students for life in a diverse society (p. 334). These issues are particularly troubling for highly selective institutions, where racial and ethnic diversity are most lacking.

The findings of this study indicate that a positive racial climate on campus benefits whites of all neighborhood backgrounds, as attending such institu-

tions is positively related to the postcollege exhibition of a pluralistic orientation. This finding is consistent with previous research, which has repeatedly shown that student perceptions of an institution's commitment to diversity affect overall satisfaction with the college experience (Astin, 1993b; Villalpando, 2002), as well as foster increased cultural awareness, sense of community, a desire to promote racial understanding, openness to diversity, cognitive development, and self-confidence (Chang et al., 2006; Tanaka, 1996).

The Impact of Cross-Racial Interaction

The effects of cross-racial interaction on leadership outcomes (Antonio, 1998, 2000, 2001; Astin 1993a) and pluralistic orientation (Engberg, 2007) at the end of college have been established. But what happens to these skills once students enter the workforce? Are the benefits acquired through interaction with diverse peers lasting? This study indicates that they can be. Whites who engaged in cross-racial interaction in college seemed to maintain a strong pluralistic orientation in the postcollege years, even if they did not have continued exposure to racially diverse environments after leaving college. Those who did continue to socialize with people of different races after college were also likely to exhibit leadership skills and a pluralistic orientation approximately six years after graduation.

In addition to demonstrating potential long-term benefits of cross-racial interaction on cross-cultural workforce competencies, the findings also shed light on the theoretical framework informing the relationships tested in this study. The results support Gurin et al.'s (2002) theory which holds that the transition from a homogenous home environment to associating with racially diverse college peers evokes a state of disequilibrium and uncertainty conducive to active thinking and cognitive growth: Cross-racial interaction in college is strongly related to the development of a pluralistic orientation and is partially implicated in the development of leadership skills among whites from segregated precollege neighborhoods. However, their theory falls short of explaining why cross-racial interaction in college is directly related to greater pluralistic orientation even among those who come from diverse precollege neighborhoods.

One possible rationale for why all whites—whether from segregated or diverse neighborhood backgrounds—appeared to benefit equally from cross-racial interaction in college with regard to postcollege pluralistic orientation involves expanding Gurin et al.'s (2002) theory to include racial identity formation. While their theory acknowledges the persistence of segregation and racism, it does not consider how such a phenomenon might complicate the formation of individuals' racial identities. Helms (1995), adopting Cross's model of black identity development (1971, 1991), argues that racial identity formation among whites involves discomfort and anxiety when a person becomes more aware of the benefits of dominant group membership and begins to struggle to resolve contradictions of his or her naive worldview. This

struggle and disequilibrium, by Gurin et al.'s (2002) theorizing, has the potential to accelerate cognitive growth and development. It is possible that connecting with diverse peers facilitates disequilibrium for different reasons, but still amounts to positive developmental benefits for people from both segregated and racially diverse precollege neighborhoods.

The findings also speak to another important tenet of Gurin et al.'s (2002) theory, which contends that the college years come at a critical juncture in the life cycle where traditional-age college students are developmentally prepared to grow from interactions with diverse peers and perspectives. The results suggest that there may be distinct benefits to interacting with diverse peers during the college years. As Braddock's (1985) perpetuation hypothesis would suggest, whites from diverse neighborhoods were likely to continue making diverse lifestyle choices postcollege, regardless of their diversity exposure during college. Nonetheless, living in diverse environments both before¹⁴ and after college was not necessarily related to the development of greater pluralistic orientation for this group.

In contrast, for whites from segregated precollege neighborhoods, who were most likely to continue living in segregated environments after college (Braddock, 1985), cross-racial interaction in college had the potential to instead promote an integrated postcollege lifestyle choice. For this group, choosing an integrated postcollege lifestyle was directly related to a more pluralistic orientation. Casually socializing with people of different races after college, which had a positive relationship with cross-racial interaction during college, was directly related to pluralistic orientation postcollege for both groups. It also seems that when the impetus to have a racially integrated postcollege lifestyle comes from exposure to diversity in the precollege environment, it does not affect pluralistic orientation; however, when it originates from cross-racial interaction in college, it has a positive impact (see figure 3). This finding suggests that it is critical for whites, regardless of the type of neighborhood they grow up in, to experience diversity during the crucial period of late adolescence, when they are developmentally ready to solidify their worldviews.

Before drawing conclusions based on this work, a strong caveat concerning the study is in order. The findings identify probable pathways to cross-cultural workforce competencies and postcollege lifestyle choices. As such, this research only identifies probabilities. Because individuals cannot be assigned to segregated or diverse environments as part of research design, a definitive formula for developing cross-cultural workforce competencies simply cannot be ascribed to support causal inferences. However, a large base of empirical research supports the patterns of behavior and connections among variables indicated in this study. Additional research is needed to further explore plausible long-term outcomes of interacting with individuals of different races in secondary and postsecondary environments. Converging evidence based on strengthened and/or standardized measures and qualitative data can further validate the hypothesized benefits of structural diversity, a positive campus

racial climate, and cross-racial interaction in college. Despite these limitations, the hypothesized relationships between variables that lead to cross-cultural workforce competencies and integrated lifestyle choices postcollege are worth considering, both in future research and in making policy decisions about the educational value of diversity.

Conclusions and Implications

This longitudinal study employed advanced statistical techniques to examine the impact of diversity on postcollege adult workforce-related outcomes over a ten-year period. It is one of very few studies that explore the long-term effects of college diversity experiences, and is the only long-term study that employs structural equation modeling, making it possible to examine hypotheses about how cumulative exposure to segregated or diverse environments at different stages of the educational pipeline might influence workforce-related outcomes postcollege while minimizing measurement error.

Overall, the study's findings suggest that ethnic and racial diversity in higher education serves to promote growth in whites' cross-cultural workforce competencies, as defined by both pluralistic orientation and leadership skills. The results provide support for the long-term benefits of structural diversity and clarify the conditions under which it may lead individual college students to seek out and interact with diverse peers. In particular, the results indicate that while structural diversity is not directly related to cross-racial interaction, its benefits are instead mediated by the nature of race-relations on campus. As such, this study lends support to the claim that structural diversity only leads to racial balkanization when an institution fails to foster a positive racial climate. Furthermore, this study suggests that whether or not an institution is successful in creating such an environment depends on its success in increasing the number of students of color on campus. The study also demonstrates the value of diversity to the development of outcomes necessary for success in a diverse and global workforce: Engaging in cross-racial interaction during college is related to *lasting* pluralistic orientation, even when an individual does not continue to socialize with people of other races after college. These findings complement other studies indicating that students who mostly socialize and interact with people of the same race (e.g., homogenous Greek organizations) are actually far less prepared to enter the global workforce, as determined by standardized measures of open-mindedness and other critical thinking skills (Hurtado, 2006).

Drawing on Gurin, Dey, Hurtado, and Gurin's (2002) theory of diversity's impact, this study makes three substantial contributions to the literature on student development. First, the results suggest that college exposure to diversity is more important than precollege or postcollege exposure in terms of developing pluralistic skills that reflect the highest stages of moral and intellectual development (Erikson, 1946, 1956; Kohlberg, 1972; Pascarella & Terenzini,

2005; Perry, 1970). Thus, the skills of perspective-taking and conflict negotiation required in today's diverse society and global marketplace may best be nurtured in the college context. Second, the results extend Gurin et al.'s (2002) theory by indicating that cross-racial interaction in college stimulates positive educational outcomes for all whites, not only those from segregated neighborhoods. Interacting with racially diverse peers during college, when adolescents are ready to explore their own racial identities, may encourage developmental growth regardless of one's precollege neighborhood. Third, this study contributes to our construction and quantitative measurement of leadership skills by including assessment of the ability to negotiate conflict, a skill that the business community finds lacking in college graduates today (Newman, Couturier, & Scurry, 2004).

This study sheds new light on the effects of desegregated schooling and the value of diversity in both secondary and postsecondary education. Much of the existing research on desegregation (see U.S. Commission on Civil Rights [2006] for a review of the research) is criticized for methodological limitations (e.g., cross-sectional data, short-term outcomes), many of which are addressed in the current study. Additionally, because this literature has historically focused on black students, it perpetuates the misguided assumption that whites stand to gain little from integrated elementary and secondary schooling. This study offers strong evidence to the contrary, refuting some of the assertions that question the value of desegregated schooling that were raised in the U.S. Commission of Civil Rights' (2006) report and echoed in the *Louisville* and *Seattle* U.S. Supreme Court cases. The findings provide empirical evidence, based on longitudinal data and advanced methodological techniques, indicating that attending a diverse high school is beneficial to whites from segregated neighborhoods in developing cross-cultural workforce competencies and to all whites in choosing a racially integrated lifestyle postcollege. However, because the overwhelming majority of individuals from segregated environments attend segregated high schools, for them, attending a diverse postsecondary institution is essential to choosing an integrated postcollege lifestyle. Thus, secondary and postsecondary institutions can play a critical role in breaking the high level of segregation that plagues U.S. society.

Higher education is under pressure from its various constituents—national leaders and organizations, educators, students, parents, the business community, and the public—to prepare students for success in an increasingly diverse society and global marketplace (Bowen, Kurweil, & Tobin, 2005; Kellogg Commission on the Future of State and Land-Grant Institutions, 2000; Zumeta, 2001). This study indicates that higher education's success in doing so will depend on how successful institutions are in recruiting a diverse student body and creating a positive climate for cross-racial interactions. Indeed, the study highlights that while there is great value in exposure to diversity in high school, the power of collegial interactions across race is most influential

with regard to developing cross-cultural workforce competencies. These findings have important implications for policy and practice that can lead to educational environments that foster cross-cultural competencies.

First and foremost, this study has direct implications for the policy debate over race-conscious practices in higher education, adding to the social science research entered as evidence to the U.S. Supreme Court in support of affirmative action at the University of Michigan and University of Michigan Law School (*Gratz v. Bollinger*; *Grutter v. Bollinger*). The results provide empirical evidence for the largely anecdotal arguments posed by the business community: “Diversity in academic institutions augments the skills—cross-cultural competence and complex thinking—that students need to help lead our country’s economic future” (Brief of General Motors Corp. as Amicus Curiae in Support of Respondents, pp. 17–18).

Furthermore, the findings suggest that the legal and educational discourse about the *diversity rationale* (i.e., that numerical diversity renders educational benefits) must be augmented to include the requirement that institutions move beyond “aesthetic” goals to addressing the legacy of past discrimination and its current manifestation. While increasing the number of students of color on campus is an important goal by itself, structural diversity alone will not lead to educational gains for all students. The benefits of structural diversity entirely depend on fostering a positive racial climate.

Beyond long-term educational reform implications, this study offers valuable insight that can be applied immediately by corporate America. Specifically, because high-ranking corporate leaders view cognitive and social skills (e.g., the ability to negotiate issues and to interact with people of different races and cultures) more highly than domain-specific knowledge (Bikson & Law, 1994), businesses should consider recruiting employees from less-selective institutions, which are more likely to offer diverse learning environments. To truly motivate the nation’s most selective colleges to make transformative changes, business leaders might go so far as to publicly announce their preference for hiring graduates from certain selective institutions that have particularly diverse student bodies.

It is uncertain how trends toward neighborhood resegregation will impact the state of democracy and the economic interests of our country. Many U.S. students, particularly whites, are reaching adulthood without having had meaningful interactions with people of different racial backgrounds. However, the findings of this study are promising. They indicate that even with the increased segregation of neighborhoods, citizens can be equipped to succeed in a diverse and global society. Cumulative exposure to racial diversity throughout the educational pipeline and particularly in higher education is likely to facilitate the development of cross-culturally competent citizens. Conversely, if secondary and postsecondary institutions are *not* successful in securing racially diverse environments, the findings of this study imply a dismal future for the social and economic welfare of this nation.

Notes

1. The U.S. Supreme Court upheld the use of race as one factor in a comprehensive admissions process.
2. In 1996, California voters passed Proposition 209 as a statewide ban on race-conscious admissions and hiring practices. In 2007, approximately ten years after Proposition 209 was implemented in college admissions, the UCLA freshman class consisted of only 96 black students out of nearly 5,000 students admitted (Comeaux & Watford, 2006). This was the lowest number of black students at this California public flagship institution since 1973.
3. A missing values diagnostic of the total sample indicated that for all variables in the data set, fewer than 3 percent of the cases were missing. Little's Missing Completely at Random (MCAR) test determined the data to be MCAR. Before starting the analysis, I conducted the expectation maximization (EM) algorithm procedure on each sample to replace missing data. The EM algorithm is an iterative procedure that applies maximum likelihood estimation to calculate the covariance matrix and mean vector (Enders, 2006).
4. The four indicators that were originally hypothesized to make up the racially integrated postcollege lifestyle construct did not have a sufficient factor loading; the postcollege socializing across race measure loaded at -0.002 for the diverse neighborhood subsample. As a result, I took the poorly loading item out of the latent construct and respecified it as a separate observed variable in the final structural model. To minimize post hoc changes, I specified the (now separated) variable to have the same relationships with other variables as the reconstituted racially integrated postcollege lifestyle construct. The revised measurement model retained good data model fit for both groups (segregated neighborhood: comparative fit indices (CFI) = 0.92; root mean squared error or approximation (RMSEA) = 0.05, C.I.: [0.05, 0.05]; standardized root mean squared residual (SRMR) = 0.02), and diverse neighborhood subsample: CFI = 0.96; RMSEA = 0.04, C.I.: [0.05, 0.05]; SRMR = 0.03) and improved factor loadings (ranging from 0.32 to 0.85). Reliability was determined based on the Rho statistic (0.84 and 0.85 for the segregated and diverse precollege samples, respectively), which provides a more trustworthy measure of reliability than the Cronbach's alpha statistic in the evaluation of latent variables. The latter, according to Bentler (2005), is prone to making inaccurate assessments in SEM analysis.
5. All underlying assumptions of SEM were sufficiently met with the exception of data normality. Fortunately, the statistical software package used can handle data that is not normally distributed through the use of the maximum likelihood robust estimation method.
6. Fit indices include the chi-square (χ^2) statistic, SRMR, RMSEA, Bentler-Bonett Normed Fit index (NFI), and CFI. Because the chi-square statistic is well known for its sensitivity to sample size, it is typically ignored for large samples (Tabachnick & Fidell, 2001). RMSEA and CFI are the least susceptible to distortions resulting from large sample size (Fan, Thompson, & Wang, 1999). CFI and NFI scores above 0.90 indicate a reasonably good fit. For the RMSEA, 0.08 is the cutoff for a good fit, and smaller values indicate better fit. For SRMR, values under 0.10 indicate a good fit of the hypothesized model to the data.
7. Results indicated that the shared-indicator model better fit the data (segregated subsample: CFI = 0.97, RMSEA = 0.06, C.I.: [0.05, 0.06]; diverse subsample: CFI = 0.97, RMSEA = 0.06, C.I. [.05, 0.08]) than did the model with leadership and pluralistic orientation as two distinct measures (segregated subsample: CFI = 0.92, RMSEA = 0.10, C.I.: [0.09, .10]; diverse subsample: CFI = 0.97, RMSEA = 0.06, C.I.: [0.05, 0.08]).
8. Given that this study sought to address differences by precollege neighborhood racial composition, results pertaining to the structural equations were derived from multi-

group output, unless otherwise stated. Multigroup procedures provide a common assessment of fit for multiple groups simultaneously. Additionally, the comparative results are based on multigroup invariance testing of structural parameters of interest, which provides information on where racial composition of one's childhood neighborhood moderates relationships between variables.

9. The proposed structural model yielded a good fit with the data in preliminary single-group analysis of both the segregated precollege neighborhood sample (CFI = 0.91, NFI = 0.90, RMSEA = 0.04, C.I.: [0.04, 0.05], SRMR = 0.03) and the diverse precollege neighborhood sample (CFI = 0.95, NFI = 0.92, RMSEA = 0.04, C.I.: [0.04, 0.04], SRMR = 0.04). The fit remained good when taking into account the entire multigroup model (CFI = 0.92, NFI = 0.91, RMSEA = 0.04, C.I.: [0.04, 0.04], SRMR = 0.04). Good overall model fit means that the hypothesized relationships do exist and that it is reasonable to probe more closely at specific paths to determine the strength of each relationship.
10. Both unstandardized and standardized coefficients, including direct, indirect, and total effects, are produced by the EQS statistical software. However, only the direct and indirect effects are provided in Table 1 due to space limitations.
11. Tests of invariance indicated that the cross-cultural workforce competencies model fit both subsamples. However, 6 of the 23 tested paths displayed invariance, indicating moderation effects.
12. Liberal arts institutional type was included as a control variable in the cross-cultural workforce competencies model based on findings from a previous study (Umbach & Kuh, 2006), suggesting that attending a liberal arts institution is more beneficial than attending a structurally diverse institution with regard to developing greater openness to diversity.
13. Population comparisons and measures of within-population change across time were tested through analysis of structural means models (or latent mean comparisons), which are analogous to analysis of variance (ANOVA) tests in multiple regression analysis.
14. If high school diversity was predictive of a pluralistic orientation, then specifying this direct path in the model would diminish the relationship between cross-racial interaction and pluralistic orientation. Tests of this alternative model showed that it did not improve model fit or validate such expectations, meaning that attending a diverse high school was not predictive of a lasting postcollege pluralistic orientation.

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Appendix A: Variable Descriptions

Variable Name	Scale Range
Dependent Variable and Pretest (if available)	
Pluralistic Orientation	
<ul style="list-style-type: none"> • Ability to discuss and negotiate controversial issues • Ability to see the world from someone else's perspective • Openness to having my views challenged • Tolerance of others with different beliefs 	1 = Lowest 10%, 5 = Highest 10% (compared with the average person your age)
Leadership skills	
<ul style="list-style-type: none"> • Leadership ability • Public speaking • Social self-confidence • Ability to discuss and negotiate controversial issues 	1 = Lowest 10%, 5 = Highest 10% (compared with the average person your age)
Proxy pretest: Leadership propensity	
<ul style="list-style-type: none"> • Leadership ability • Public speaking • Social self-confidence 	1 = Lowest 10%, 5 = Highest 10% (compared with the average person your age)
Student Background Characteristics	
Gender	1 = Male, 2 = Female
Precollege Socialization for Diversity	
Racial composition of high school	How many of the people were of your race/ethnicity: 1 = All 2 = Most 3 = About half 4 = Some 5 = None
Institutional Characteristics	
Structural diversity index	
Liberal arts college (Carnegie Classification)	1 = No, 2 = Yes
Racial climate (Peer Mean: cross-racial interaction)	(Institutional aggregate of cross-racial interaction composite)
Peer Group Influences	
Greek participation	1 = No, 2 = Yes
College major: Holland Typology "Social" Majors	1 = No, 2 = Yes

Curricular and Cocurricular Experiences with Diversity

Cross-racial interaction

- How often do you study with someone of another race/ethnicity
- How often do you dine with someone of another race/ethnicity
- How often do you date someone of another race/ethnicity
- How often do you interact with someone of another race/ethnicity

1 = Not at all
2 = Occasionally
3 = Frequently

Ethnic studies course

1= No, 2 = Yes

Attended a racial/cultural workshop

1= No, 2 = Yes

Postcollege Activities

Racially integrated postcollege lifestyle

- Racial composition of current neighborhood
- Racial composition of workplace
- Racial composition of current close friends

How many of the people were
of your race/ethnicity:

1 = All
2 = Most
3 = About half
4 = Some
5 = None

Socialize with someone of another race/ethnicity

1 = Not at all
2 = Occasionally
3 = Frequently
