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Factors Influencing Positive Interactions Across Race for African American, Asian American, Latino, and White Students

Sylvia Hurtado, Hoi Ning Ngai and Victor B. Saenz*

University of California, Los Angeles

Higher Education Research Institute

Mail Correspondence
Higher Education Research Institute
University of California, Los Angeles
Graduate School of Education and Information Studies, Box 951521
Los Angeles, CA 90095-1521

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Abstract

This study explores the various factors that promote positive interactions across race for African American, Asian American, Latino, and White students. A longitudinal survey was administered to all incoming students at nine public institutions (with a follow-up survey given at the end of their second year), examining activities related to cross-racial interaction and outcomes. This knowledge will be useful for college administrators, institutional researchers, and faculty as they prepare to meet the challenge of preparing students for a pluralistic society.

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Introduction

Rapid demographic changes in many states and an increased demand for access to postsecondary education have led campuses not only to consider ways to continue diversifying their student bodies but also to turn their attention toward improving intergroup relations. Although approximately 67% of entering freshmen indicate that they socialized with someone of another racial/ethnic group in high school, this varies significantly by racial/ethnic group and has shown an actual decline in recent years (Sax, Hurtado, Lindholm, Astin, Korn, & Mahoney, 2005). Many have lauded increased diversity in the student body for facilitating greater student interactions across race and for related educational benefits, yet some critics allege that it produces less interaction and more balkanization or self-segregation by race or ethnicity. It is argued by some that increased student diversity on college campuses is the result of misguided affirmative action policies that have led to balkanized college environments, the development of ethnocentrism (D'Souza, 1991), and the aggravation of racial tensions among students (Thernstrom & Thernstrom, 1997). In contrast, researchers note that increasing racial and ethnic diversity on a campus can enhance learning environments if opportunities for *quality* interactions are available for students (Gurin, Dey, Hurtado, & Gurin, 2002; Bowen & Bok, 1998; Hurtado, Milem, Clayton-Pederson, & Allen, 1999; Antonio, 2001). In light of the debate on affirmative action admission policies and the mounting scrutiny of the "actual" benefits of diversity in the student body, the empirical need to investigate the quality of student interactions across race remains increasingly important. This study will explore factors that predict positive cross-racial interactions among college students with the goal of providing insights into the student

developmental and environmental conditions for realizing the potential benefits of a diverse student body.

Background

Across multiple arenas (i.e., higher education, employment, contracting, etc.), the debate over affirmative action policies has shifted from a discussion of moral and compensatory issues toward an understanding of the value of diversity within organizations and society-at-large (Milem, 2001). In the higher education arena, affirmative action in the form of race-conscious admissions policies have come under increasing scrutiny as a result of statewide initiatives (e.g., I-200 in WA, Prop. 209 in CA), Appellate Court decisions (e.g., 5th US Circuit Court in Hopwood case), policy responses (e.g., Top Ten Percent Plan in Texas, Talented Twenty Percent in Florida), and most recently, two US Supreme Court decisions (Grutter v. Bollinger; Gratz v. Bollinger). While we face a more varied landscape of institutional practices in terms of how diversity of the student body can be accomplished, the notion of why higher education must continue to diversify the student body has become more focused. In particular, the recent court decisions, which dealt with admissions policies at the University of Michigan, were influenced by an unprecedented amount of research that focused on the educational benefits of diverse learning environments for college students. While the moral, pragmatic, and compensatory rationales for diversifying a student body have not vanished, scholars and educators must now articulate the educational value of diversity practices in higher education that represent a compelling educational interest for individuals and society (Hurtado, 2004). This cannot be effectively argued, however, without understanding more about the social psychological and environmental conditions that lead to improved intergroup relations that, in turn, can result in important educational outcomes.

Literature Review

Over the last few years, as policy debates have raged over race-conscious admissions policies in higher education, a number of studies have effectively made the case that cross-racial interaction among students plays an important role in achieving the educational benefits associated with increased racial or ethnic diversity on college campuses. Hurtado, Dey, and Treviño (1994) examined student interactions across race, and they found a positive relationship between student activities and the outcome of frequent cross-racial interactions, suggesting that the more engaged students became within the campus environment, the more likely they reported higher rates of interaction. Chang (1996) found that more racially diverse campuses had a positive, direct effect on the frequency in which students engaged in cross-racial interaction and discussed issues of race. Chang, Hakuta, Jones, and Witt (2003) articulated numerous benefits that diverse campuses facilitated for students, including "higher-order thinking skills, increased motivation, improved retention, less racial stereotyping, higher earning potential, and greater likelihood of living, working, and socializing comfortably in integrated settings" (p. 20). Results from a national report, Preparing College Students for a Diverse Democracy (Hurtado, 2003), reveal that positive interactions across race are significantly correlated with various cognitive, social, and democratic outcomes for students.

Cross-racial interactions among students have been researched in both formal and informal contexts within the college environment. At the informal level, interactional diversity (i.e., the extent of interaction with diverse others) has been observed to positively impact interpersonal and leadership skills (Antonio, 2000; Hu & Kuh, 2003). Students who report frequent interactions with diverse peers show a greater openness to diverse perspectives and a willingness to challenge their own beliefs after the first year of college (Pascarella, Edison, Nora,

Hagedorn, & Terenzini, 1996). These studies indicate that students who interact with diverse peers demonstrate more complex thinking that is linked to both cognitive and social development. Formal interaction with others, through diversified curricula and diversity courses, has a consistently positive effect on complex thinking skills, retention, cultural awareness, interest in social issues, and support for institutional diversity initiatives (Hurtado, 2003; Chang, 2001). In examining a mix of formal and informal contexts, Astin (1993) found that students who engaged in "diversity activities" (e.g., discussing racial issues, socializing with someone of another race, attending campus demonstrations, attending racial/cultural awareness workshops, taking ethnic or women's studies courses) reported greater gains on cultural awareness, commitment to racial understanding, and commitment to cleaning up environment, among other individual benefits.

A recent study by Chang, Astin, and Kim (2004) focused more intently on the causes of cross-racial interaction among college students. While prior research has established that cross-racial interaction plays a key role in achieving the educational benefits associated with racial diversity, the authors noted that there remained a shortage of information about the conditions that could help to maximize this behavior. Their findings indicated that the various ways for measuring the frequency of student interactions across race yielded similar positive effects on the outcome measures of interest. The researchers also found that structural diversity (i.e., the proportion of racial/ethnic minorities in a college setting) had different effects on patterns of interaction among white students as compared to students of color. They explained that this was the case perhaps because there were enhanced opportunities for interaction at more diverse campuses for students of color. Unlike for white students, cross-racial interaction for students of color could not be explained simply by the availability of a more diverse student body, indicating

a more complex relationship for future research. Looking at college students specifically, studies of interracial relations on college campuses indicate that different racial/ethnic groups vary in their comfort level when interacting with students from other groups (Mack, 1995). Furthermore, their comfort level is also dependent on the contexts in which their interactions occur. In Mack's study, Asian students indicated the greatest discomfort interacting with groups of students in academic or social contexts, Black students indicated discomfort when interacting with White students in more intimate environments, Latino students indicated little discomfort regardless of racial/ethnic background, and White students indicate the least discomfort interacting with diverse others.

This body of research has been important in establishing the positive effects of cross-racial interactions on various educational outcomes. Yet, many of these works were limited by their inability to pinpoint the conditions that influence the nature or quality of students' experiences with diversity, instead relying on general measures of frequency of interactions. Across both formal and informal contexts within a college environment, students gain knowledge and develop skills from interactions with individuals of different backgrounds and experiences, yet little is known about the factors that facilitate these interactions or whether these interactions are of a positive nature. Further, as Chang et al. (2004) and others have noted, students of varying racial backgrounds often experience diversity in complex ways, suggesting a need for a more nuanced approach to examining what factors predict positive cross-racial interactions. Given that students of different racial/ethnic backgrounds may engage diversity differently across formal and informal contexts, we posed the following research question: what individual characteristics (including social psychological predispositions) and environmental

conditions promote positive interactions across race for African American, Latino, Asian American and White students in the second year of college?

In adding to the existing body of research on the potential benefits of diversity, the aim of the present study is to advance our understanding of the conditions (social psychological and environmental) that predict positive interactions for students. Through the use of longitudinal data collected at college entry and at the end of the second year of college, we focus particularly on curricular and co-curricular contexts in the first two years of college as well as the influence of peer environments. Ultimately, our findings may serve to inform the ongoing debate over dynamics of racial diversity in higher education by offering empirical evidence on the ways that institutions can better facilitate positive interactions across race, enhancing the overall learning environment and campus climate for all students.

Conceptual Framework

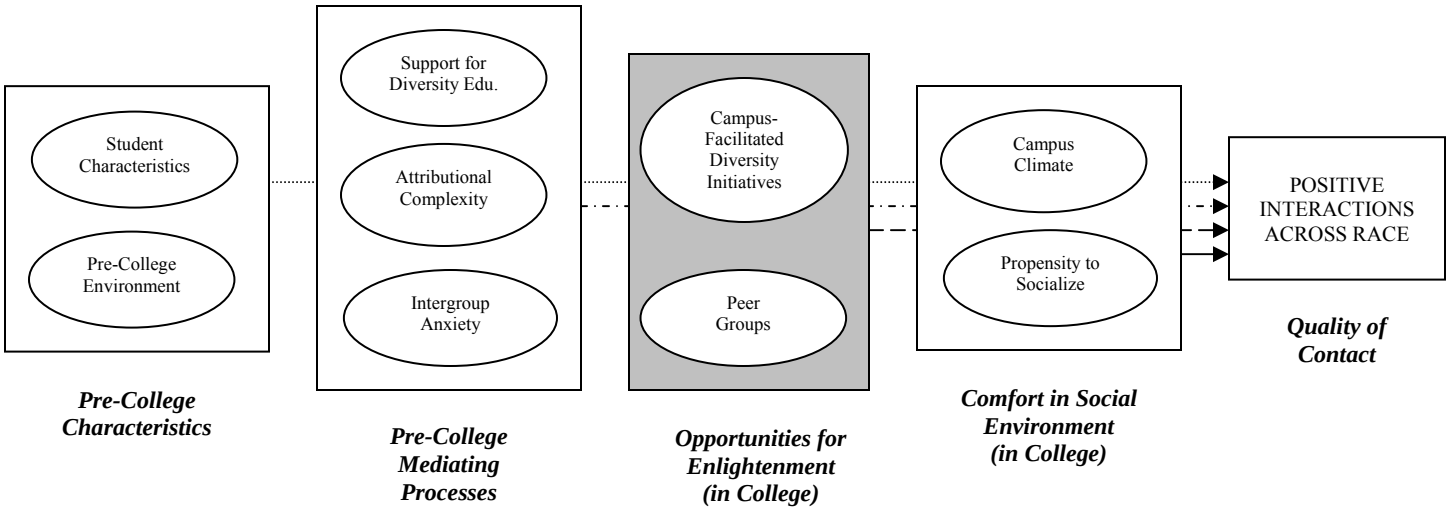
Given the extent to which previous research already provides strong support for the positive relationship between cross-racial interactions and various student outcomes (i.e., social, cognitive, affective, democratic), the motivating force behind this study is not to address the need for these exchanges, but rather to understand how to provide more opportunities for promoting intergroup relations on campus. Likewise, the focus is not only on increasing the frequency, but also on improving the quality of these interactions. If we seek ways in which students can engage in positive and meaningful interactions with diverse others, what contexts are most likely to provide these kinds of opportunities? What kinds of college experiences allow these interactions to take place? Student self-reports of their positive interactions across race serves as the principle outcome measure, as we seek those factors that most effectively facilitate these exchanges and promote intergroup relations on campus.

Research suggests that many student-level characteristics and experiences can lead to positive interactions with diverse peers. In order to examine the impact of these various factors, we adapted Dovidio, Gaertner, Stewart, Esses, Ten Vergert, and Hodson's (2004) model of intergroup bias to provide key concepts with which to develop the general framework for this study. Within their model, the authors address the extent to which enlightenment and contact can work through mediating processes to affect intergroup bias. With positive interactions as the dependent variable, we attempted to examine the relationship between enlightenment (developing a stronger foundation of knowledge and grasp of diversity content) and contact (achieving a higher level of comfort in the presence of diverse others). Rather than considering the combined effect of these two variables, we attempted to determine the extent to which individual attributes and predispositions as well as college experiences contribute to positive intergroup relations.

Dovidio et al.'s (2004) model considers the manner by which enlightenment and contact experiences work through mediating processes to impact attitudes, while in this case we consider the role of mediating processes in their unique influence on the quality of interactions with diverse peers in college. We account for these mediating processes in two areas of our overall framework. First, we posit that mediating processes include an individual's attributional complexity (cognitive), intergroup anxiety (affective), and predisposition to learn about diversity. We acknowledge the possibility that these cognitive and affective processes can mediate students' choices around the college experiences that offer knowledge and information (enlightenment). A second set of mediating processes is posited between college experiences and their impact on the quality of contact with diverse peers. This includes students' sense of connection with their respective institution, a connection that is formed by their perception of the

climate for racial/ethnic diversity, and students' propensity to frequently socialize with others. That is, positive interactions with diverse peers have much to do with overall comfort in the social environment in college. The diagram in Figure 1 offers a visual representation of the theoretical framework, taking into account pre-college experiences, college influences, and mediating processes on positive interactions across race in the second year of college.

Figure 1. Theoretical Framework



Pre-College Considerations

Students' initial abilities and predispositions upon college entry are often correlated with their specific and overall college experiences (Astin, 1993; Milem & Umbach, 2003). As such, it is important to recognize the role of background characteristics and pre-college experiences on the outcome variable. First of all, several studies suggest that a relationship exists between ability and interracial interaction, with results showing that students with high ability (Hurtado, Carter, & Sharp, 1995) and/or high academic self-concepts (Hurtado, 1990) are more likely to interact and socialize with diverse peers than those with low ability and/or low academic self-concepts. High ability students are more likely to dine, study, room with, and date someone of a different racial/ethnic background, while low ability students are least likely to engage others

across racial/ethnic lines (Hurtado, Carter, & Sharp, 1995). White students with higher academic self-concepts are more likely to discuss racial issues and socialize with diverse peers, though no similar relationships were found with Black or Latino students (Hurtado, 1990).

Astin's (1993) work also found that pre-college environments and interactions with diverse others are highly correlated with attitudes, behaviors, and involvement during the undergraduate years, specifically with regard to interactions across race/ethnicity. Depending on previous exposure to diverse others in their pre-college environments, students may be more or less inclined to interact with students of other racial/ethnic backgrounds upon arriving on college campuses. Moreover, some students are likely to enter colleges from highly segregated high schools and neighborhoods across the nation (Orfield, Bachmeier, James, & Eitle, 1997), and therefore are likely to encounter social differences for the first time in college. For those racial groups who come in feeling alienated within the larger society, prior prejudices or intergroup anxiety may prevent positive interactions from occurring (Bobo & Hutchings, 1996). In contrast, those with more extensive exposure to diverse others in home or school environments may more easily bridge racial/ethnic social gaps in college.

Beyond mere exposure, pre-college interaction with diverse others is an important predictor for the kinds of activities and experiences that students choose to participate in during their college years. Moreover, the extent to which students meaningfully engage others from different backgrounds in high school can determine their levels of attributional complexity (how they think of about others' behavior) and intergroup anxiety (comfort with diverse groups of people) upon college entry. Attributional complexity is derived from Fletcher, Danilovics, Peterson, and Reeder's (1986) work on individual preferences for complex and socio-historical (rather than simple) explanations of people's behavior, and intergroup anxiety is derived largely

from the work of Stephan and Stephan (1985). These competencies, along with an initial interest in learning about diversity, can thereafter serve as mediating processes that determine whether students choose to engage in experiences that can lead to positive contact with diverse others. For example, Levin, Van Laar, and Sidanius (2003) found that, for all students regardless of racial background, ethnic attitudes prior to college entry are significant predictors of college friendships. Specifically, students have fewer outgroup friends and more ingroup friends when they are more biased toward their ingroup and when they are more anxious with members of the outgroup. These results support the idea that pre-college orientations may have significant impact on formal and informal experiences with college peers.

College Experiences

With the background and pre-college characteristics accounted for, we are able to evaluate the impact and consider the process by which college experiences can lead students to positive interactions across race. This study contends that the combination of opportunities for enlightenment and peer group influences can have a strong impact on the quality of interactions that students have with diverse others. Allport (1954) notes that one of the necessary conditions for positive intergroup contact and reduction of prejudice is the existence of authority or institutional support. Taking this into account, we specifically examine the differential impact of campus-facilitated diversity initiatives that may foster positive intergroup contract, including curricular and co-curricular activities.

Research into diversity coursework and diversity activities suggest that such experiences allow students of different backgrounds to expand their knowledge and understanding of themselves and others through opportunities to discuss difficult issues and express different opinions (Chang, 1996; Hurtado, 1998; Zuniga et al., 2002). Under optimal conditions, co-

curricular and curricular activities may provide the kind of environments necessary for meaningful learning to take place. In addition to diversity coursework, service learning, participation in intergroup dialogue, and other co-curricular activities, we also consider academic support services and faculty encouragement of student discussions as ways in which institutions can take a strong role in guiding students toward more positive interactions with diverse others.

Although various structured experiences may promote positive interactions within academic spaces, additional research suggests that meaningful contact also occurs in informal settings, specifically those in which students work, study, and socialize together, and where enlightenment is not structured and defined by curricula. These informal interactions are often determined by students' choices in peer groups, including those defined by fraternities/sororities, ethnic organizations, athletics, and student government. Allport (1954) suggests that intimate relationships are the ones that are the most effective in allowing individuals to cross racial/ethnic boundaries and to learn from each other in meaningful ways. In these situations, where anxieties may be attenuated, conversation and dialogue may more likely be positive and transformational.

In addition to the aforementioned factors, another mediating process in determining positive contact with diverse peers is comfort level. Building on Allport's (1954) argument for institutional support, Pettigrew (1998) notes that the situation for intergroup contact must provide the participants with the opportunity to become friends, indicating that a supportive environment is necessary for such interactions to take place. Levin et al. (2003) found that negative perceptions of campus climate lead members of different racial/ethnic groups, especially Blacks, to have more ingroup friends, rather than expand to other groups. As such, student perceptions of campus climate can have a strong impact on whether interactions take place at all. In taking this line of research even further, recent studies suggest that perceptions of

campus climate may have differential impact depending on racial/ethnic group identification (Hurtado et. al., 1999).

Finally, we considered controlling for those students who are simply more social or comfortable in the college environment, acknowledging these qualities as key mediating factors in whether students are able to bridge racial/ethnic differences and have positive interactions. These are important variables to consider as those who feel more connected and comfortable within the social environment – whether it be due to their participation in diversity initiatives or their connection to peer groups – may experience higher levels of positive contact.

Method

Data Source

To recap, this study explored the factors that predict positive interactions with diverse peers among college students across four racial groups (African American, Latino, Asian, and White students). The study utilized longitudinal data from the Diverse Democracy Project, a multi-campus national research project that surveyed students at college entry (administered in the Fall of 2000) and again at the end of their second year (administered in the Spring of 2002). The Diverse Democracy Project was aimed at providing empirical evidence that could both inform the debate over the educational benefits of diversity in higher education and provide guidance for institutional practice that would link the central mission of teaching and learning with diversity (Hurtado, 2003). Institutions were invited to participate in the Diverse Democracy Project because they exhibited a strong commitment to diversity initiatives as exemplified through curricular and co-curricular programming and they had demonstrated recent success in diversifying their campuses (2003).

The sample for the present study included 4,757 students from nine public universities, with all students completing both the first-year and second-year surveys. To correct for the low response rates and to generalize our results to the original sample population, statistical weights were created to account for response bias in each survey (2003). Weights were then readjusted to ensure that the new weighted sample did not produce incorrect standard errors and thus possible Type I errors. A review of the missing data revealed a small range of missing data (0% to 10%) across all measures in our analyses. In order to maintain as much of the sample for analyses, missing values for all independent measures were replaced using the EM algorithm function in the SPSS statistical software. The EM algorithm represents a general method for obtaining maximum likelihood (ML) estimates when a small proportion of the data is missing (2003). The EM algorithm consists of an expectation step and a maximization step, repeated many times in an iterative process that eventually converges to the ML estimates. Once weighting and missing data were accounted for, the final sample consisted of 4,380 students spread across our four racial/ethnic groups of interest: 686 Asian students, 224 African American students, 388 Latino students, and 3,082 White students.

Measures & Analyses

The dependent measure for our study – frequency of positive interactions across race – was constituted using a scale of 7 items (alpha = 0.88). This measure consisted of items that assessed the extent to which one engaged students of other racial/ethnic backgrounds in: dining/sharing meals, having discussions about racial/ethnic relations outside of class, sharing personal feelings/problems, studying/preparing for class, socializing/partying, having intellectual discussions outside of class, and attending events sponsored by other racial/ethnic groups. The theme of these individual items suggests a positive qualitative nature to the interactions assessed.

The individual factor loadings ranged from (0.69 to 0.88), and the factor held together well across all four racial groups under investigation.

A total of 22 independent variables were selected for the analyses in this study: 14 single-item variables, 7 factor scales, and 1 institutional-level measure. Variable definitions are shown in Table 1, along with coding schemes and scales. Items constituting factors are shown in Table 2. The alpha values remained consistent across all four groups of interest, suggesting that the items within each of the factors held well for all groups.

>> INSERT TABLE 1 about here <<

Factor analyses – using principal axis factoring and varimax rotation – and reliability analyses were conducted to affirm the saliency of the outcome measure as well as other factors employed in our analyses. Factor scales were created using the regression method, a method for estimating factor score coefficients with a mean of 0 and a variance equal to the squared multiple correlation between the estimated factor scores and the true factor values. This method works to center and standardize the scale for each factor, preserving the variance of each individual item while enhancing the overall utility of the newly created scale. Additionally, an analysis of variance was conducted to obtain the mean values of the dependent measure for each of the four racial/ethnic groups and to assess whether these groups were statistically different from each other.

>> INSERT TABLE 2 about here <<

Once all measures were thoroughly inspected and confirmed through missing data and factor analyses, separate multivariate regression analyses were run for each of the four racial/ethnic groups, comparing the standardized beta coefficients for each of the groups to determine the strongest predictors for positive interactions across race. In order to examine the

predictive power of our independent variables, we used blocked hierarchical regression, entering our variables in seven blocks based on temporal order of impact and as informed by our conceptual framework. The variables were placed into the following blocks: background characteristics, pre-college environment, pre-college mediating factors, institutional characteristics, peer groups, campus-facilitated diversity experiences, and college mediating factors, including perception of racial tension and hours per week socializing.

Conceptual/Analytic Model

The first block of variables consisted of background characteristics: SAT scores, gender, and socioeconomic status. These items recognize prior research linking high-ability and high SES to greater likelihood of interactions with diverse others. The second block of variables in the regression model consisted of three measures of pre-college environment, one describing students' racial environment (both in their surroundings and their friendship groups), the other two measures describing the frequency and quality of interactions with diverse peers prior to college entry. Such measures provide a proxy that represents the extent of students' pre-college exposure to diverse others, which often sets the tone for whether or not students feel comfortable engaging with diverse others in college.

The third block included three measures of pre-college mediating processes: support for diversity education, level of attributional complexity, and level of intergroup anxiety. These measures provide a sense of how ready and willing students are to take in diverse opinions. Given that attitudes often develop out of prior exposure and experiences, these attitudes often serve as mediating processes, directing students toward particular experiences and outcomes. Support for diversity education is a factor scale that accounts for students' attitudes towards incorporating diverse material into academic coursework. Attributional complexity stems from

Fletcher, Danilovics, Fernandez, Peterson, and Reeder's (1986) cognitive psychological theories, which focus on the extent to which individuals incorporate increased analysis and perspective-taking into their thought processes. Intergroup anxiety is a social psychological term taken from Stephan and Stephan's (1985) research on the tension that often exists between different racial/ethnic groups and interferes with inter-racial/-ethnic communication. Given the mediating quality of these attitudes, they were placed after background characteristics and before college-oriented characteristics and experiences.

The fourth block of variables consisted of a single institutional measure of structural diversity, as defined by the percentage of underrepresented minorities. The information was pulled from the national IPEDS database. In order to construct the item, percentages of Asian, African American, Latino, and Native American students were obtained for each of the institutions and summed to create the total percentage. This institutional measure was important as prior research has continued to emphasize the importance of structural diversity in providing opportunities for interactions to occur as well as contributing to overriding perceptions of campus climate and campus commitment to diversity (Hurtado et al, 1999; Chang et al., 2004).

The fifth block considered the role of peer groups in facilitating student experiences with diverse others. While institutions cannot necessarily direct students toward particular friendship circles, the groups indicated within this block are structured opportunities toward which student affairs can direct their energies to develop and improve. The block consisted of peer groups as defined by: living on campus, participating in leadership training, participating in Greek organizations, and joining organizations that promote cultural diversity.

The sixth block of variables focused specifically on campus-facilitated diversity initiatives. By examining the impact of these measures, institutions can develop specific policy

initiatives to devote attention and support to those activities and experiences that foster positive interactions across racial/ethnic lines. The block included measures ranging from participation in diversity curricular and co-curricular activities to faculty support of student development and interaction to use of academic support services. These campus practices provide a wide range of opportunities for institutions to intentionally facilitate and provide opportunities for supporting interactions with diverse peers.

After controlling for all background and institutional factors, the final block consisted of two additional factors that are considered college mediating processes that may have overriding impact on the likelihood of positive interactions across race. The first measure, perception of racial tension, has been previously discussed with regard to students of color and their likelihood to self-segregate (and possibly interact less with diverse others) in racially tense environments. The second measure, hours per week socializing, acknowledges that those who are more naturally outgoing will be more likely to interact with diverse others and capable of crossing racial/ethnic divides.

Each of the seven blocks was force entered into the regression model for all four racial/ethnic groups. The effects of the 22 independent variables on the dependent measure as well as the relationships between the independent variables were assessed by examining the changes in their regression coefficients (betas) and significance values (adjusted R squared) over the course of the model.

Limitations

An important limitation of this study lies with the fact that the population of White students within our sample is substantially larger than the populations of Asian, African American, and Latino students. In conducting separate analyses for each of these racial/ethnic

groups, it is likely that many more independent variables were deemed statistically significant for the White students given the large sample size. Additionally, it may be difficult to generalize the findings of this study given the significantly smaller populations examined for the other three racial/ethnic groups as well as the fact that the institutions in this sample only represent public universities.

Results

In comparing the mean values for the dependent measure across racial/ethnic groups, African American students reported the greatest extent of positive interactions across race, with White students reporting the lowest extent. The standard deviation statistics indicate the least variability for African American students, thereby lending greater support to the idea that these students may be interacting more with those of different racial/ethnic backgrounds on public university campuses.

>> INSERT TABLE 3 about here <<

The Dunnett T3 test, which acknowledges heterogeneous variances across groups, indicates that the only significant difference in the dependent measure exists between White students and each of the other groups. More specifically, there is a statistically significant difference ($p<.05$) in mean values for positive interactions between White students and African American students, between White students and Latino students, and between White students and Asian students. However, no significant differences exist between Asian, African American, and Latino students with regard to levels of positive interactions across race.

Keeping in mind the large sample size of White students ($n = 3082$), the lower mean values for this group as well as the significant mean differences suggest that the racial/ethnic boundary lines may be harder for White students to cross. However, as review of the regression

model suggests, this may not be due completely to White students' inabilities to cross those lines, but also to the availability of opportunities for interaction, especially given the varying levels of structural diversity.

African American Students

In order to adjust for the small African American sample (n = 224) in comparison to the other groups, we set a more lenient significance level ($p < 0.10$) for this group's regression model. For African American students, our model explains 24% of the variance in the dependent variable. Frequency of studying with individuals from different racial/ethnic backgrounds ($\beta=0.18$) and having a white pre-college racial environment ($\beta=0.17$) are associated with positive interactions during college. By far the most important factors for African Americans are student reports that a faculty member took an interest in their development ($\beta=0.24$) and the hours per week spent socializing ($\beta=0.23$), each significant at the $p=<.001$ level. For these students, what appears to be most important to positive interactions is pre-college exposure to diverse peers, individual social skills, and faculty support and validation in college.

Opportunities for intensive dialogue in class ($\beta=0.18$) also has a positive relationship to the dependent measure for African American students. In contrast, students' perception of racial tension ($\beta= -.16$) has a negative relationship to the dependent variable. Similarly, students' pre-college intergroup anxiety ($\beta= -.09$) has a negative effect on positive interactions, although its impact is only marginally significant. Given the negative quality associated with intergroup anxiety and perception of racial tension, it is natural to associate increased anxiety toward others and hostile campus climate with a decrease in the likelihood of positive interactions across race. Although marginally significant ($p<0.10$), the finding that participation in diversity courses ($\beta= -.14$) leads to fewer positive interactions is due to the fact that intensive dialogue appears to have

a suppressor effect on diversity coursework, whereby the impact of diversity coursework is revealed only after intensive dialogue is controlled for in the regression model.

>> INSERT TABLE 4 about here <<

Latino Students

As a group, Latino students report significantly higher levels of positive interactions as compared to White students. The results for the Latino sample (n = 388) yield a model that accounts for the largest percentage of variance (adjusted $R^2 = 0.39$) in the dependent measure as compared to the other racial groups. This suggests a strong fit for the Latino sample and indicates a good selection of explanatory and predictive measures in our regression model.

For Latino students, frequency of studying with diverse others prior to college (β=0.20) and hours per week socializing during college (β=0.24) are the strongest predictors of positive interactions. In addition, SAT (as a determinant of ability) (β=0.14), pre-college support for diversity education (β=0.13), being female (β=0.09), and pre-college interactions with diverse others (β=0.10) are all positively related to positive interactions with diverse peers. Participation in diversity co-curricular activities (β=0.13), the use of academic support services (β=0.13), and having opportunities to engage in intensive dialogue with students of different racial groups (β=0.13) are also fairly strong contributors to the overall variance for the model.

Asian Students

Even though the Asian sample (n = 686) consists of a relatively large number of students, the group yields about the same number of significant predictors as the African American and Latino regression models, with 30% of the variance accounted for in the dependent variable . For Asian students, hours per week socializing (β=0.26) is the strongest predictor, observably higher in contribution to the variance than all other significant predictors. Following after this

student-level variable, frequency of studying with diverse peers in high school (β=0.11), pre-college interactions with diverse others (β=0.12), and having a diverse pre-college environment (β=0.09) are all strong and significant predictors of positive interactions. Within the college-level predictors, opportunities for intensive dialogue (β=0.09), participating in diversity co-curricular activities (β=0.13), and participating in leadership training (β=0.10) prove to be strongly associated to the outcome measure.

>> INSERT TABLE 5 about here <<

White Students

As indicated previously, White students report the lowest level of positive interactions across race as compared to the other groups. For this group, it is important to re-emphasize the fact that the large sample size (n = 3082) may have a significant impact on the results, allowing a large number of variables to enter the model as highly significant. Of the 12 measures that are significant predictors, hours per week socializing (β=0.18) and diversity co-curricular activities (β=0.16) are the strongest, with opportunities for intensive dialogue (β=0.13) and academic support services (β=0.11) also strongly significant. Diversity co-curricular activities have a particularly strong impact (β=0.16) given that several other measures drop substantially in effect after its entry into the model. It should be noted that structural diversity (β=0.11) has a significant impact on white student reports of positive interactions with diverse peers – a finding that counters previous research regarding more conflict on diverse campuses.

The results of the model also indicate that positive interactions for White students is impacted by being female (β=0.04), by pre-college levels of attributional complexity (β=0.06), and by student reports that a faculty took an interest in their development. Conversely, students that report high pre-college levels of intergroup anxiety (β= -.06) or participation in a Greek

organization (β= -.04) show negative effects on the outcome measure. Nonetheless, the presence of increased minorities on college campuses and campus-facilitated opportunities appears to offer increased chances for White students to engage in positive interactions with diverse peers.

Discussion

Across all racial/ethnic groups, a student's propensity to socialize (as defined by hours per week socializing) appears to be one of the strongest predictors of positive interactions across race after accounting for all other institutional and student-level factors. Given the natural social abilities and tendencies of these students, they are more likely to interact with others despite differences in racial/ethnic backgrounds. Socializing once again reflects the importance of interpersonal skills in engaging others, while diversity co-curricular activities suggest opportunities for institutions to engage various student populations. Each of these measures seemed critical in explaining why some students are more likely to engage in positive interactions across race.

For African American students, what appears to be most important to positive interactions is pre-college exposure to diverse others, individual personality characteristics, and faculty support. In terms of policy implications, faculty support can serve as a reflection of institutional commitment to diversity and diverse students, and thus contribute to providing a positive and validating campus environment for African American students.

For Latino students, pre-college support for diverse education and participation in diversity co-curricular activities had a powerful impact. It was the only group, however, where student ability continued to play a direct role in positive interactions with diverse peers (as these effects were accounted for by other factors in the other racial groups). The importance of academic support services in facilitating greater positive interactions for Latino students

emphasizes the role that institutions can take in demonstrating commitment to supporting the experiences of minority students, thereby creating a more welcoming campus environment. Additionally, the results seem to suggest that female Latino students report more interactions across race than Latino males.

For Asian students, given the inclusion of all pre-college attitude measures in the model, it appears that this group is more subject than other groups to pre-college orientations toward diversity and diverse others. As might be expected, support for diversity education and level of attributional complexity are both positively related to the dependent variable, while intergroup anxiety is negatively related. Like the other groups, hours per week socializing was the strongest predictor of positive interactions for Asian students, suggesting the importance of social skills in individual ability to interact positively across race.

Finally, for White students, the presence of more racial/ethnic minorities on college campuses seemed to offer increased chances for positive interactions to occur, a finding that confirms prior research on the effects of diverse student bodies (Chang, 1996). However, participation in Greek organizations had a negative relationship to positive interactions across race, as such experiences tend to keep students confined to a homogeneous peer group. On the other hand, participation in organizations that promote cultural diversity showed a positive relationship to positive interactions, perhaps because such settings offer White students opportunities to explore other cultural backgrounds in safe and meaningful ways. Additionally, the fact that faculty interest in development came out as significant for White students emphasizes the importance of institutional concern for all students. By expanding academic support services and providing more opportunities for intensive dialogue, institutions may be

able to provide students with safe spaces in which they can learn from each other and develop both academically and socially.

Conclusion

Fostering positive intergroup relations on college and university campuses is key to enhancing students' democratic skills and preparing them to negotiate differences in a diverse society. The current study suggests that the presence of diverse peers, along with opportunities for facilitated interactions that create contact and expand student knowledge about diverse others, perspectives, and backgrounds, contributes to the development of important skills. First, it establishes that campus conditions as well as students' individual predispositions are essential in considering whether and how positive interactions will occur. An important finding is that opportunities for intensive dialogue in classes and faculty interest in student development both serve to increase student learning as well as foster positive intergroup relations on campus. Improving faculty skills in teaching multicultural classrooms is crucial as is providing sufficient opportunities for students to interact with diverse peer groups outside of the classroom. Students require this experiential learning to develop their intergroup relations skills and those students who lack this experience and the necessary social skills to function effectively in a diverse society should be of serious concern to educators. As a society, we have much to learn about crossing racial, social and political divides; this study suggests that the college environment can be a unique opportunity for learning together how to best achieve the multicultural society we aspire to become.

Table 1. Variable Definitions and Coding Scheme

Dependent Variable	
Positive interactions across race	Seven-item standardized factor scale.*
Independent Variables	
BACKGROUND CHARACTERISTICS	
SAT (Math/Verbal)	Continuous: Math: 200-800; Verbal: 200-800.
Gender (Female)	Dichotomous: 1 = "male;" 2 = "female."
Socioeconomic status (Family income, mother's/father's highest level of education)	Three-item factor scale.
PRE-COLLEGE ENVIRONMENT	
Pre-college racial environment (Neighborhood, high school, friends)	Three-item factor scale.
Extent of interactions with individuals from different racial/ethnic backgrounds in high school	Count: Interaction w/Asians, Blacks, Latinos, Native Americans, Whites Four-point scale: 1 = "no interaction," to 5 = "substantial interaction."
Frequency of studying with individuals from different racial/ethnic backgrounds in high school	Five-point scale: 1 = "never," to 5 = "daily."
PRE-COLLEGE MEDIATING PROCESSES	
Pre-college support for diversity education	Five-item factor scale.
Pre-college level of attributional complexity	Five-item factor scale.
Pre-college level of intergroup anxiety (Frequency of discomfort with different groups)	Count: Discomfort w/Asians, Blacks, Latinos, Native Americans, Whites Four-point scale: 1 = "never," to 5 = "often."
INSTITUTIONAL CHARACTERISTICS	
Structural diversity (Percentage of underrepresented minorities)	Continuous: 0-100.
PEER GROUPS	
Lived on campus	Dichotomous: 1 = "no," 2 = "yes."
Participated in leadership training	Dichotomous: 1 = "no," 2 = "yes."
Participated in Greek organization	Dichotomous: 1 = "no," 2 = "yes."
Joined organization(s) that promote cultural diversity	Dichotomous: 1 = "no," 2 = "yes."
CAMPUS-FACILITATED DIVERSITY INITIATIVES	
Participated in diversity co-curricular activities	Two-item factor scale.
Participated in diversity course(s)	Three-item factor scale.
Had opportunities for intensive dialogue between students of different backgrounds in classroom(s)	Four-point scale: 1 = "none," to 4 = "three or more."
Participated in service learning course(s)	Four-point scale: 1 = "none," to 4 = "three or more."
Took advantage of academic support services (Tutoring, academic advising)	Two-item factor scale.
Faculty demonstrated interest in development	Four-point scale: 1 = "strongly disagree," to 4 = "strongly agree."
COLLEGE MEDIATING PROCESSES	
Perception of racial tension	Four-point scale: 1 = "strongly disagree," to 4 = "strongly agree."
Hours per week socializing	Six-point scale: 1 = "0 hours," to 6 = "over 20 hours."

* Note: All factor scales were computed using standardized scales (regression method) unless otherwise noted.

Table 2. Items Constituting Factor Scales

POSITIVE INTERACTIONS ACROSS RACE	
Dined or shared meal	Five-point scale: 1 = "never," 5 = "very often."
Had meaningful and honest discussions about race/ethnic relations outside of class	Five-point scale: 1 = "never," 5 = "very often."
Shared personal feelings and problems	Five-point scale: 1 = "never," 5 = "very often."
Studied or prepared for class	Five-point scale: 1 = "never," 5 = "very often."
Socialized or partied	Five-point scale: 1 = "never," 5 = "very often."
Had intellectual discussions outside of class	Five-point scale: 1 = "never," 5 = "very often."
Attended events sponsored by other racial/ ethnic groups	Five-point scale: 1 = "never," 5 = "very often."
SOCIOECONOMIC STATUS	
Family income	Eight-point scale: 1 = "< $10,000," to 8 = "> $150,000."
Mother's highest level of education	Seven-point scale: 0 = "don't know," to 6 = "doctorate or professional degree (e.g., JD, MD, PhD)."
Father's highest level of education	Seven-point scale: 0 = "don't know," to 6 = "doctorate or professional degree (e.g., JD, MD, PhD)."
PRE-COLLEGE RACIAL ENVIRONMENT	
Racial/ethnic composition of neighborhood	Five-point scale: 1 = "all or nearly all people of color," to 5 = "all or nearly all white."
Racial/ethnic composition of high school	Five-point scale: 1 = "all or nearly all people of color," to 5 = "all or nearly all white."
Racial/ethnic composition of friends in high school	Five-point scale: 1 = "all or nearly all people of color," to 5 = "all or nearly all white."
PRE-COLLEGE SUPPORT FOR DIVERSITY EDUCATION	
Incorporating writings and research about different ethnic groups and women into courses	Four-point scale: 1 = "strongly oppose," to 4 = "strongly support."
Requiring students to complete a community-based experience with diverse populations	Four-point scale: 1 = "strongly oppose," to 4 = "strongly support."
Offering courses to help students develop an appreciation for their own and other cultures	Four-point scale: 1 = "strongly oppose," to 4 = "strongly support."
Requiring students to take at least one cultural or ethnic diversity course in order to graduate	Four-point scale: 1 = "strongly oppose," to 4 = "strongly support."
Offering opportunities for intensive discussion between students with different backgrounds and beliefs	Four-point scale: 1 = "strongly oppose," to 4 = "strongly support."
PRE-COLLEGE LEVEL OF ATTRIBUTIONAL COMPLEXITY	
I am interested in understanding how my own thinking works when I make judgments about people	Five-point scale: 1 = "not at all like me," to 5 = "very much like me."
I really enjoy analyzing the reason or causes for people's behavior	Five-point scale: 1 = "not at all like me," to 5 = "very much like me."

I think a lot about the influence that society has on other people	Five-point scale: 1 = "not at all like me," to 5 = "very much like me."
I believe it is important to analyze and understand our own thinking processes	Five-point scale: 1 = "not at all like me," to 5 = "very much like me."
I think a lot about the influence that society has on my behavior	Five-point scale: 1 = "not at all like me," to 5 = "very much like me."
PARTICIPATED IN DIVERSITY CO-CURRICULAR ACTIVITIES	
Campus-organized discussions on racial/ethnic issues	Five-point scale: 1 = "never," to 5 = "very often."
Diversity awareness workshops	Five-point scale: 1 = "never," to 5 = "very often."
ENROLLED IN DIVERSITY COURSES	
Material/readings on gender issues	Four-point scale: 1 = "none," to 4 = "three or more."
Material/readings on issues on oppression	Four-point scale: 1 = "none," to 4 = "three or more."
Material/readings on race and ethnicity issues	Four-point scale: 1 = "none," to 4 = "three or more."
TOOK ADVANTAGE OF ACADEMIC SUPPORT SERVICES	
Tutoring sessions for specific courses	Five-point scale: 1 = "never," to 5 = "very often."
Academic support programs	Five-point scale: 1 = "never," to 5 = "very often."

Table 3. Mean Differences by Group on Dependent Measure: Positive Interactions Across Race

		Mean	Std. Deviation
Total (n=4,380)		21.78	6.35
	Asian/Asian American (n=686)	23.53	6.27
	African American (n=224)	23.91	5.58
	Latino (n=388)	22.89	6.54
	White (n=3082)	21.10	6.27

(A) race	(B) race	Mean Difference (A-B)	Sig.
White	Latino	-1.79	.00
	African American	-2.81	.00
	Asian/Asian American	-2.43	.00

Note: Mean differences between groups are significant at p<.05 level. Only significant differences are shown.

Table 4 . Predictors of Positive Interactions Across Racial Groups

	African American (n = 224)				Latino (n = 388)			
Variables	Adj R^2	r	Beta 1	Beta 2	Adj R^2	r	Beta 1	Beta 2
BACKGROUND CHARACTERISTICS								
SAT	.02	.14 *	.07	.10	.02	.16 **	.13 **	.14 **
Gender	.01	.01	.00	.01	.04	.12 *	.08	.09 *
Socioeconomic status	.02	.15 *	.06	.02	.04	.08	.03	.00
PRE-COLLEGE ENVIRONMENT								
Pre-college racial environment	.04	.21 **	.11	.17 *	.04	.12 *	.06	.06
Extent of interactions with individuals from different racial/ethnic backgrounds in HS	.06	.19 *	.03	.09	.11	.27 ***	.11 *	.10 *
Frequency of studying with individuals from different racial/ethnic backgrounds in HS	.08	.26 ***	.20 **	.18 *	.18	.36 ***	.24 ***	.20 ***
PRE-COLLEGE MEDIATING PROCESSES								
Pre-college support for diversity education	.09	.18 *	.12 +	.13 +	.24	.36 ***	.25 ***	.13 **
Pre-college level of attributional complexity	.09	.06	.01	.03	.24	.14 **	.06	.04
Pre-college level of intergroup anxiety	.09	-.13	-.14 *	-.09	.24	-.11 *	-.04	-.05
INSTITUTIONAL CHARACTERISTICS								
Structural diversity (Percentage of underrepresented minorities)	.09	.03	.00	.04	.24	-.05	-.01	.03
PEER GROUPS								
Lived on campus	.09	.00	-.02	-.09	.25	.16 ***	.09	.01
Participated in leadership training	.09	.11	.07	.03	.25	.21 ***	.11 *	-.02
Participated in Greek organization	.09	.09	.07	-.04	.26	.14 **	.13 **	.06
Joined organization(s) that promote cultural diversity	.10	.13	.13 *	.06	.27	.19 ***	.11 *	.02
CAMPUS-FACILITATED DIVERSITY INITIATIVES								
Participated in diversity co-curricular activities	.11	.14 *	.16 *	.11	.31	.35 ***	.25 ***	.13 *
Participated in diversity course(s)	.11	.14 +	.06	-.14 +	.31	.23 ***	.12 *	-.01
Had opportunities for intensive dialogue between students of different backgrounds in classroom(s)	.16	.23 ***	.21 ***	.18 *	.32	.31 ***	.18 ***	.13 *
Participated in service learning course(s)	.15	.10	.05	-.07	.32	.21 ***	.12 **	.03
Took advantage of academic support services	.15	.04	.07	.01	.33	.22 ***	.21 ***	.13 **
Faculty demonstrated interest in development	.19	.20 **	.26 ***	.24 ***	.33	.21 ***	.15 ***	.06
COLLEGE MEDIATING PROCESSES								
Perception of racial tension	.20	-.09	-.13 +	-.16 *	.34	.18 ***	.10 *	.07
Hours per week socializing	.24	.27 ***	.25 ***	.23 ***	.39	.34 ***	.29 ***	.24 ***

Significance: + $p < 0.10$; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$ ($p<0.10$ only applies to regression for African Americans)

NOTE: Beta 1 is reported at the step where all pre-college characteristics are controlled; Beta 2 is reported at the final step of the equation.)

Table 5. Predictors of Positive Interactions Across Racial Groups

	Asian (n=686)				White (n = 3082)			
Variables	Adj R^2	r	Beta 1	Beta 2	Adj R^2	r	Beta 1	Beta 2
BACKGROUND CHARACTERISTICS								
SAT	.03	.18 ***	.12 **	.08	.01	.07 ***	.05 **	.01
Gender	.05	.09 ***	.06	.03	.01	.07 ***	.04 *	.04 *
Socioeconomic status	.07	.20 ***	.10 **	.06	.01	.06 ***	.03	.00
PRE-COLLEGE ENVIRONMENT								
Pre-college racial environment	.07	.15 ***	.12 **	.09 *	.04	-.16 ***	.00	.02
Extent of interactions with individuals from different racial/ethnic backgrounds in HS	.13	.23 ***	.16 ***	.12 ***	.07	.25 ***	.14 ***	.11 ***
Frequency of studying with individuals from different racial/ethnic backgrounds in HS	.16	.28 ***	.15 ***	.11 ***	.11	.29 ***	.19 ***	.15 ***
PRE-COLLEGE MEDIATING PROCESSES								
Pre-college support for diversity education	.18	.23 ***	.13 ***	.08 *	.11	.15 ***	.08 ***	.02
Pre-college level of attributional complexity	.19	.18 ***	.10 **	.09 *	.12	.14 ***	.08 ***	.06 ***
Pre-college level of intergroup anxiety	.20	-.17 ***	-.10 **	-.07 *	.12	-.08 ***	-.04 *	-.06 ***
INSTITUTIONAL CHARACTERISTICS								
Structural diversity (Percentage of underrepresented minorities)	.20	.08 *	.02	.01	.12	.13 ***	.07 ***	.11 ***
PEER GROUPS								
Lived on campus	.20	.08 *	.06	.03	.13	.06 ***	.07 ***	.02
Participated in leadership training	.21	.21 ***	.13 ***	.10 **	.13	.11 ***	.08 ***	.00
Participated in Greek organization	.22	.09 *	.06	.01	.13	.04 *	.02	-.04 **
Joined organization(s) that promote cultural diversity	.22	.13 ***	.08 *	.01	.14	.15 ***	.11 ***	.03
CAMPUS-FACILITATED DIVERSITY INITIATIVES								
Participated in diversity co-curricular activities	.23	.23 ***	.17 ***	.13 ***	.18	.28 ***	.24 ***	.16 ***
Participated in diversity course(s)	.23	.24 ***	.10 **	.00	.19	.17 ***	.12 ***	.00
Had opportunities for intensive dialogue between students of different backgrounds in classroom(s)	.24	.27 ***	.15 ***	.09 *	.20	.25 ***	.18 ***	.13 ***
Participated in service learning course(s)	.24	.09 *	.03	-.03	.20	.14 ***	.11 ***	.00
Took advantage of academic support services	.24	.03	.05	.03	.21	.18 ***	.17 ***	.11 ***
Faculty demonstrated interest in development	.24	.09 *	.03	.00	.22	.15 ***	.11 ***	.06 ***
COLLEGE MEDIATING PROCESSES								
Perception of racial tension	.24	.04	.02	-.01	.22	.08 ***	.04 **	.01
Hours per week socializing	.30	.37 ***	.28 ***	.26 ***	.24	.22 ***	.21 ***	.18 ***

Significance Levels: * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

NOTE: Beta 1 is reported at the step where all pre-college characteristics are controlled; Beta 2 is reported at the final step of the equation.)

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