

The Long-Term Effects of College Diversity Experiences: Well-Being and Social Concerns 13 Years After Graduation

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Many college administrators and researchers assert that diversity interactions are critical for preparing young adults for a diverse society, but very little research has examined the long-term impact of these experiences. This study examines a longitudinal sample of college students (n = 416) who were followed into their mid-30s. Structural equation modeling analyses indicate that college engagement with racial/cultural diversity has a positive, indirect effect on personal growth, purpose in life, recognition of racism, and volunteer work 13 years after graduation.

In the context of the burgeoning racial/ethnic heterogeneity among college students and the general population, issues of racial/ethnic diversity have become increasingly salient. Proponents of racial diversity on college campuses emphasize the importance of preparing undergraduate students to work in diverse settings and live in an increasingly globalized society (e.g., Gurin, 1999; Jayakumar, 2008). Given the substantial segregation in K–12 public schools (Orfield & Lee, 2006), college provides a unique time for young adults to have meaningful interactions with peers

from diverse backgrounds. However, very little research has examined how diversity experiences affect students after college. The present study seeks to address this gap by exploring whether and how undergraduate diversity experiences are associated with well-being and social concerns 13 years after graduation.

LITERATURE REVIEW

Ancient Greek philosophers and modern-day psychologists alike have distinguished between two types of well-being (Ryan & Deci, 2001; Ryff, 1989; Waterman, 1993). Subjective or hedonic well-being describes the experience of pleasure and the avoidance of (psychological) pain. This form of well-being is typically defined as having positive emotions, being satisfied with one's life, and/or having a lack of negative emotions. In contrast, eudaimonic or psychological well-being describes the degree to which people are living their lives to the fullest; this multidimensional construct includes having a purpose in life, experiencing personal growth, maintaining meaningful interpersonal relationships, and exerting control over one's

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environment. Although these two forms of well-being are correlated (Keyes, Shmotkin, & Ryff, 2002; Waterman, 1993), they represent theoretically distinct and important aspects of human flourishing.

Substantive interactions with diversity may help students from all backgrounds feel comfortable in relatively heterogeneous college environments (thus promoting subjective well-being). Diversity experiences, which are relatively novel and can be challenging, might also provide the opportunity for personal, social, and intellectual development (promoting psychological well-being). Indeed, the available research supports these assumptions. Interactions with peers from different racial/ethnic backgrounds are positively associated with a sense of belonging to one's college (Locks, Hurtado, Bowman, & Oseguera, 2008) and satisfaction with the college experience (Astin, 1993; Chang, 1999). Moreover, taking multiple diversity courses and having positive interactions with diverse students each contribute to increased psychological well-being (Bowman, 2010a, 2010b).

The effects of diversity experiences on well-being—particularly psychological or eudaimonic well-being—may be at least partially explained by their impact on students' awareness of social issues and concern for improving society. Psychological well-being is characterized by identifying a sense of purpose in life and undergoing personal growth in one or more domains (Ryff, 1989), and college diversity experiences can provide an important basis for establishing this purpose and growth. For instance, Astin (1993) examined the relationships between several diversity experiences and self-reported gains on 82 college outcomes. Regardless of the type of experience, diversity interactions are most strongly related to students' cultural awareness, commitment to promoting racial understanding, and participation in campus

demonstrations. Other studies show that diversity experiences are associated with increased importance placed on social action and engaged citizenship (e.g., Gurin, Dey, Hurtado, & Gurin, 2002; Hurtado, 2005) and reductions in racist attitudes, stereotyping, prejudice, and discrimination (for meta-analytic reviews, see Denson, 2009; Pettigrew & Tropp, 2006). In sum, diversity experiences can play a key role in students' development of certain aspects of purpose (i.e., improving racial understanding specifically and society more generally) and personal growth (i.e., fostering cultural awareness and diminishing prejudice).

This overall emphasis on social action engagement and improving society has been described as a prosocial orientation (Van Lange, 1999; Van Lange, De Bruin, Otten, & Joireman, 1997). Such an orientation may bolster well-being either directly or indirectly through promoting prosocial behaviors that enhance well-being. Bowman and colleagues (Bowman, Brandenberger, Lapsley, Hill, & Quaranto, 2010) have shown that prosocial orientation at the end of the senior year predicts increases in volunteer work among graduates in their mid-30s and that adult volunteering is positively associated with adult psychological well-being. Other research has observed a direct link between college prosocial orientation and well-being in adulthood (Hill, Burrow, Brandenberger, Lapsley, & Quaranto, 2010), but this analysis did not control for previous well-being or other factors.

PRESENT STUDY

The present study used a longitudinal sample collected at three timepoints—freshman year, senior year, and 13 years after graduation—to explore the long-term effects of college diversity experiences. We hypothesized that diversity experiences both inside and outside the classroom would have a positive, indirect

effect on well-being among graduates in their mid-30s. We also expected that college diversity experiences would indirectly affect social concerns (i.e., attitudes and behaviors that are consistent with promoting equality and social justice) during adulthood.

METHOD

Data Source

College students at a medium-sized, Catholic university in the Midwest completed the College Institutional Research Program (CIRP) Freshman Survey in Fall 1990 at the beginning of their first year of study, and these same students completed the CIRP College Senior Survey (CSS) at the end of their senior year in Spring 1994. Thirteen years later, the researchers obtained contact information (email and/or postal addresses) for 1,076 graduates from the university's alumni office. In 2007, these alumni were invited to complete an online survey, and 416 graduates participated in this third wave of data collection. The exact response rate for those who received a request is unknown, because numerous emails and letters were returned to sender; however, the response rate was at least 39%. The 416 respondents who completed all three waves constituted the sample for this study: 57% were male, 86% were White, and 100% were traditional college age at the start of their freshman year (17–19 years old as freshmen).

Measures

Preliminary regressions were conducted to determine which control variables would be included in the structural equation modeling (SEM) analyses. Due to space constraints, only variables that appeared in the SEM analyses will be discussed here; information for most of the variables in the regressions can be found in Bowman et al. (2010) and Hill et al. (2010).

All continuous variables were subsequently standardized with a mean of 0 and a standard deviation of 1 for inclusion in the structural equation models.

Adult Outcomes. Ryff's (1989) psychological well-being scales were used to gauge two constructs: personal growth, which reflects a sense of development, growth, and change (Cronbach's $\alpha = .88$), and environmental mastery, which reflects the degree to which people can effectively manage their day-to-day responsibilities and activities ($\alpha = .87$). Both indices contained 14 items measured on a scale ranging from 1 (*strongly disagree*) to 6 (*strongly agree*). Purpose measures developed by Damon and colleagues (Bundick et al., 2006) were also used. Their model of purpose development includes four stages: (a) searching for purpose, (b) having an identified purpose, (c) being engaged in one's purpose, and (d) incorporating this purpose as a central part of one's identity. Because indices of the three highest stages were strongly correlated with one another ($r_s > .65$), the 15 items from those measures were combined into a single index of identified/engaged purpose ($\alpha = .94$). A five-item life satisfaction scale from Diener and colleagues (Diener, Emmons, Larsen, & Griffin, 1985) was also included ($\alpha = .87$); all items from this scale and the purpose scales were measured on a 7-point scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Prosocial orientation, which indicated perceptions of the importance of helping others and improving society, was measured with a six-item index ($\alpha = .77$), with each item using a four-point scale ranging from 1 (*not important*) to 4 (*essential*). Recognition of racial discrimination was measured with a single item that asked whether racial discrimination is no longer a problem on a scale ranging from 1 (*strongly disagree*) to 4 (*strongly agree*); this item was reverse-coded so that higher values reflect greater perceptions of discrimination. Finally,

engagement in volunteer work ($\alpha = .76$) was measured by the frequency of participating in volunteering/community service with 13 different types of organizations (religious or faith-based, political, etc.) on a scale ranging from 1 (*never*) to 4 (*frequently*). Additional information about these measures is provided in Table 1.

College Diversity Experiences. Two dummy-coded variables, coded as 0 (*no*) or 1 (*yes*), indicated whether students had taken an ethnic studies course and whether they had participated in a racial/cultural awareness workshop. In addition, the frequency of socializing with racially/ethnically diverse peers was measured with a single item on a scale ranging from 1 (*not at all*) to 3 (*frequently*).

Pretest and Control Variables. To gauge personal growth in college, self-reported gains on 22 college outcomes, measured on a scale ranging from 1 (*much weaker than before college*) to 5 (*much stronger*), were combined into a composite measure of overall growth ($\alpha = .83$). In addition, an index of self-focused purpose in the senior year ($\alpha = .70$) included five items about the importance of financial success and personal recognition measured on a scale ranging from 1 (*not important*) to 4 (*essential*); this measure constituted an alternative form of purpose (as opposed to prosocial) that may contribute to aspects of purpose orientation in adulthood. A single item about satisfaction with one's overall college experience, scored on a scale ranging from 1 (*dissatisfied*) to 4 (*very satisfied*), served as a proxy for life satisfaction in college. Mastery of one's environment in college was measured by a single item about the frequency of feeling overwhelmed in the senior year on a scale ranging from 1 (*not at all*) to 3 (*frequently*); this was reverse-coded so that higher values represent a greater sense of environmental mastery. The same index of prosocial orientation ($\alpha = .76$) and the reverse-coded item about racial discrimination

that gauged adult outcomes were also used in the senior year of college. Volunteering in the senior year was measured with a single item using a scale ranging from 1 (*none*) to 8 (*more than 20 hours/week*). Because the models examined how diversity experiences may change prosocial orientation and social concerns during college, prosocial orientation in the freshman year ($\alpha = .76$), perceptions of racial discrimination in the freshman year, and volunteering during the senior year of high school were also included; these measures were the same as those used in the senior year of college. Demographic variables used in the structural equation models were gender, coded as 0 (*female*) or 1 (*male*); marital status, coded as 0 (*not married*) or 1 (*married*); and number of children, coded on a scale ranging from 1 (*none*) to 4 (*more than two*).

Analyses

Preliminary multiple regression analyses were conducted to determine which control variables were significant predictors of prosocial orientation in the senior year of college and of outcomes in adulthood. The regression that predicted prosocial orientation in the senior year included gender, age, race, parental income, mother's education, college GPA, faith-based behavior in college, engagement in college student groups/clubs, socializing with friends in college, racial/cultural awareness workshop, ethnic studies course, socializing with diverse peers in college, and prosocial orientation in the freshman year as independent variables. Significant predictors of prosocial orientation in the senior year ($p < .05$) were gender, attending a racial/cultural awareness workshop, taking an ethnic studies course, and prosocial orientation in the freshman year. Because socializing with students from different racial/ethnic groups was only a marginally significant predictor ($p = .08$), this variable was not included in the SEM analyses.

In addition, a series of regressions was conducted; each well-being and social concern measure served as the dependent variable in a

separate regression, and the independent variables were gender, age, race, faith-based behavior in college, prosocial purpose in the senior year,

TABLE 1.
Summary of Variables Included in the Structural Equation Models

Variable	Sample Item	Scale Range	# of Items	Cron. alpha
<i>Adult Outcomes</i>				
Personal Growth	“In general, I feel that I continue to learn more about myself as time goes by”	1 (<i>strongly disagree</i>) to 6 (<i>strongly agree</i>)	14	.88
Identified / Engaged Purpose	“I have a purpose in my life that reflects who I am”	1 (<i>strongly disagree</i>) to 7 (<i>strongly agree</i>)	15	.94
Environmental Mastery	“I am quite good at managing the many responsibilities of my daily life”	1 (<i>strongly disagree</i>) to 6 (<i>strongly agree</i>)	14	.87
Life Satisfaction	“The conditions of my life are excellent”	1 (<i>strongly disagree</i>) to 7 (<i>strongly agree</i>)	5	.87
Volunteer Work	Community service/volunteer work participation: “A cultural or arts organization”	1 (<i>never</i>) to 4 (<i>frequently</i>)	13	.76
Recognition of Racism	“Racial discrimination is no longer a problem in America” (reverse-coded)	1 (<i>strongly disagree</i>) to 4 (<i>strongly agree</i>)	1	N/A
<i>Senior Year Variables</i>				
Personal Growth	Change in “general knowledge” since entering college	1 (<i>much weaker</i>) to 5 (<i>much stronger</i>)	22	.83
Identified / Engaged Purpose	Importance of “being very well off financially”	1 (<i>not at all important</i>) to 4 (<i>essential</i>)	5	.70
Environmental Mastery	“Felt overwhelmed by all I had to do” (reverse-coded)	1 (<i>not at all</i>) to 3 (<i>frequently</i>)	1	N/A
Life Satisfaction	Satisfaction with “overall college experience”	1 (<i>dissatisfied</i>) to 4 (<i>highly satisfied</i>)	1	N/A
Volunteer Work	Number of hours spent doing “volunteer work”	1 (<i>none</i>) to 8 (<i>more than 20 hours/week</i>)	1	N/A
Recognition of Racism	“Racial discrimination is no longer a problem in America” (reverse-coded)	1 (<i>strongly disagree</i>) to 4 (<i>strongly agree</i>)	1	N/A
Prosocial Orientation	Importance of “helping others who are in difficulty”	1 (<i>not at all important</i>) to 4 (<i>essential</i>)	6	.77

Note. Volunteer work in the freshman year and recognition of racism in the freshman year were measured with the same variables as in the senior year. Prosocial orientation in the freshman year ($\alpha = .76$) was measured with the same items as in the senior year. Gender, ethnic studies course, and racial/cultural awareness workshops were all measured with dichotomous variables.

the relevant pretest measure (at the end of college), full-time employment (in adulthood), highest degree attained, marital status, number of children, and current income.

Structural equation modeling was used to analyze covariance matrices of the data with the statistical software program EQS 6.1. Six SEM analyses were conducted; all of these included racial/cultural workshop, ethnic studies course, gender, prosocial orientation in the freshman and senior years, the relevant pretest measure from senior year, and one outcome in adulthood. When applicable, other significant predictor(s) of the adult outcome from the preliminary regression analyses ($p < .05$) were also included. (These additional control variables were not always significant predictors in the SEM analyses, because these models used a different set of predictors than that used in the preliminary regressions.) For the models predicting adult well-being, there was one possible indirect path from each diversity experience to the final outcome, which was mediated by prosocial orientation in the senior year. For the models predicting social concerns variables, two indirect paths were included: one from each diversity experience to prosocial orientation to the final outcome and the other from each diversity experience to the social concern at the senior year (controlling for freshman year levels) to the final outcome.

Because the current sample was somewhat small by SEM standards, only observed (not latent) variables were used. As a result, it was not necessary to create measurement models (Kline, 2005). Goodness of fit was assessed with the confirmatory fit index (CFI), nonnormed fit index (NNFI), chi-square statistic (χ^2), and the ratio of chi-square to degrees of freedom (χ^2/df). Reasonable goodness-of-fit is indicated by a CFI and NNFI greater than approximately .90 (Bentler & Bonett, 1980; Hu & Bentler, 1999) and a χ^2/df ratio

of less than 2.0 or 3.0 (Bollen, 1989). In some cases, adjustments to improve model fit were made on the basis of recommendations from the EQS software. All added paths were correlations between predictors or direct paths from control variables; none of the changes substantively affected the relationships among the variables of interest. The data fit the final models reasonably well or quite well: The CFIs were all at least .97, the NNFI were at least .91, the χ^2/df ratios were less than 1.5, and no model had a significant χ^2 value ($ps > .10$).

Limitations

Several limitations should be noted here. First, this sample includes students from a single Catholic university that has a strong commitment to service and social concerns, so it is unclear whether these patterns generalize to graduates of other schools. In some ways, this sampling may actually contribute to smaller indirect effects. If students at this institution (relative to those at other schools) have generally high levels of prosocial orientation, then the variance for this intermediary variable probably will be smaller, which would make it less likely that significant, indirect effects would be observed. Similarly, if students in the current sample also place a high (and fairly similar) emphasis on social concerns, then the diminished variance also makes it less likely that one would observe significant predictors of social concerns. Second, pretest measures during the senior year were available for all outcomes, but in some cases, these were single-item variables that do not represent the same depth and complexity as their respective outcomes in adulthood. Third, this study examines only one path—or, for the social concern outcomes, two paths—through which diversity experiences may promote adult outcomes. Alternative indirect paths are certainly possible, and the inclusion of additional paths may affect the results observed in the current study.

RESULTS AND DISCUSSION

Even 13 years after graduation, college diversity experiences have a measurable impact on college graduates. Indirect effects for all well-being variables appear in Table 2, and results from the full SEM predicting personal growth are shown in Figure 1. (The relationships among the college variables are similar across all models predicting well-being.) Participating in a racial/cultural awareness workshop has a significant indirect effect on personal growth and on identified/engaged purpose among graduates in their mid-30s ($p < .05$). Moreover, taking an ethnic studies class has marginally significant effects on both of these psychological well-being outcomes ($p < .10$). Although the effects are small, it is important to remember that these represent the impact of course(s) or workshop(s) that students took approximately 15 years earlier. That is, structured college

experiences with diversity may place students on a trajectory toward recognizing the importance of helping others and improving society that persists long after they leave college. This prosocial orientation may become more strongly internalized and lead to further behaviors and attitudes that are congruent with these core values (Waterman, 1993).

However, college diversity experiences do not affect all well-being outcomes in adulthood; no significant effects are apparent for predicting environmental mastery and life satisfaction. In both cases, the lack of a significant relationship makes some logical sense. Although engaging with diversity may promote a sense of long-term purpose and growth, it seems unlikely that people who had diversity interactions 15 years earlier would show significantly higher levels of life satisfaction or perceived control over their lives years later. For an indirect effect to be observed

TABLE 2.

Standardized Coefficients and Goodness-of-Fit Indices for Structural Equation Models Predicting Well-Being and Social Concerns Outcomes in Adulthood

	Adulthood Outcome					
	Personal Growth	Identified/Engaged Purpose	Environmental Mastery	Life Satisfaction	Recognition of Racism	Volunteer Work
Direct Effect of Prosocial Orientation in Senior Year	.18***	.17***	-.00	-.01	.17***	.18***
Indirect Effect of Racial/Cultural Workshop	.03**	.03**	-.00	-.00	.06**	.04**
Indirect Effect of Ethnic Studies Course	.02*	.02*	-.00	-.00	.05**	.05***
Confirmatory Fit Index	.97	.97	.97	.98	.97	.97
Nonnormed Fit Index	.92	.93	.92	.96	.94	.91
χ^2	14.47	13.29	13.38	26.80	22.85	15.78
χ^2/df	1.45	1.33	1.34	1.17	1.20	1.43

* $p < .10$. ** $p < .05$. *** $p < .01$.

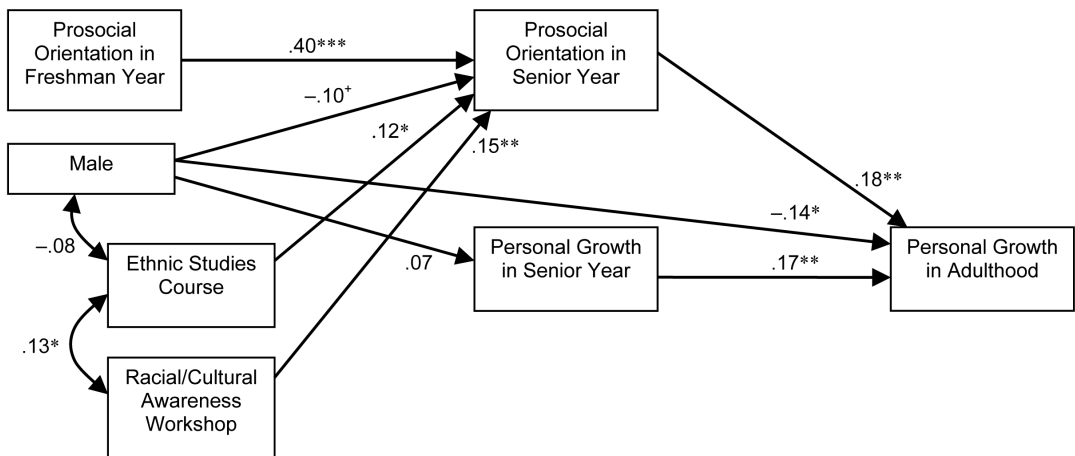


Figure 1. Diagram of Structural Equation Model Predicting Personal Growth in Adulthood

Note. Bi-directional arrows represent correlational paths. For simplicity of presentation, error terms are not shown.

* $p < .10$. ** $p < .05$. *** $p < .01$. **** $p < .001$.

for these outcomes, prosocial orientation in the senior year must contribute positively to well-being, but this does not occur for environmental mastery or life satisfaction (see the top row of Table 2). However, there may be a different (and unobserved) indirect relationship that significantly links college diversity experiences to these well-being outcomes. For example, curricular and cocurricular diversity experiences might lead to more positive interpersonal relationships, which then promote future life satisfaction.

The benefits of college diversity experiences are also apparent for the expression of social concerns after graduation. Attending a racial/cultural awareness workshop and taking an ethnic studies course have positive, indirect effects on recognition of racism and engaging in volunteer work ($ps < .05$). In these models, two separate paths contributed to these effects: one through prosocial orientation and the other through the relevant behavior or attitude. The coefficients presented in Table 2 represent the combined indirect effects of

diversity experiences on the social concern outcome through both paths; the full SEM results predicting recognition of racism appear in Figure 2. These behavioral and attitudinal outcomes are quite consistent with some of the primary intended impacts of college diversity: to increase students' recognition of societal inequities and their demonstrated commitment to improving society.

In the preliminary regression analyses, the nonsignificant effect of socializing with racially/ethnically diverse peers on prosocial orientation is somewhat surprising, but this result is probably the product of methodological limitations. Socializing with diverse others was measured with a single three-point item, and very few students reported not having any such interactions. Thus, in practice, the level of interacting across racial/ethnic lines on campus was reduced to a dichotomous variable ("frequently" versus "occasionally"). Most studies that examine informal interactions with diversity use multi-item scales that contain several types of experiences; clearly,

a multi-faceted approach would be much more effective at capturing the frequency and meaning of these interactions.

CONCLUSION AND IMPLICATIONS

In sum, curricular and cocurricular diversity experiences are positively related to personal growth, purpose in life, recognition of racism, and volunteering behavior among college graduates in their mid-30s. These long-lasting effects are consistent with the importance of the undergraduate years in fostering long-lasting attitudes, values, and behaviors (e.g., Newcomb, Koenig, Flacks, & Warwick, 1967; Parks, 2000). Perhaps the most surprising finding was the consistency of racial/cultural awareness workshops in predicting subsequent outcomes. Given that a 2-hour workshop may have such a lasting impression, some might argue that these activities should become a mandatory part of the college experience.

Generally speaking, people’s behaviors often shape their subsequent attitudes and beliefs (e.g., Eagly & Chaiken, 1993); in this instance, students who decide to attend a cultural awareness workshop might come to see themselves as the sort of person who cares about these issues, which leads to further commitment toward a prosocial orientation. However, psychologists have long established that a person must freely choose to engage in a behavior in order for that behavior to shape one’s attitudes and identity (e.g., Bem, 1972; Festinger, 1954). Attending a voluntary workshop may lead students to draw inferences about their relevant attributes, but students who attend a required workshop may think that they went simply because they had no choice. Therefore, colleges and universities might encourage students to attend these workshops by providing a number of sessions at convenient times and locations and through a variety of campus organizations. Further

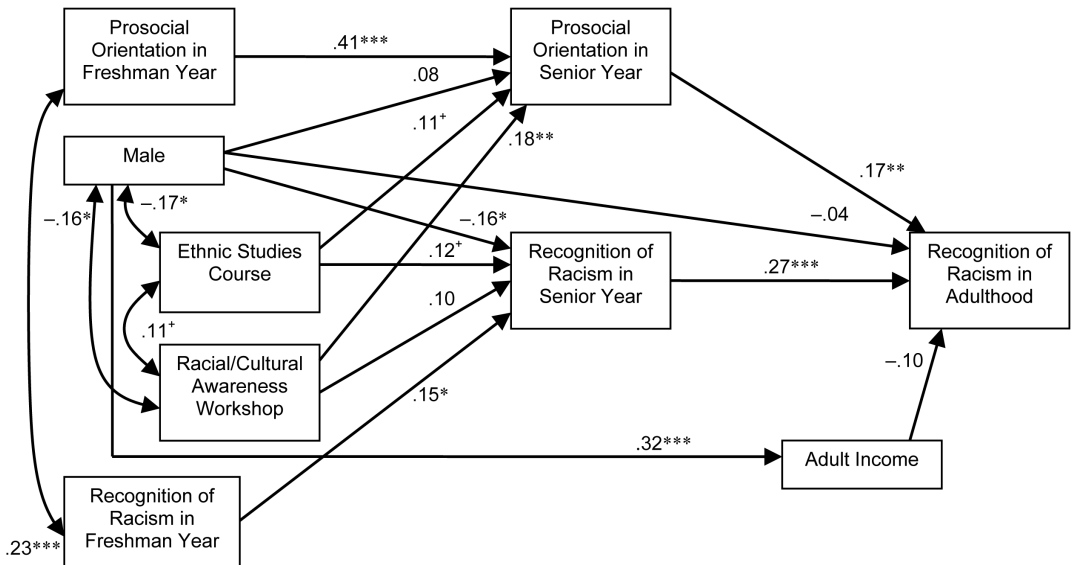


Figure 2. Structural Equation Model Predicting Recognition of Racism in Adulthood

Note. Bi-directional arrows represent correlational paths. For simplicity of presentation, error terms are not shown.

+*p* < .10. **p* < .05. ***p* < .01. ****p* < .001.

research on how the effects of diversity-related activities may vary depending on student choice (e.g., comparing outcomes from required versus “voluntary” diversity courses) is needed.

Despite the voluminous literature on how college affects student growth and development, there is a dearth of evidence about whether and to what degree these effects continue after graduation (Pascarella & Terenzini, 2005). This study provides evidence for a small piece of this puzzle, namely, the sustained impact of interactions with diversity. These findings strongly support the need for college administrators, practitioners, and faculty to facilitate meaningful diversity experiences on campus. In fact, higher education institutions can promote long-term diversity learning outcomes in a relatively simple manner, given that the forms of engagement that most

strongly affect students’ future well-being and social concerns can be incorporated effectively into the curriculum and cocurriculum.

Similar studies should be performed with students who attended other institutions to explore the generalizability of the current findings. In the ongoing challenge to promote growth consistent with the ideals of equality and justice in American society, greater evidence is required to show how—and under what conditions—diversity on college campuses affects students into adulthood.

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