

CURRICULUM MATTERS: Creating a Positive Climate for Diversity from the Student Perspective

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The purpose of this paper is to identify the factors that predict students' perceptions of their institution's success in achieving a positive climate for diversity. This study examines a sample of 544 students at a large, public, predominantly White Mid-Western institution. Results show that students' perceptions of the institution's ability to achieve a positive climate for diversity is a reflection of students' pre-college interactions with diverse peers and the institution's ability to incorporate diversity-related issues into its curriculum. Results also indicate that these perceptions differ by race and gender. Implications for institutional researchers are discussed.

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KEY WORDS: diversity; curriculum; higher education; college students; quantitative; climate.

INTRODUCTION

Diversity concerns continue to enjoy a good deal of attention on college campuses due, in part, to recent Supreme Court rulings associated with the use of affirmative action in college admissions processes. One decisive element in the thinking of the Supreme Court in this case, is the body of research documenting the educational value of a diverse campus climate and its role in positively affecting student-learning outcomes (Gurin, Dey, Hurtado, and Gurin, 2002; Hurtado, 1996, 2001; Gurin, 1999). As a result, many institutions have initiated system-wide reform efforts to improve the extent to which both classes and co-curricular activities address knowledge about diverse groups and issues of diversity on campus (Gurin, 1999). To ensure the success of these reform efforts, campus leaders have scrambled

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to understand the variety of factors that contribute to creating a positive climate for diversity on campus (Hurtado, Milem, Clayton-Pedersen and Allen, 1998). Institutional researchers have been charged with the difficult tasks of identifying these factors, understanding how these factors work together to achieve a positive climate for diversity, and making sense of these factors in ways that enable administrators to act with a given campus community.

Part of the process involved with identifying and making sense of the factors that contribute to creating a positive climate for diversity on a particular campus involves understanding the distinctive complexities and constituents of that campus (Hurtado and Dey, 1997). However, the majority of empirical efforts that investigate issues of climates for diversity solicit information from samples of thousands of students and faculty from across multiple institutional types and controls (Astin, 1993a; Chang, 2001; Hurtado, 1993, 2001; Hurtado et al., 1995; Milem, 1998, 2001; Villalpando, 1994). While informative, the utility of these research efforts and subsequently the accessibility of their findings may be lost as a means of informing administrators to make effective and meaningful change within their distinctive institutional contexts.

This study provides a unique contribution to research that considers how different factors influence students' perceptions of their campus as having achieved a positive climate for diversity. This study is the first to investigate students' perceptions of the institution as having achieved a positive climate for diversity as a collegiate outcome. Second, data for this study were recently collected in January of 2002; although recently published, much of the data analyzed for existing research in this area was collected over 10 years ago. Finally, this study is grounded in the context of a single institution. As such, we have the ability to use institutional figures to weight data so that the percentages of women and students of color match those reported by the institution. In addition, we can make more meaningful interpretations of our findings by providing a description of the institution's context beyond institutional type and control; such a description provides insight into students' "distinct racial contexts" (Hurtado et al., 1998, p. 282).

The purpose of this paper is twofold: to identify the multiplicity of factors that create a positive climate for diversity at a large, public, predominantly White institution and to demonstrate how these factors predict this campus' success in achieving a positive climate for diversity. To this end, this study examines the beliefs, experiences, and perceptions of 544 undergraduate students. First, we perform a factor analysis on 65 items designed to capture the essence of the institution's climate for diversity on campus. Next, through linear regression modeling, we

examine how these factors predict students' perceptions of the institution's success in achieving a positive campus climate for diversity. Our hope is that the results of this study will not only contribute to the emergent literature on diversity, but that they will be of some value to researchers interested in institutional management as institutions strive to engage in system-wide reform efforts relating to diversity initiatives.

Theoretical Overview

Institutional climate is a term that organizational theorists use to describe "the current common patterns of important dimensions of organizational life or its members' perceptions of and attitudes towards those dimensions" (Peterson and Spencer, 1990, p. 173). The current study is interested in dimensions of campus life that are related to the institution's success in achieving a positive climate for diversity and how students' perceptions of these dimensions vary as a function of their race, gender, and pre-college interactions with diverse peers.

What do we mean by a "positive climate for diversity"? Hurtado et al. (1998) describe an institution's climate for diversity using four dimensions of campus life that have a substantial impact on issues related to diversity. These include a campus' historical legacy of inclusions or exclusion of various racial or ethnic groups, its structural diversity (i.e., the numerical and proportional representation of diverse groups on campus), its psychological climate (i.e., perceptions, attitudes, and beliefs about diversity) and its behavioral climate (i.e., how different racial and ethnic groups interact on campus). The extent to which these four dimensions makes diverse students feel comfortable as welcome and belonging members of the campus community is the extent to which a campus has achieved a positive climate for diversity (Hurtado and Carter, 1997; Loo and Rolison, 1986; Mackay and Kuh, 1994; McClelland and Auster, 1990; Pascarella, Edison, Nora, Hagedorn, and Terenzini, 1996). As Green (1989) notes,

Campus climate embraces the culture, habits, decision, practices and policies that make up campus life. It is the sum total of the daily environment, and central to the 'comfort factor' that minority students, faculty, and staff, and administrators feel on campus. Students and other members of the campus community who feel unwelcome or alienated from the mainstream of campus life and unlikely to remain. If they do remain, they are unlikely to be successful (p. 113).

For the purposes of this study, we want to extend this understanding of "positive climate for diversity" to include more than the institution's success in making students of color feel comfortable and welcomed by their campus community; we want also to understand this "comfort

factor” as it relates to students in the gay and lesbian community. For this reason, we operationalized the outcome for this study, students’ perceptions of their institutions’ success in achieving a positive climate for diversity, as a factor consisting of three items, this institution has achieved a positive climate for diversity, students are treated fairly here regardless of their racial/ethnic background, and gay and lesbian students are accepted and respected at this university.

Literature Review

Student perceptions of their institution and its climate are important for providing a framework for understanding and interpreting institutional events (Hurtado et al., 1998). Jessor (1981) argues how perceptions act like filters that function by attaching meaning to the experiences of institutional participants, while simultaneously emphasizing a concern for the perspectives of the institution’s constituents. Peterson and White (1992) add that perceptions of the climate can be viewed as implicit models and mini-theories that describe the ways in which particular institutions operate. In terms of understanding an institution’s climate for diversity, perceptions reflect important elements of how students experience the institution; as (Hurtado et al., 1998) note “perception is both a product of the environment and a potential determinant of future interactions and outcomes” (p. 290).

As “a potential determinant of future interactions and outcomes,” student perceptions of the institutional climate for diversity are often measured and analyzed in an effort to provide information on the “E” in Astin’s Input–Environment–Output model, a conceptual framework that provides a guiding rubric for assessing collegiate contexts in the absence of true experimental designs (Astin, 1993b). For example, Hurtado and others (1995) examined the how interactions across different races and ethnicities and level of academic and social involvement predicted students’ perceived academic ability level; for this study, two perceptual measures of the racial climate (i.e., to what extent did students feel they experienced discrimination on campus and to what extent did they feel their tolerance for other increased during college) were examined as possible determinants of the outcome under investigation. In addition, Milem (1998) investigated how student peer groups and faculty referent groups influence students’ sociopolitical attitudes; the peer group construct and the faculty referent construct were created from a series of perceptual measures designed to capture both peer and faculty normative environments. These examples demonstrate how student perception variables are often positioned as conceptual mediators that help to

explain how pre-college environments and student characteristics influence outcomes related to student learning, engagement, development and attitudes. The current study uses three perception-based factors as conceptual mediators (i.e., perceptions of the institution's commitment to diversity, perceptions of interactions with diverse faculty, and perceptions of efforts to incorporate diversity-related course learning into the curriculum) to determine students' perceptions of their institutions as having achieved a positive climate for diversity.

As a "product of the environment," student perceptions have often served as the outcome of interest for many research efforts interested in understanding how diverse educational environments shape student experiences. For example, Hurtado (1993) investigated how high achieving Latino college students perceived the receptivity of their institutions to a Latino presence on campus; she used perceptions of racial and ethnic tensions on campus as one of her two outcomes of interest. In addition, Villalpando (1994) and Chang (2001) examined the effects of an institution's emphasis on diversity as a determinant of student satisfaction. Interestingly, studies that position perception-based variables as outcomes in their own right frequently use these measures as conceptual proxies for the institution's ability to create a positive climate for diversity on campus; most measure one dimension an institution's climate for diversity and then make inferences as to how this dimension reflects the institution's ability to achieve a positive climate for diversity. This study marks a departure from using proxies for outcomes related to the institution's ability to achieve a positive climate for diversity by modeling a perceptual-based outcome with high face and context validity, namely, the institutions' success in achieving a positive climate for diversity.

Whether they serve as products of the environment or as determinants of future interactions and outcomes, student perceptual variables have been used in a variety of different ways to measure elements of institutional climates for diversity. The current study uses student perception variables as both determinants (i.e., perceptions of the institution's commitment to diversity, perceptions of interactions with diverse faculty, and perceptions of efforts to incorporate diversity-related course learning into the curriculum) and as the outcome describing the institution's climate for diversity (i.e., perceptions of the institutions' success in achieving a positive climate for diversity). To date, none of the literature has used student perceptions of the institution as having achieved a positive climate for diversity as an outcome in its own right; however, a number of studies have informed our understanding of the factors that contribute to explaining student perceptions of other diversity-related issues on campus.

Research suggests that student perceptions related to issues of diversity on campus vary by gender (Hurtado, Engberg, Ponjuan, and Landreman, 2002; Whitt, Edison, Pascarella, Terenzini, and Nora, 2001), race (Ancis, Sedlacek, and Mohr, 2000; Cabrera and Nora, 1994; Hurtado, 1993; Loo and Rolison, 1986; Oliver, Rodriguez, and Mickelson, 1985; Patterson, Sedlacek, and Perry, 1984; Villalpando, 1994; Whitt et al., 2001) and students' pre-college experiences with diversity (Hurtado et al., 2002). For example, in their 1992–1995 study of 3331 students from 18 four-year colleges and universities, Whitt et al. (2001) found that women were more open to diversity than men before beginning college and were also significantly more likely than men to change in the direction of greater openness to diversity during college. Similarly, Ancis et al. (2000) found that when compared to White students, African American students reported significantly more racial ethnic conflict on campus, pressure to conform to stereotypes, and less equitable treatment by faculty, staff, and teaching assistants.

In terms of pre-college experiences with diversity, Hurtado et al. (2002) found that pre-college experiences with diversity (i.e., racial composition of friends, interaction with people of different racial or ethnic backgrounds, etc.) and gender significantly predicted three democratic outcomes, measured by factors comprised of student perception variables (i.e., ability to see multiple perspectives, the belief that conflict enhances diversity, and the perception of importance of social action engagement). Although findings from these studies do not speak directly to how students perceive their institutions as having achieved a positive climate for diversity, they underscore the importance of understanding how students of color and females may perceive their institution's climate for diversity differently than whites and males. These findings are supported by Hurtado et al. (1998) assertion that "racially and ethnically diverse administrators, students, and faculty tend to view the campus climate differently" (p. 289).

Perceptions of the institution's climate for diversity vary as a function of gender, race, and pre-college interactions with diverse peers. The pervasiveness of these findings throughout the literature serves as the foundation for two of the research hypotheses developed for this study. First, we expect that students' perceptions of their campus as having achieved a positive climate for diversity will vary by gender, race, and previous interaction with diverse peers. Specifically, we expect that females and students of color will have more negative perceptions of their institutions' success in achieving a positive climate for diversity than either males or white students. In addition, we expect that race and gender will interact with different contexts and experiences with diversity on campus to predict

students' perceptions of their institutions as having achieved a positive climate for diversity. For this reason, we include a series of interaction terms as a block of variables used to predict the institution's success in achieving a positive climate for diversity. We turn now to a discussion of these diversity-related contexts and experiences.

A considerable amount of research has investigated the role of diversity-related contexts and experiences in influencing student perceptions and outcomes related to diversity. Examples of such contexts and experiences include: overall beliefs about diversity (Ancis et al., 2000; Cabrera and Nora, 1994), perceptions of institutional commitment to diversity (Astin, 1993a; Villalpando, 1994), opportunities for interaction with diverse peers (Chang, 2001; Hurtado, 2001; Hurtado et al., 2002; Pascarella et al., 1996), perceptions of interactions with diverse faculty (Hurtado, 2001; Villalpando, 1994; Cabrera and Nora, 1994), involvement in co-curricular activities (Hurtado et al., 2002; Mackay and Kuh, 1994), and perceptions of and participation in diversity-related course learning (Adams and Zhou-McGovern, 1990, 1994; Astin, 1993a; Chang, 2002a; Hurtado, Mayhew, and Enberg, 2003; Katz, 2001(Unpublished Thesis); Villalpando, 1994). Each of these seven contexts and experiences contribute to explaining significant proportions of the variance in outcomes related to a campus' ability to achieve a positive climate for diversity. For this reason, we selected iterations of the same seven environmental constructs for use this study.

Conceptual Framework

Figure 1 presents the conceptual framework used for this study. We adapted Astin's (1993b) Inputs–Environments–Outputs model to organize the constructs used in this study. Here, the inputs construct refers to student characteristics and pre-college experiences with diversity that contribute to their experiences with diversity on campus and that influence their perceptions of their institutional as having achieved a positive climate for diversity. The environments construct include factors that measure overall beliefs about diversity, perceptions of institutional commitments toward diversity, interaction with diverse peers, interaction with diverse faculty, level of involvement in co-curricular activities, participation in curricular-based diversity courses, and perceptions of diversity-related course learning as integrated in the curriculum. These factors are analyzed as one block of variables because we did not want to imply causality or directionality between them. The interaction terms construct refers to the interaction terms created for race and gender with every other variable in the model. Figure 1 presents only those interaction

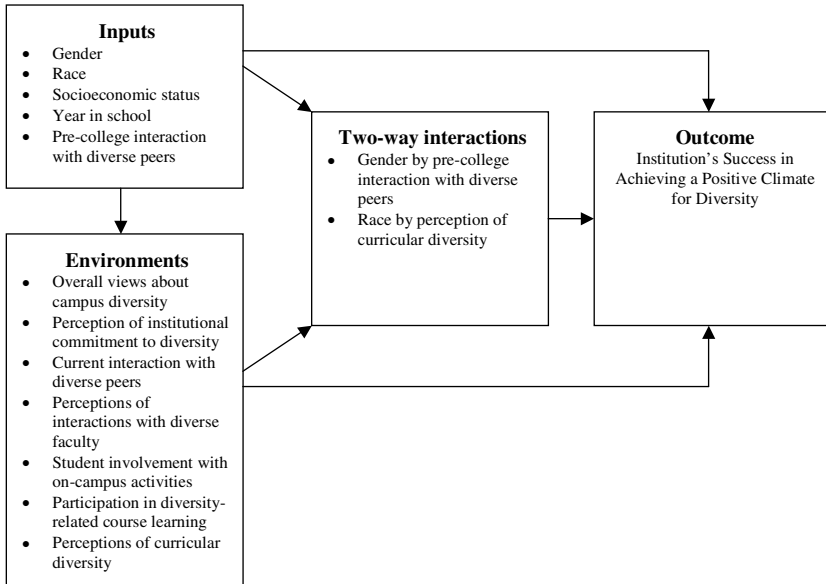


FIG. 1. The effects of student characteristics, environments for diversity, and selected interactions on the institution's success in achieving a positive climate for diversity.

terms that reached statistical significance. The outcome for this analysis is student perceptions of the institution as having achieved a positive climate for diversity.

Research Questions

The conceptual framework guides the research questions developed for this study. The overarching research question is: what factors influence student perceptions of their institution as having achieved a positive climate for diversity? More specifically, we seek to answer the following sub-questions:

1. What student pre-college characteristics and pre-college interactions with diverse peers predict student perceptions of the institution as having achieved a positive climate for diversity?
2. What diversity-related environments and experiences (overall beliefs about campus diversity, perceptions of the institution's commitment to diversity, interaction with diverse peers, perceptions of interactions with diverse faculty, perceptions of curricular diversity, participation in

- curricular-based diversity courses, and level of involvement in co-curricular activities) influence student perceptions of their institution as having achieved a positive diversity climate?
3. How do these diversity-related environments and experiences interact with race and gender to predict the institution's ability to achieve a positive climate for diversity?

University Context

This university is a predominantly White, public university in the Midwest. Historically, this university has struggled with creating an environment that welcomes and appreciates diversity. In the university president's words,

There are those in our own community who are unable to enjoy a life free from hateful words and deeds. There are those in our own community who have been denied basic opportunities that others take for granted. Our challenge as a university community is to face up to these problems, to deal with them forthrightly, to do our part to make the great American dream a reality for all her peoples. We meet this challenge by making certain our own house is in order.

In an effort to make certain that the "house was in order," the university instituted a comprehensive university plan for strengthening its diversification efforts; this plan was distributed to faculty and staff in the fall of 1998. The plan institutionalized diversity initiatives, including the integration diversity-related course learning into the existing curriculum, the creation co-curricular programs and events designed to increase diversity awareness and sensitivity, and the recruitment of minority faculty and students.

A series of curricular and co-curricular diversity-related initiatives have been created. Curricular initiatives include: a new core requirement that students enroll in at least one course with a diversity focus, providing numerous courses that focus on diversity throughout the curriculum, and a new major and minor in "Black World Studies." Examples of co-curricular initiatives include a center for the study of Black culture and learning and the provision of financial and infrastructure support for new student organizations, ranging from an association of Latin and American students to a disability awareness club.

In addition, the university has made significant strides in recruiting students and faculty of color. Over the course of the past 6 years, diverse student enrollment has increased 26%. Diverse faculty recruitment efforts follow similar patterns: from 61 minority faculty members in 1992 to 97 in 2002. Although this university has not yet reached its goals with regard to increasing the structural diversity of the campus, it continues to

brainstorm new programs and initiatives with the intention of creating a more welcoming and diverse campus community.

DATA AND METHODOLOGY

Sample

A sample of 3000 undergraduate students was randomly selected from 14,413 at a large, Midwestern, predominantly White, public university. Of the 3000 students solicited for participation in the study, 544 returned useable surveys; this yielded a response rate of 18.1%. The sample consisted of 70% females and 24% students of color (African American = 9.8%; Asian/Pacific = 6.8%; Hispanic/Latino = 5.0%; and Native American = 1.5%). Nearly 6% of students did not provide information on their race or ethnicity. Student respondents reported that nearly 85% of their mothers and 87% of their fathers had attended college. Institutional percentages show that the 544 students in this sample over-represented females and students of color, at 55% and 10% respectively. Because gender and race appear in the literature as critically important variables for consideration in any models designed to predict outcomes related to diversity-related issues, the data were weighted so that the percentages of women and students of color matched percentages reported by the institution.

Missing Data

Due to the relatively low response rate, we performed mean substitution imputations for missing data on all continuous independent variables that made up the factors used in the model. For the dependent variables that comprised the criterion identified for use in this study, we did not impute data. Also, we did not impute data for categorical variables.

Instrument

The survey instrument used for this study was adopted from a diversity climate survey that was developed at the Higher Education Research Institute (HERI) at University of California at Los Angeles. HERI's survey was adapted from a diversity climate survey previously developed at University of California at Berkeley.

The survey questions have been tested over time and continue to hold content validity. Cronbach's alpha was used as a measure of reliability for a factor analysis designed to test how well the questions on the survey

measured the particular constructs of the survey (e.g., experience with diversity, etc.); alpha levels for this instrument indicated that the survey was well within the limits of acceptable reliability.

In addition, the survey was adapted to reflect diversity-related concerns indigenous to this university. For example, a series of items were designed to measure the climate for diversity of the city in which the university is situated; students were asked to indicate the degree to which they agreed with statements like, “XXX is a diverse community,” and “XXX is a safe (i.e., crime-free) community.”

Moreover, in order to measure the different kinds of diversity represented on campus, questions were specifically asked about racial/ethnic diversity, religious diversity, GLBT diversity, and gender diversity. The survey also included some open-ended items.

Variables

In order to reduce the number of variables used in the regression model, exploratory factor analyses were conducted using principle axis factoring and orthogonal rotation methods for the independent variables. When necessary, certain items were reverse coded for ease in interpretation. Variables selected for the factor analysis were standardized due to differing scales of measurement for individual variables; factors with eigenvalues greater than 1 were included in the model. Factor loadings that contained a score of at least .35 or higher were used in the development of subsequent summated scales. Internal validity for each of these scales was moderate, with Cronbach’s alpha reliabilities ranging from .60 to .90; see Table 1.

Dependent Variable

One of these factors, “institution’s success in achieving a positive climate for diversity,” served as the criterion for the multiple regression analysis. This factor was created from three individual items: students are treated fairly here regardless of their racial/ethnic background, gay and lesbian students are accepted and respected, and this university has achieved a positive climate for diversity. Cronbach’s alpha for this factor was .60.

Independent Variable

Three blocks of independent variables were used to predict the variance in the criterion factor, institution’s success in achieving a positive climate for diversity.

TABLE 1. Items, Factor Loadings, and Reliabilities for Dependent and Independent Variables

| Factor and Survey Items | Factor Loading | Alpha |
|--|----------------|-------|
| DEPENDENT VARIABLE | | |
| <i>Positive climate for diversity^a</i> | | .60 |
| This institution has achieved a positive climate for diversity | .83 | |
| Students are treated fairly here regardless of their racial/ethnic background | .65 | |
| Gay and lesbian students are accepted and respected | .63 | |
| INDEPENDENT VARIABLES | | |
| <i>Pre-college interaction with diverse peers^c</i> | | .79 |
| The neighborhood where you grew up | .84 | |
| The high school you attended | .79 | |
| Your friends in general | .78 | |
| <i>Overall views about campus diversity^a</i> | | .78 |
| Emphasizing diversity leads to campus disunity | .71 | |
| One problem with pursuing diversity goal is admission of too many unprepared students | .71 | |
| Affirmative action leads to the hiring of less qualified faculty and staff | .67 | |
| Inst. is placing too much emphasis on achieving diversity at expense of enhancing prestige | .65 | |
| <i>Student perceptions of institutional commitment to diversity^b</i> | | .87 |
| Creating a diverse multicultural environment on campus | .82 | |
| Developing among students and faculty an appreciation for a multicultural society | .76 | |
| Increasing the representation of minorities in the faculty and administration | .75 | |
| Recruiting more minority students | .75 | |
| Increasing an understanding of a multicultural society | .72 | |
| <i>Current interaction with diverse peers^d</i> | | .82 |
| Socialized with someone from a different racial/ethnic group | .86 | |
| Studied with someone from a different racial/ethnic group | .74 | |
| Dined with someone from a different racial/ethnic group | .73 | |
| <i>Student perceptions about interactions with diverse faculty^a</i> | | .84 |
| Faculty who are race/ethnically similar to me address issues of greater relevance to me | .81 | |
| I get more personal attention from faculty who are racially/ethnically similar to me | .76 | |

TABLE 1. (Continued)

| Factor and Survey Items | Factor Loading | Alpha |
|--|----------------|-------|
| <i>Student involvement in campus activities</i> | | .56 |
| Been a member of a campus group/club ^e | .64 | |
| Attended a cultural event ^c | .60 | |
| Participated in ethnic or cross-cultural activities and organizations ^c | .59 | |
| Served in a leadership role in the university ^c | .47 | |
| <i>Participation in diversity-related course learning^e</i> | | .63 |
| Taken a course related to women's studies | .69 | |
| Taken a course addressing gay/lesbian issues | .66 | |
| <i>Student perceptions about curricular diversity^a</i> | | .62 |
| Many courses include minority group perspectives | .77 | |
| Non-dominant cultures are emphasized in the curriculum | .68 | |
| The emphasis on Western Civ. and non-dominant cultures is balanced in the curriculum | .60 | |

^aFour-point scale: From Strongly disagree = 1 to Strongly agree = 4.

^bFour-point scale: From Not a priority = 1 to Highest priority = 4.

^cFive-point scale: From All or nearly all white = 1 to All or nearly all non-white = 5

^dThree-point scale: From Never = 1 to Frequently = 3.

^eTwo-point scale: From No = 1 to Yes = 1.

The first block of predicting variables included student demographics, such as sex, race, socioeconomic status (from here on, SES), year in school (i.e., first-year, sophomore, junior, senior), and a factor constituting pre-college interactions with diverse peers. Race was coded white students and students of color due to the small sample sizes of the students of color subgroups. SES was computed as a summative index of mother and father's education.

The second block of variables included seven factors: overall beliefs about campus diversity, perceptions of the institution's commitment to diversity, interaction with diverse peers, perceptions of interactions with diverse faculty, perceptions of curricular diversity, participation in curricular-based diversity courses, and level of involvement in co-curricular activities. See Table 1 for factor loadings, individual items, and reliabilities.

The third block of variables included for consideration in the full model consisted of a series of two-way interactions. Interaction terms were computed for race, sex and each of the factors developed for this study.

Analyses

Descriptive and exploratory analyses for all variables and factors were performed. This was done for two reasons: to determine the relationship between each predicting variable and the criterion and to check for significant relationships between predicting variables. Frequencies and cross-tabulations were used to examine subgroup phenomena (e.g., previous interaction with diverse peers by race/ethnicity and on-campus interaction with diverse peers by race/ethnicity). Descriptive analyses of the dependent variable, this institution has achieved a positive climate for diversity, indicated that this factor was normally distributed and shared linear relationships to each predicting variable. Residual diagnostic analyses confirmed that all assumptions of linear regression (i.e., normality, linearity, independence and homogeneity) were met.

A series of multiple linear regression analyses were performed to predict the criterion, this institution has achieved a positive climate for diversity. The first model included student demographics and pre-college interactions with diverse peers. The second model included student demographics and the seven environmental factors. The third model included student demographics, the seven factors and all possible two-way interactions with race, sex and each of the eight factors (the seven environmental factors and the one factor measuring students' pre-college interaction with diverse peers). Demographic variables and environmental factors were retained in each model as control variables, however, in an effort to improve the parsimony of the model, interactions that did not significantly contribute to explaining the variability in the criterion were excluded from consideration in the final model.

Based on these results, we performed a second series of regressions for white and students of color and men and women, respectively. These regressions helped us identify consistent predictors of the institution's success in achieving a positive climate for diversity across the different subgroups. There were not, however, sufficient samples size to run regressions for the intersection of these four groups (e.g., female students of color, male students of color, etc.).

RESULTS

Analysis One

Student demographics (sex, race, SES, year in school) and previous interaction with diverse peers collectively explained a significant 4% of the variance in students' perceptions of their institution as having achieved a

positive campus climate for diversity. Of these variables, year in school and previous interactions with diverse peers were statistically significant. When compared to first-year students, sophomores ($\beta = -.13, p < .05$) were significantly less likely to perceive their institutions as having achieved a positive climate for diversity. Students with more pre-college interactions with diverse peers ($\beta = -.14, p < .01$) were less likely to perceive their institutions as having succeeded in creating a positive climate for diversity. See Table 2 for unstandardized and standardized regression coefficients for each model.

The second block of variables, environments for diversity, collectively explained a significant 19% of the variance in students' perceptions of their institutions as having achieved a positive campus climate for diversity. After the second block of variables was entered into the model, none of the student demographic variables, including pre-college interactions with diverse peers, reached statistical significance.

Five of the seven predictors that comprised the environmental construct reached statistical significance. Students' perceptions of curricular diversity ($\beta = .28, p < .01$) was the strongest environmental predictor; students who were more likely to perceive their curriculum to be diverse were significantly more likely to perceive that their institutions had succeeded in achieving a positive climate for diversity. The next strongest predictor was participation in diversity-related course learning ($\beta = -.15, p < .01$). Students who participated in more courses related to understanding marginalized groups were less likely to perceive that their institutions had achieved a positive climate for diversity. Next followed students' overall views about campus diversity ($\beta = .12, p < .01$) and students' involvement with on-campus activities ($\beta = -.12, p < .05$); the less involved a student, the more likely he or she is to perceive their institutions as being successful in achieving a positive climate for diversity. The final significant predictor among this block of variables was student perceptions of their interactions with diverse faculty ($\beta = -.11, p < .01$). This finding suggests that students who perceived their interaction with diverse faculty to be less relevant and less supportive were more likely to perceive that their institution had achieved a positive climate for diversity.

The third and final model included all of the demographic variables, pre-college interactions with diverse peers, the seven environmental variables and 2 two-way interactions between these variables. Adding these interaction terms to the model significantly contributed an additional 4% of the overall variance in the criterion.

Two interactions were statistically significant. Overall, students with more pre-college interactions with diverse peers were less likely to perceive their institutions as having succeeded in creating a positive climate for

TABLE 2. Weighted Regression Models Predicting Students' Perceptions of Institutional Success of Achieving a Positive Climate for Diversity

| | Model 1 | | | Model 2 | | | Model 3 | | |
|---|--------------------|-----|---------|--------------------|-----|---------|--------------------|-----|---------|
| | B | SE | β | B | SE | β | B | SE | β |
| <i>Student Demographics</i> | | | | | | | | | |
| Constant | -.40 | .28 | | -.51 | .27 | | -3.25 | .64 | |
| Female | .02 | .06 | .02 | .12 | .06 | .08 | 1.93 | .39 | 1.21** |
| Students of Color | -.15 | .11 | -.07 | .06 | .11 | .03 | .08 | .11 | .03 |
| SES | -.01 | .02 | -.03 | -.003 | .01 | -.01 | -.004 | .01 | -.01 |
| Sophomore (first-year) | -.21 | .11 | -.13* | -.08 | .10 | -.05 | -.04 | .10 | -.02 |
| Junior (first-year) | -.17 | .10 | -.11 | -.04 | .10 | -.03 | -.01 | .10 | .01 |
| Senior (first-year) | -.19 | .10 | -.13 | -.04 | .10 | -.03 | -.01 | .09 | -.01 |
| Pre-college interaction with diverse peers | -.15 | .05 | -.14** | -.09 | .05 | -.08 | -.30 | .07 | -.27** |
| <i>Environments for Diversity</i> | | | | | | | | | |
| Overall views about campus diversity | | | | .12 | .04 | .12** | .12 | .04 | .13** |
| Perception of institutional commitment to diversity | | | | .04 | .04 | .04 | -.04 | .04 | .05 |
| Current interaction with diverse peers | | | | .04 | .04 | .05 | .04 | .04 | .05 |
| Perceptions of interaction with diverse faculty | | | | -.09 | .03 | -.11** | -.07 | .03 | -.09* |
| Student involvement with on-campus activities | | | | -.12 | .05 | -.12** | -.11 | .05 | -.10* |
| Participation in diversity-related course learning | | | | -.13 | .04 | -.15** | -.13 | .04 | -.15** |
| Perception of curricular diversity | | | | .28 | .04 | .28** | .24 | .04 | .25** |
| <i>Two-way Interactions</i> | | | | | | | | | |
| Female X pre-college interaction With diverse peers | | | | | | | .43 | .09 | 1.35** |
| SOC X perception of curricular diversity | | | | | | | .24 | .13 | .09* |
| <i>Model Statistics</i> | | | | | | | | | |
| | Adj. $R^2 = .04**$ | | | Adj. $R^2 = .19**$ | | | Adj. $R^2 = .23**$ | | |

Note: Parentheses indicate reference group used for comparison.

* $p < .05$, ** $p < .01$.

diversity. This effect is different for men than it is for women. When compared with females with few pre-college interactions with diverse peers, females reporting a greater number of pre-college interactions with diverse peers were more likely to perceive that the campus had achieved a positive climate for diversity. For men, the opposite is true. Males reporting more pre-college interactions with diverse peers had more negative perceptions of their institution's ability to achieve a positive climate for diversity than did men with fewer pre-college interactions with diverse peers.

The second significant interaction was race by perception of curricular diversity, which was significant ($p < .05$). On average, holding all other variables constant, students who perceived that the curriculum reflected diversity were more likely to perceive that the institution had achieved a positive climate for diversity. This effect was stronger for students of color than for white students. Students of color who perceived the curriculum to be less integrated with diversity-related content were less likely to perceive their campus as having achieved a positive campus climate for diversity than white students who perceived the curriculum to be less integrated with diversity-related content. Students of color who perceived the curriculum to be more highly integrated with diversity-related content were more likely to perceive their campus as having achieved a positive climate for diversity than white students with the same perceptions of a highly integrated diverse curriculum.

After adding this block of variables, gender and pre-college interactions with diverse peers reached statistical significance. Perceptions of curricular diversity, participation in course-related diversity learning, overall views about campus diversity, student involvement with on-campus activities and perceptions of interactions with diverse faculty remained statistically significant.

Analysis Two

We performed a second series of regressions for white students and students of color and men and women, respectively. For male students, the model explained a significant 22% of the variance in the criterion. For females, the model explained a significant 19%. For white students, the model explained a significant 14%. For students of color, the model explained a significant 13%. Here, we want to note that after weighting, the sample size for students of color was reduced to 52 total cases; any findings reported for this group must be interpreted with caution. See Table 3 for the patterns across subgroups.

In terms of student demographics, for males, students with more pre-college interactions with diverse peers were less likely to perceive their

TABLE 3. Comparison of Regression Models Predicting Students' Perceptions of the Institution's Positive Climate for Diversity for Students of Color, White Students, Men and Women, Respectively

| | Race | | Gender | |
|--|---|-------------------------------|-----------------------------|-------------------------------|
| | Students of Color ^a β (n = 52) | White β (n = 477) | Men β (n = 235) | Women β (n = 293) |
| <i>Student Demographics</i> | | | | |
| Female | .14 | .07 | | |
| Student of Color | | | .03 | -.02 |
| SES | .03 | -.02 | -.09 | .06 |
| Sophomore | -.14 | -.04 | .08 | -.13 |
| Junior | -.09 | -.01 | .06 | -.08 |
| Senior | -.14 | .001 | .08 | -.10 |
| Pre-college interactions with diverse peers | -.03 | -.08 | -.27** | .11 |
| <i>Environments for Diversity</i> | | | | |
| Overall views about campus diversity | .05 | .13** | .15* | .12* |
| Perception of institutional commitment to diversity | .12 | .04 | .01 | .10 |
| Current interaction with diverse peers | -.03 | .06 | .10 | .01 |
| Perceptions of interaction with div/same faculty | -.11 | -.09* | -.09 | -.08 |
| Student involvement with on-campus activities | -.11 | -.11* | -.18** | -.01 |
| Participation in diversity related course learning | -.15 | -.16** | -.09 | -.19** |
| Perception of curricular diversity | .39** | .26** | .20** | .33** |
| <i>Model Statistics</i> | | | | |
| | Adj. $R^2 = .13^*$ | Adj. $R^2 = .14^{**}$ | Adj. $R^2 = .22^{**}$ | Adj. $R^2 = .19^{**}$ |

^aAfter weighting, the sample size for students of color was reduced to 52 total cases. Findings from this model should be interpreted with caution.

* $p < .05$, ** $p < .01$.

institutions as having succeeded in creating a positive climate for diversity ($\beta = -.27$, $p < .01$).

Of the seven environmental factors, only perception of curricular diversity was a positive significant predictor of a perceived positive campus climate for diversity across all subgroups. This effect was strongest

for students of color ($\beta = .39, p < .01$) and women ($\beta = .33, p < .01$). The effects for white students ($\beta = .26, p < .01$) and males ($\beta = .20, p < .01$) were weaker, but still statistically significant. In addition, one other environmental predictor, overall views about campus diversity, was a positive predictor for three student subgroups, namely men ($\beta = .15, p < .05$), white students ($\beta = .13, p < .01$), and women ($\beta = .12, p < .05$), but not students of color.

Three environmental predictors shared negative relationships with perceptions of the institution as having achieved a positive campus climate for diversity. For white students ($\beta = -.16, p < .01$) and women ($\beta = -.19, p < .01$), participating in diversity-related course learning had negative effects on their perceptions of the campus as having achieved a positive climate for diversity. In addition, white students ($\beta = -.11, p < .01$) who perceived their interaction with diverse faculty to be less relevant and less supportive were more likely to perceive that their institution had achieved a positive climate for diversity.

For males ($\beta = -.18, p < .01$) and white students ($\beta = -.11, p < .05$), student involvement with on-campus activities had negative effects on their perceptions of the institution as having achieved a positive climate for diversity.

LIMITATIONS

There are several limitations to this study. First is the low response rate of 18% for the students sampled for this study. We realize that this is much lower than the normally acceptable convention of 30–40%. To compensate for the low response rate, we have weighted the data to match the institutional percentages for males, females, students of color and white students. After weighting, the small subgroup size of student of color likely had an effect on the statistical power of the respective statistical analyses.

Another limitation to the study is the marginal reliability coefficients for the criterion and several of the independent predictors. For example, Cronbach's alpha for the criterion was .60. Nunnally (1978) has stated that alphas should be at least .70. Given the content validity of the measures in question, we decided to proceed with the analytical strategy developed for this study. We think that the small sample size and sampling variability contributed to sampling errors that decreased the factor reliabilities.

DISCUSSION AND CONCLUSION

Creating a supportive climate for diversity may seem to many to be an ephemeral goal, both in terms of external pressure to move in that

direction and the longevity of any successful efforts at achieving the same. Nevertheless, these findings provide specific guidance for moving toward a positive climate from the perspective of undergraduates, including the need to have a publicly visible institutional commitment toward diversity goals and obvious reinforcement of these kinds of messages as embodied in the curriculum. The recent Supreme Court rulings about the role of affirmative action in college admissions and the recognized importance that campus diversity has for the growth and development of all students has served to reinforce the general trend toward emphasizing diversity. Of course, the particular history of a campus and the experiences that students bring with them to the campus are important contributors to institutional dynamics, suggesting the need for additional campus-based studies of this kind.

Taken together, the results of our analyses suggest that student experiences related to diversity do have an influence on the perception of an institution having achieved a positive campus climate, but that these effects are not always straightforward. While students are to varying degrees enveloped in experiences that are diversity related, including many not directly tied to institutional action (e.g., interaction with diverse peers), these experiences do not automatically produce perceptions of a positive climate. Rather, when students are exposed to diversity they tend to develop a more critical perspective about the ways in which their campuses support and foster a positive climate for diversity, as opposed to simply accepting that their institutions have positive institutional climates.

One aspect where this is particularly clear is in the influence of curriculum and how faculty practice reinforces diversity goals. This finding holds true for all subgroups but most effectively for students of color. In terms of formal and public commitment, an institution's ability to achieve a positive climate for diversity is indeed reflected by the faculty's commitment to incorporate diversity-related issues into their academic agenda. Within its very definition, an institution's curriculum functions to communicate "a college's or program's mission, or collective expression of what is important for students to learn" (Stark and Lattuca, 1997, p. 7). In other words, the curriculum reflects the institution's priorities, especially for students of color. In terms of diversity, the magnitude of an institution's commitment to diversity is measured by its willingness to integrate different racial and ethnic perspectives into its curricular initiatives. In short, if the institution wants to be perceived by students as a community that welcomes diversity, it needs to include diversity within its curriculum.

Earlier research has also shown this to be important on a number of different dimensions, including the classroom environment (Smith,

Gerbick, Figueroa, Watkins, Levitan, Moore, Merchant, Beliak, and Figueroa, 1997) and the general influence of the curriculum as an important environmental attribute in studying outcomes related to diversity (Gurin, Dey, Hurtado, and Gurin, 2002). Co-curricular activities are, of course, important as well, but do not have the same symbolic power of a college's curriculum, to demonstrate an institution's commitment to diversity.

In some ways, these results present institutions and their leaders and faculty with an ironic challenge. By moving forward and providing students with opportunities to have diversity experiences, the more experienced students develop greater expectations for their institutions to honestly embrace diversity and create a positive campus climate with respect to diversity. Public relations efforts intended to create the surface illusion of a positive climate for diversity would appear to be destined for difficulty, unless accompanied by movement toward genuine institutional transformation (Chang, 2002b).

Institutional stakeholders (faculty, administrators and institutional researchers) need to keep track of many pieces of the institutional puzzle when they are attempting to boost the student perceptions of having achieved a positive campus climate for diversity. Nine constructs were identified in this study as potential determinants of student perceptions of having achieved a positive campus climate for diversity; among these were student demographics, pre-college interactions with diverse peers, overall beliefs about the campus diversity, perceptions of institutional commitments toward diversity, current interaction with diverse peers, interactions with diverse faculty, perceptions of diversity as reflected in the curriculum, participation in diversity courses and level of involvement in co-curricular activities. We urge researchers to continue to examine the multiplicity of factors that have the potential to enrich our understanding of diversity climates. Doing so will help institutional stakeholders make more informed decisions about creating welcoming environments for all campus constituencies.

REFERENCES

- Adams, M., and Zhou-McGovern, Y. (1994). The sociomoral development of undergraduates in a "social diversity" course: developmental theory, research, and instructional applications. *Paper presented at the Annual Meeting of the American Educational Research Association*. New Orleans, LA.
- Adams, M., and Zhou-McGovern, Y. (1990). Some cognitive developmental characteristics of social diversity education. *Paper presented at the Annual Meeting of the American Educational Research Association*. Boston, MA.

- Ancis, J. R., Sedlacek, W. E., and Mohr, J. J. (2000). Student perceptions of campus cultural climate by race. *Journal of Counseling and Development* 78: 180–185.
- Astin, A. (1993a). *What Matters in College: Four Critical Years Revisited*. San Francisco: Jossey-Bass.
- Astin, A. (1993b). *Assessment for Excellence*. American Council on Education. The Oryx Press.
- Cabrera, A. G., and Nora, A. (1994). College student perceptions of prejudice and discrimination and their feelings of alienation: A construct validation approach. *Review of Education/Pedagogy/Cultural Studies* 16(34): 387–409.
- Chang, M. (2001). The positive educational effects of racial diversity on campus. In: Orfield, G. (ed.), *Diversity Challenged: Evidence on the Impact of Affirmative Action*. Education Publishing Group, Cambridge, Harvard, pp. 175–186.
- Chang, M. (2002a). The impact of an undergraduate diversity course requirement on students' racial views and attitudes. *The Journal of General Education* 51(1): 21–42.
- Chang, M. J. (2002b). Preservation or transformation: Where's the real educational discourse on diversity? *The Review of Higher Education* 25(2): 125–140.
- Green, M. (ed.) (1989). *Minorities on campus: A handbook for enhancing diversity*. Washington, DC: American Council on Education.
- Gurin, P. (1999). Expert report of Patricia Gurin. In: *The Compelling Need for Diversity in Higher Education*. Gratz et al. v. Bollinger et al. No. 97-75231 (E.D. Mich.) and Grutter et al. v. Bollinger et al. No. 97-75928 (E.D. Mich). Ann Arbor, Michigan: The University of Michigan, pp. 99–234.
- Gurin, P., Dey, E. L., Hurtado, S., and Gurin, G. (2002). Diversity and higher education: Theory and impact on student outcomes. *Harvard Educational Review* 72(3): 330–366.
- Hurtado, S. (1993). *The Institutional Climate for Diversity: The Climate for Talented Latino Students*. Paper presented at the Association for Institutional Research (33rd, Chicago, IL, May 16–19, 1993). Eric Digest, ED 360 930.
- Hurtado, S. (1996). How diversity affects teaching and learning: A climate for inclusion and a positive effect on learning outcomes. *Educational Record* 77(4): 27–29.
- Hurtado, S. (2001). Linking diversity and educational purpose: How diversity affects the classroom environment and student development. In Orfield, G. (ed.), *Diversity Challenged: Evidence on the Impact of Affirmative Action*. Education Publishing Group, Cambridge, Harvard, pp. 187–203.
- Hurtado, S., and Carter, D. F. (1997). Effects of college transition and perceptions of campus racial climate on Latino's sense of belonging. *Sociology of Education* 70(4): 324–245.
- Hurtado, S., and Dey, E. L. (1997). Achieving the goals of multiculturalism and diversity. In: Peterson M., Dill D., Mets L., and Associates (eds.), *Planning and Management for a Changing Environment*. Jossey-Bass, San Francisco, pp. 405–431.
- Hurtado, S., Engberg, M. E., Ponjuan, L., and Landreman, L. (2002). Students' pre-college preparation for participation in a diverse democracy. *Research in Higher Education* 43(2): 163–186.
- Hurtado, S., Mayhew, M. J., and Engberg, M. E. (2003). *Diversity in the Classroom and Students' Moral Reasoning*. Paper presented at the Association for the Study of Higher Education. OR, November, 18–20. Portland.
- Hurtado, S., Milem, J., Clayton-Pedersen, A., and Allen, W. (1998). *Enacting Diverse Learning Environments: Improving the Climate for Racial/Ethnic Diversity in Higher Education*. ASHE-ERIC Higher Education Report Volume 16, No. 8. Washington

- D.C: Graduate School of Education and Human Development, The George Washington University.
- Hurtado, S., and Others. (1995). *Social Interaction on Campus: Differences Among Self-perceived Ability Groups*. Paper presented at the Association for Institutional Research (35th, Boston, MA, May 28–31, 1995). ERIC Digest, ED 387 014.
- Jessor, R. (1981). The perceived environment in psychological theory and research. In: Mangnusson D. (ed.), *Toward a Psychology of Situations: An Interactional Perspective*. Hillsdale NJ: Lawrence Erlbaum Associates.
- Loo, C. M., and Rolison, G. (1986). Alienation of ethnic minority students at a predominantly White university. *The Journal of Higher Education* 57: 58–77.
- Mackay, K. A., and Kuh, G. D. (1994). A comparison of students effort and educational gains of Caucasian and African-American students at predominantly White liberal arts colleges. *Journal of College Student Development* 35: 217–223.
- McClelland, K. E., and Auster, C. J. (1990). Public platitudes and hidden tensions: Racial climates at predominantly White liberal arts colleges. *Journal of Higher Education* 61: 607–642.
- Milem, J. P. (1998). Attitude change in college students: Examining the effect of college peer groups and faculty normative groups. *The Journal of Higher Education* 69(2): 117–140.
- Milem, J. P. (2001). Increasing diversity benefits: How campus climate and teaching methods affects student outcomes. In Orfield G. (ed.), *Diversity challenged: Evidence on the impact of Affirmative Action*. Education Publishing Group, Cambridge, Harvard., pp. 233–249.
- Nunnally, J. C. (1978). *Psychometric Theory*. 2nd ed. New York: McGraw Hill.
- Oliver, M. L., Rodriguez, C. J., and Mickelson, R. A. (1985). Brown and Black in White: The social adjustment and academic performance of Chicano and Black students in a predominantly White university. *The Urban Review: Issues and Ideas in Public Education* 17: 3–24.
- Pascarella, E. T., Edison, M., Nora, A., Hagedorn, L. S., and Terenzini, P. T. (1996). Influences on students' openness to diversity and challenge in the first year of college. *Journal of Higher Education* 67(2): 174–195.
- Patterson, A. M., Sedlacek, W. E., and Perry, F. W. (1984). Perceptions of Blacks and Hispanics in two campus environments. *Journal of College Student Personnel* 25: 513–518.
- Peterson, M. W., and Spencer, M. G. (1990). Understanding academic culture and climate. In: Peterson M. W., Chaffee E. E., and White T. H. (ed.), *ASHE Reader on Organization and Governance in Higher Education*. 4th ed. Simon and Schuster Custom Publishing, Needham Heights, MA. pp.140–152. (Reprinted from New Directions for Institutional Research, no. 68, 1990).
- Peterson, M. W., and White, T. H. (1992). Faculty and administrator perceptions of their environments: Different view or different model of organization? *Research in Higher Education* 33(2): 177–204.
- Smith, D. G., Gerbick, G. L., Figueroa, M. A., Watkins, G. H., Levitan, T., Moore, L. C., Merchant, P. A., Beliak, H. D., and Figueroa, B. (1997). *Diversity Works: The Emerging Picture of How Students Benefit*. Washington, DC: American Colleges and Universities. ERIC Digest, ED 416797.
- Stark, J. S., and Lattuca, L. R. (1997). *Shaping the college curriculum: Academic plans in action*. Needham Heights, MA: Allyn & Bacon,

- Villalpando, O. (1994). *Comparing the Effects of Multiculturalism and Diversity on Minority and White Students' Satisfaction with College*. Paper presented at the Association for the Study of Higher Education. Tuscon AZ.
- Whitt, E. J., Edison, M. I., Pascarella, E. T., Terenzini, P. T., and Nora, A. (2001). Influences on students' openness to diversity and challenge in the second and third year of college. *The Journal of Higher Education* 72(2): 172–204.

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