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Effects of College Transition and Perceptions of the Campus Racial Climate on Latino College Students' Sense of Belonging

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To clarify the conceptual underpinnings of Tinto's theoretical model of students' departure, the study presented here tested a conceptual model of the antecedents of sense of belonging to examine the extent to which Latino students' background characteristics and college experiences in the first and second years contribute to their sense of belonging in the third year. The study found that discussions of course content with other students outside class and membership in religious and social-community organizations are strongly associated with students' sense of belonging. First-year experiences have positive effects, while perceptions of a hostile racial climate have direct negative effects on students' sense of belonging in the third year. The results suggest that greater attention needs to be paid to minority students' subjective sense of integration in campus life, temporal sequencing of college experiences, and new avenues for understanding students' adjustment to college.

Tinto's (1993:132) model of students' persistence is "a model of educational communities that highlights the critical importance of student engagement and involvement in the learning communities of the college." A consistent finding of a variety of studies is that the "integrating experiences" of involvement, engagement, and affiliation are central to students' development and progress in college (Astin 1984, 1993; Pace 1984; Pascarella and Terenzini 1991). However, the nature of integration (Attinasi 1989; Tierney 1992) and the applicability of many aspects of Tinto's model to students from diverse backgrounds (Braxton, Sullivan, and Johnson 1997) have been criticized. Tinto (1993) considered many of these criticisms in his latest revision of the rationale to support his model, but these considerations have not been included in the framework that researchers commonly use to guide their empirical tests.

Further research is necessary to understand racial and ethnic minority students' views of their participation in college as an important part of the process of engagement in the diverse learning communities of a college. For example, how does one account for the success of students who encounter educational environments in which few understand their culture? Do some students perceive themselves as marginal to the mainstream life of a campus? What contributes to students' sense of marginality, and does this sense of marginality contribute to students' lack of success in college? These questions go to the heart of our attempts to understand the achievement and persistence of students who have historically been excluded from education and are now part of the emerging racially and ethnically diverse groups in colleges and universities.

We contend that understanding students' sense of belonging may be key to understanding how particular forms of social and academic experiences

affect these students. We begin by distinguishing how a sense of belonging differs theoretically and empirically from most measures of integration used by researchers of higher education. Next, we discuss the antecedents of students' sense of belonging and test a model using a temporal sequence of Latino students' college experiences in the 1990s. In doing so, we propose a reconsideration of some of the central assumptions that underlie Tinto's (1993) revised model of students' departure. We conclude with a discussion of prospects for future research on the role of students' sense of belonging in adjustment to college and subsequent educational outcomes.

THEORY AND RESEARCH ON INTEGRATION

The concepts of social and academic integration in college have received much attention in replication studies of Tinto's model for retention and other college outcomes (Pascarella and Terenzini 1991; Tinto 1993). However, these studies vary considerably in the way these constructs have been conceptualized and measured since Spady (1970) first incorporated Durkheim's notion of integration into a model of college dropout. This problem stems from a major theoretical dilemma faced by both sociologists and researchers of higher education. Sociologists contend that Durkheim's (1951) articulation of the theory of social integration is neither clear nor cohesive (Bollen and Hoyle 1990). Following Durkheim's initial work, sociologists developed a line of research that attempted to address individual and group cohesion that resulted in a confusing mesh of measures and findings (Bollen and Hoyle 1990).

Higher education researchers' interpretations of Spady's (1970, 1971) and Tinto's (1975, 1987) theoretical constructs of social and academic integration have also been unclear and nonuniform, perhaps because of the lack of clarity of Spady's and Tinto's applications of Durkheim's concepts of integration to higher education contexts to

explain students' dropout behavior. According to Spady (1971), students' interactions in the social and academic systems influence social integration, which, in turn, affects such outcomes as students' satisfaction; commitment to college; and, ultimately, decisions to drop out. Spady's empirical definition of *perceived social integration* encompasses students' subjective sense of belonging and "fitting in" on campus, perceptions of the warmth of their interpersonal relationships, and feeling unpressured by "normative" differences between them and the environment. Thus, Spady's original notion of social integration incorporates a psychological dimension that is distinct from and can be influenced by students' interactions in both the social and academic spheres of the campus environment.

However, Spady's attempt to incorporate Durkheim's theory was problematic. Spady's aim was to make direct parallels between students' interactions in the social system of college and Durkheim's theory of integration that was used to describe various forms of suicide among societies, an analogy that was criticized (Attinasi 1989; Darden and Kuhn 1985) and has subsequently received less emphasis (Tinto 1993). Moreover, Spady's attempt to draw parallels between a theory that was descriptive but not predictive of college students' persistence produced a model in which some concepts were too complex to be tested empirically (Spady 1971). For example, according to Spady, social integration is influenced by the social system on campus, which includes a student's friendship support and the normative congruence between an individual's expectations, values, and attitudes and those encountered in campus peer groups. The idea of normative congruence, or the compatibility of an individual with contextual norms, has been difficult to measure (Edwards 1994).

Educational researchers appear to have abandoned this component of integration in favor of the development of other constructs that capture students' participation in the social and academic systems of a college. However, the

assumptions of congruence and of approximating the normative or dominant values of an environment continue to underlie the use of social and academic integration in research, despite the fact that large campuses invariably have a broad range of values and normative contexts within which students construct affiliations. We return to this point later because it has special significance for populations who have been marginalized in higher education.

Tinto has also contributed to researchers' confusion about the theoretical constructs mentioned in the model of integration. He modified his model three times (1975, 1987, 1993), incorporating many of the criticisms of the model and the work of others who have attempted to extend his framework (Cabrera, Castañeda, Nora, and Hengstler 1992) into the latest revision. Researchers who are interested in elaborating on his model have identified important omissions in the framework (Braxton et al. 1997), and although Tinto's subsequent revisions suggest improvements in researchers' intellectual thinking about college students' persistence, they have not refined their notions of integration. Instead, researchers' attention has been diverted from a basic conceptual distinction between students' sense of integration (or psychological measures) and actual participation in campus life (behavioral measures) that may merit further study.

Tinto can be credited with improving Spady's application of Durkheim's social integration to higher education by modeling more precisely the social and academic systems in which students' interactions take place. Yet, the distinction between students' interactions in the academic and social systems and their actual psychological sense of identification and affiliation with the campus community remains ambiguous. Tinto's (1993) revised framework posits that participation in the social and academic systems is distinct from social and academic integration, but does not include a description of this distinction that can guide researchers' empirical tests of the relationship.

In contrast, Spady's (1971) model posits that students' interactions in the social and academic systems are conceptually distinct from their subjective sense of integration. Using empirically distinct measures, Spady was able to show that the nature of social and academic experiences that contribute to an overall feeling of integration in campus life differs for men and women. This finding suggests that a subjective sense of integration may be useful for assessing the range of social interactions on campus and their value to particular racial-ethnic groups.

To add to the lack of theoretical clarity in defining integration, researchers on higher education have often operationalized Spady's and Tinto's constructs to reflect their own views of integration. Thus, the constructs used reflect differences in researchers' preferences for any number of measures that constitute formal and informal social activities. Some of these measures are the effort or time spent in activities; students' perceptions, reported behaviors, and participation in specific activities; students' satisfaction with aspects of the social or academic environments; students' interpersonal relations; objective performance criteria; or a combination of these measures (see, for example, Cabrera et al. 1992; Pascarella, Terenzini, and Wolfle 1986; Stage 1989). This is not to say that the findings of these researchers are not important, for despite the lack of clarity and uniformity in conceptualizing social and academic integration across studies, many of these measures were found to have strong links with persistence and other constructs in their models. Our intent is only to point out that many of the measures actually capture information on students' academic and social participation in college and other constructs that were intended to be theoretically distinct from a psychological sense of integration, originally postulated in Spady's framework.

Perhaps what is most important is that integration can mean something completely different to student groups who have been historically marginalized

in higher education. Criticisms of the use of models of integration have noted that underlying the concept of acculturation is the assumption that the cultural differences of ethnic groups should be diminished and that to be successful, minority students must adopt the values of the dominant college environment—an assumption that is potentially harmful in practice (Attinasi 1989, 1992; Tierney 1992). Tinto's (1993:106) response to these criticisms was that the assumption of conformity is not always associated with integration and that "the concept of 'membership' is more useful than 'integration' because it implies a greater diversity [of modes] of participation."

Thus, the concept of membership is intended to capture the multiple communities on campus and students' multiple affiliations without adopting a single or predominant set of norms. This advancement may be useful for understanding minority students' ability to function in multiple worlds, that of their own cultural group and that of other cultures. The movement away from the use of the concept of integration may also be justified in light of its additional meaning to populations with a long history of and continuing problems in desegregating schools and colleges (Williams 1988). Although Tinto's model does not distinguish between *participation* (behavior) and *membership* (presumably a broader concept), it would be helpful for researchers to develop the concept of membership further by identifying activities that bring about a greater sense of affiliation with campus life.

The increased complexity of environments with multiple racial-ethnic communities and opportunities for multiple memberships pose new challenges for understanding students' social interaction and affiliation. Braxton et al.'s (1997) review of the literature suggested that such diverse environments may require a reformulation of Tinto's model because the model and previous research have not adequately addressed the racial-ethnic dimension of "integrating experiences" for minority students. Researchers have used constructs that

often reflect participation in mainstream activities in colleges without considering whether the social distance between racial and ethnic groups may inhibit participation in these activities (Hurtado 1994a). Forms of affiliation that may reflect specific interests of Latino students, such as participation in ethnic student organizations and in cultural forms of expression on campus (for example, religion; community service or activism; and ethnic dance, music, and art), have been excluded from measures of social integration that include college activities.

The exclusion of these activities may explain why some studies have found that constructs of social integration are significantly related to outcomes for majority students but not for Chicano (Nora 1987) and other nontraditional students (Fox 1986) in specific colleges. Researchers lack a clear understanding of how the variety of collegiate activities (mainstream and culturally related) may contribute to a student's sense of membership in the college community. Participation in mainstream organizations may not promote the kinds of support that Latino students need to be successful.

Kraemer (1997) developed a construct of Latino social activities that includes culturally related survey items. However, the study revealed the difficulty involved in developing coherent constructs of integration that may be related to the fact that researchers continue to develop measures that are based on activities that do not capture a subjective sense of integration. This difficulty suggests the need to assess specific forms of students' interaction in college, and perhaps researchers' conceptualizations of integration, by using a conceptually distinct measure that captures the individual's view of whether he or she feels included in the college community.

SENSE OF BELONGING AND ITS ANTECEDENTS

In the previous section, we discussed the need for an empirically distinct measure of a psychological sense of integration to test and clarify the

distinctions among constructs posited in theories of students' departure. In this section, we suggest that it is necessary to assess the effectiveness of various measures of students' participation in a wide range of activities and memberships in multiple communities in the college environment to understand which activities contribute to an overall sense of belonging or cohesion among diverse students.

Sociological research distinguishes between perceptions of group cohesion (based on individuals' perceptions) and observed cohesion (based on researchers' assumptions of what constitutes cohesion). According to Bollen and Hoyle (1990), perceived cohesion may mediate much of the influence of objective measures of cohesion. Perceived cohesion, which captures the extent to which individuals feel "stuck to" particular social groups, is composed of two dimensions: a sense of belonging and feelings of morale associated with group membership.

In our study, we focused on Bollen and Hoyle's (1990) first dimension of perceived cohesion: the Sense of Belonging Scale. Bollen and Hoyle's overall Perceived Cohesion Scale has been tested on various populations, including those of a mid-size liberal arts college, a city, and several nations. The measure of perceived cohesion applies to large groups for whom face-to-face interaction or knowledge of everyone is not possible. It is suited to understanding a variety of collective affiliations, formed in large environments, that can contribute to an individual's sense of belonging to the larger community. Bollen and Hoyle stated that a "sense of belonging is fundamental to a member's identification with a group and has numerous consequences for behavior" (p. 484). A sense of belonging contains both cognitive and affective elements in that the individual's cognitive evaluation of his or her role in relation to the group results in an affective response. Thus, studying a sense of belonging allows researchers to assess which forms of social interaction (academic and

social) further enhance students' affiliation and identity with their colleges.

To understand the antecedents of a sense of belonging, we returned to the central premises of Tinto's model. Although several critics (see, for example, Braxton et al. 1997) have raised numerous issues regarding Tinto's application of Van Gennep's (1960) theories to college students, here, we discuss a new set of concerns that are more central to our study.

Questioning the Assumption of Separation

Van Gennep's (1960) stages of separation, transition, and incorporation are central to Tinto's theory of departure, yet only the incorporation stage (as social and academic integration) is specifically modeled in Tinto's framework. Separation is deemed important to the final stage of incorporation: "In order to become fully incorporated in the life of the college, [students] have to physically as well as socially dissociate themselves from the communities of the past" (Tinto 1993:96). Without abandoning this strong assumption, Tinto acknowledged that the nature of separation may be different for various racial-ethnic groups of students and adult students. However, although his 1993 revision of the framework that is used to guide empirical tests refers to external communities, it does not specify the relationship between these communities and college life.

Furthermore, it is not clear that separation from prior communities actually occurs for an increasing number of college students today. Part-time students constitute approximately 40 percent of all students in higher education; an increasing number are adults with multiple responsibilities; and among traditional-age students, an increasing number live at home or hold part-time jobs for financial reasons (Dey and Hurtado in press). Moreover, for academically talented Latino students who attend college full time, maintaining family relationships and support is among the most important aspects of transition that

facilitates their adjustment to college (Hurtado, Carter, and Spuler 1996). Studies have found that when college students maintain a supportive relationship with their parents, they are better adjusted (Anderson and Fleming 1986) and may persist to graduation (Bean and Vesper 1992; Cabrera, Castañeda, Nora, and Hengstler 1992). These results acknowledge the importance of prior communities in *facilitating* students' transition and adjustment to college.

Specifying College Transition

Although further research is necessary to establish the nature of separation and its link to transition and integration in college, there is little debate among practitioners and researchers about the importance of the transition stage. Tinto (1993) posited that the ways in which students negotiate their transition to college are essential to their eventual integration and success and noted that "virtually all students experience some difficulty in making the transition to college" (p. 98). However, aspects of the transition-to-college experience (or assessment of the difficulties students encounter in adapting to college) are not included in Tinto's framework. Thus, the important assumption of difficulties of transition and their resolution that undergirds Tinto's model has neither been specified in the framework nor extensively tested.

Research on Latinos has established that specific aspects of the transition to college are important to different dimensions of adjustment to college, including academic and social adjustment, personal-emotional adjustment, and feelings of attachment to the institution (Hurtado, Carter, and Spuler 1996). Modeling aspects of the college-transition experience in relation to how minority students experience integration seems to be central to many of the institutional interventions that practitioners intuitively know are important to students' successful adjustment and subsequent retention. Tinto's model devotes a great deal of attention to institutional interventions that are directed

at easing students' transition to college, but transition experiences—and, by implication, programs that are intended to resolve students' difficulties with transition—fall largely outside his conceptual framework.

Qualitative research on Mexican American students sets the stage for understanding the transition to college, including how students make sense of large environments and subsequently become members of multiple communities on campus. Attinasi (1989, 1992) found that students become integrated not because they share the values and orientations of the majority of students at their colleges, but because the specific collective affiliations they form help them acquire the skills to negotiate the social, physical, and cognitive geographies of large campus environments. Students "scale down" their perspectives of the environment to make sense of it and, over time, get to know their large campus environments by affiliating with groups in the college community. This notion of cognitive mapping and the formation of multiple communities, or social niches, is useful in understanding minority students' collective affiliations on campus.

This view of the importance of transitional experiences is supported by T. Newcomb's (1962) theory of the formation of peer groups in college. Diverse types of peer groups arise when students enter "virtually all" colleges on the basis of precollege acquaintances, "chance" encounters facilitated by propinquity (as in dormitories and classrooms), similar attitudes, and interests. Newcomb also observed that peer groups may form when common problems are perceived. Thus, a logical extension of this theory would suggest that peer groups can form in a stance against conformity. These theoretical explanations are important because they suggest that minority students can feel a part of the campus community without acculturating, conforming, or adopting the values of the majority.

In addition, it is the early experiences of college transition ("getting in" and "getting to know") that are key in

determining how and whether students find their place in the campus community. Therefore, we extended the work of Attinasi (1989) by developing a transition-to-college construct that can be used with a large number of students to evaluate their ease in transition as a precursor or determinant of their sense of belonging at their colleges. Studies have found that early transition experiences that facilitate the formation of peer groups and adjustment to college can be facilitated by institutional intervention. For example, research has shown that an intensive two-day orientation can significantly affect social integration during college (Pascarella et al. 1986). Thus, in our study, we hypothesized that Latino students' transitional experiences play a key role in determining the students' sense of belonging. By modeling aspects of transition, we also identified areas that can be influenced by specific institutional interventions.

The Effects of Campus Racial Climates

Some other elements of the minority experience may inhibit students' development of a sense of belonging. A growing body of literature on students' perceptions of the college environment has shown that the institutional climate for diversity can have a considerable impact on students' academic and social lives (Hurtado, Milem, Clayton-Pederson, and Allen 1996). Smedley, Myers, and Harrell's (1993) study, which included Chicano and other Latino students, reported that students on predominantly White campuses face specific stresses associated with their minority status and that minority freshmen exhibit considerable psychological sensitivity to the campus social climate, including interpersonal tensions with White students and faculty and actual or perceived experiences of racism and discrimination.

Oliver, Rodriguez, and Mickelson (1985) found that reports of discrimination were associated with Chicano students' feelings of alienation at a university. In addition, Nora and Cabrera (1996) concluded that perceptions of prejudice affected minority and White

students' general social integration at a college. Among Latino sophomores and juniors attending a range of four-year institutions, perceptions of racial-ethnic tension and experiences of discrimination were related to students' interactions and informal social preferences on campus (Hurtado 1994b), with more subtle group tensions affecting every dimension of adjustment to college (Hurtado, Carter, and Spuler 1996). Taken together, these studies suggest that students are educated in racial climates that influence psychological processes, intergroup relations, and group cohesion. We hypothesized that Latino students' perceptions of a hostile climate directly affect the students' sense of belonging in their colleges.

A Temporal Model

We hypothesized a path model of students' sense of belonging that reflected a causal relationship between students' background characteristics (gender and academic self-concept), measured prior to college entry; college selectivity (an exogenous institutional variable); ease in transition to college in the first year; and perceptions of a hostile racial climate in the second year. The key objective was to arrange these constructs temporally to test, with appropriate controls, the significant contribution of college-transition experiences and aspects of the environment for racial-ethnic diversity to students' sense of belonging to the overall college community in the third year. Longitudinal studies of students have shown how experiences at different stages of their college careers can have an impact on outcomes (Terenzini and Wright 1987a, 1987b). Our focus on obtaining measures in different college years was intended to coincide with different stages in an undergraduate career, but the model may be used to test similar constructs at various points in the first year of college (see Figure 1 in the Results section for the complete model and confirmed relationships).

Gender and academic self-concept (exogenous variables measured before students entered college) were hypothe-

sized to affect transition directly in the first year of college. Previous research on minority undergraduate and graduate students revealed that minority women tend to have significantly lower academic self-concepts than do minority men (Hurtado 1994a), which is reflected in a covariance between gender and academic self-concept. Because even the most talented Latinos attend a wide range of institutions and, on the basis of previous findings (Hurtado 1992, 1994b), we hypothesized that college selectivity directly affects students' transition and perceptions of a hostile racial climate. We also hypothesized that the ease of transition in the first year of college has both direct and indirect effects on students' sense of belonging, mediated by perceptions of a hostile racial climate in the second year. That is, we expected that positive transitional experiences in the first year can influence perceptions of the climate in the second year. In addition, we hypothesized that perceptions of a hostile racial climate in the second year have a negative impact on students' sense of belonging in the third year.

At this point, a potential limitation of our study should be noted. To create the appropriate sequencing of experiences outside the timing of the surveys, we gathered information about students' transition to college using survey items that asked students to reflect on their first year's experiences. Because of the timing of the surveys, students in their third year reported on the difficulties they experienced during their first year. Ideally, these data should have been gathered at a separate time, but it was not possible to do so. We compared the coefficients of transition to college measures in relation to a sense of belonging on a younger cohort (1991) of Latino students and found similar significant relationships. Although these younger students may have remembered their first-year experiences more clearly, they were too new to college to give accurate reports of aspects of the campus racial climate when the first survey was administered; therefore, we opted to use the older 1990 cohort. Measures of all the other constructs were obtained in

the specified order of the model. We recommend that college transition should be measured soon after entry to college in a longitudinal framework that may strengthen the findings reported here.

To assess the typical measures of academic and social integration used by many researchers relative to students' sense of belonging, we examined the dependent measure in relation to students' activities in the academic and social systems of colleges, including interactions with other students and faculty members on academic issues (although these issues do not entirely constitute academic interactions for some students) and academic performance in college. The latter measure has been used by many researchers as a form of academic integration primarily because Tinto (1993) postulated that college grades are an indicator of a match (or mismatch) between the intellectual orientations of the student and the institution. Although Spady (1971) also originally hypothesized a relationship between grade-point averages (GPAs) in college and students' psychological sense of social integration, the empirical test of his model did not support this relationship. Consequently, we tested whether students with high grades also tend to have a greater sense of belonging. In addition, we investigated participation or membership in a wide range of student organizations and activities to assess each relative to Latino students' sense of belonging. This approach attempts to distinguish activities that reflect participatory behaviors from those that actually lead to a psychological sense of group membership that increases students' affiliation with campus life.

METHOD

Sources of Data

The study reported here combined four major sources of data on students and is part of the National Survey of Hispanic Students (NSHS), a national longitudinal study of Latino college students who were among the top PSAT achievers and were semifinalists for a

national scholarship award (see Hurtado 1994b for further details on the design). Precollege information was obtained from the Student Descriptive Questionnaire (SDQ), a survey that students completed when they took the SAT examination. The survey is designed to obtain information about a student's background, high school preparation, and college preferences. Analyses are limited to cases that had both SDQ data and responses to longitudinal follow-up surveys at two subsequent points.

The NSHS was developed as a comprehensive longitudinal survey of college students' experiences. Although the original longitudinal study covers five cohorts of students, the focus of this study was on students who entered college in 1990. Therefore, the information reported here reflects the procedures followed for the 1990 cohort. The survey was sent to 935 students' home addresses in late summer 1991. A reminder postcard was sent two weeks after the first wave of surveys, and a second survey was sent to nonrespondents' homes two weeks later. Surveys were returned throughout the fall 1991-92 semester, with a response rate of 53 percent. In addition to the survey data, information about each college the students attended was linked with data from the U.S. Department of Education's Integrated Postsecondary Educational Data Systems, *The College Handbook* (1992), and institutional data files maintained by the Higher Education Research Institute at UCLA. For this study, we relied primarily on the college selectivity data obtained from these latter two sources.

A 1993 follow-up survey of the NSHS was developed specifically to compare students' experiences and attitudes one year after the students completed the first survey. It contained newly developed measures and replicated measures from other research studies, including Bollen and Hoyle's (1990) Sense of Belonging Scale. As part of the pilot-testing process, we conducted in-depth interviews with minority students in their first and second years of college to develop additional items regarding their

transition experience. We developed a set of items that corresponded with their experiences and reflected Attinasi's (1989) concepts of "getting in" and "getting to know," or cognitive mapping. Additional measures of transition included survey items that reflected areas in which the students stated they had the most difficulty during the freshman year (such as managing time, money, and schedules and issues related to leaving their families). See Appendix A for all variables, scales, and measures in the model.

For this study, the 1993 NSHS survey was sent to 493 students who were members of the 1990 cohort. Follow-up postcards were sent two weeks after the first wave, and a second survey was sent to the nonrespondents four weeks later. In the spring, calls were made to nonrespondents with phone numbers obtained from the first survey. Finally, in late summer, the surveys were mailed a third time to nonrespondents at their parents' homes; college addresses, when available; and updated addresses received the summer the first NSHS survey was administered. These efforts yielded 287 respondents, for a response rate of 58 percent for the most recent survey. Although the respondents may have had more positive experiences than the nonrespondents, the Sense of Belonging measure was normally distributed with a mean of 21.34 and a standard deviation of 7.21, which indicates that there was considerable variation in the respondents' experiences.

Sample

The analyses were limited to students who began college in fall 1990 for several reasons. First, these students were college sophomores during the administration of the first NSHS survey, so they were relatively familiar with their early transition experiences and had enough time to form opinions about the climate and begin to participate in college activities that could be reflected in the first survey. Second, they were able to provide sufficient information about their experiences in the third year of college

that we attempted to capture in the follow-up NSHS survey. This longitudinal cohort study allowed for the temporal ordering of variables and the assessment of changes in attitudes, activities, and experiences. Only students who had been matched with each of the sources of data (SDQ, first NSHS survey, second NSHS survey, and institutional data) were selected for analysis. The final sample consisted of 272 students (58.1 percent female and 41.9 percent male) attending 127 colleges. Of these students, 43.4 percent were Chicanos, 22.4 percent were Puerto Ricans, and 34.2 percent were other Latinos (including Cubans and Central and South Americans).

Analyses

A factor analysis was conducted using principal-axis factoring and varimax rotation to reduce the number of measures in the transition-to-college construct and to confine the construct to a two-level, rather a three-level, hierarchical factor (in structural equation modeling). This data reduction was necessary owing to the limits of our sample size and the number of parameters we wished to estimate in the structural model. We also used principal-axis factoring to obtain adequate start values for our measurement model. These results are shown in Appendix B, along with alpha reliabilities. Appendix C presents the final results of our measurement model.

Analyses were conducted using version 3.0 of the EQS computer program, which allows researchers to confirm the factor structure of each construct in a model and simultaneously to test the hypothesized relationships among the constructs. It is a counterpart to LISREL, which is used primarily in psychology, although it is increasingly being used in other fields (Bentler 1989). The advantage of such analyses over traditional path analysis is that in addition to assessing the overall fit of a hypothesized model, researchers can take measurement error into account to obtain more precise estimates of coefficients. However, it is difficult to hypothesize the existence of correlated error terms in

analyses of survey data. In this case, the residual matrix revealed that the hypothesized model could be improved with addition of paths between specific error terms. These modifications were conducted in accordance with techniques used in previous research (M. Newcomb and Bentler 1988).

Because measures of membership in student organizations were numerous and were measured as a series of dichotomous variables, they were not well suited for inclusion in a structural equation model using normal distribution theory (Bollen 1989). However, understanding the sense-of-belonging construct in relation to mainstream and culturally related organizations was important for learning how each activity contributes to students' views of their membership in the college community. For this reason, we conducted two-tailed tests of significance to determine if a sense of belonging differs significantly with membership in various organizations that constitute student communities on campus.

We also conducted analyses to see if students' participation differed in the second and third years of college and thus to demonstrate a change in participation between the lower- and upper-division stages of college careers. Similarly, we investigated a range of academic activities that may be linked with a sense of belonging, but excluded them from the structural model, so the limits of our sample size would not be overextended relative to the number of parameters estimated in the model. We performed partial correlations, controlling for students' background characteristics and selectivity of college, to assess academically related activities in the second and third years of college and to identify those associated with students' sense of belonging. These results are discussed first as a way of understanding how students' sense of belonging may be important to assessing measures of integration used in previous research.

RESULTS

Sense of Belonging and Academic Activities

Table 1 shows the relationship between specific academic activities and students' sense of belonging in college after students' gender, precollege academic self-concept, and the selectivity of the colleges they attended were controlled. The results indicate a strong relationship between students' sense of belonging in college and reports of frequent discussions of course content with other students outside class. These effects are uniform in both the second and third years of college and have considerable practical implications. Students who reported tutoring other students and frequently talking with faculty outside class in their third year of college tended to report a relatively high sense of belonging compared with those who engaged in these activities less frequently. These activities suggest a merging of students' social and academic interactions that may contribute to their significant effect on sense of belonging in college.

In contrast, students' GPAs in both the second and third years of college are not significantly associated with students' sense of belonging. This finding suggests that academic performance does not necessarily enhance or diminish Latino students' sense of affiliation with college and that students may derive a greater sense of belonging from

other activities. However, it also raises some questions regarding the importance of academic performance to integration or membership in the college community, particularly among Latino students. A disturbing finding was that three additional activities are not significantly associated with Latino students' sense of belonging: working on an independent research project, working with a faculty member on a research project, or having been a guest in a professor's home. It may be that few students have opportunities to engage in these activities before their fourth year in college. This finding also raises questions about the quality of these experiences for Latino students that require further study. For example, Swager (1997) found considerable variability in the quality of faculty-student interactions on faculty research projects.

Sense of Belonging and Participation in Student Organizations

Table 2 presents the mean scores on the Sense of Belonging Scale of students who were members of typical student organizations in college. It should be kept in mind that most of the respondents were extremely active in student organizations in high school and were likely to continue to participate in student activities during college. The students' overall participation rate increased from the second to the third year in each activity. However, only

Table 1. Sense of Belonging and Students' Participation in Academic Activities in the Second and Third Years of College^a

Academic Activity	Second Year	Third Year
College GPA ^b	-.06	-.07
Worked on an independent research project ^c	-.07	-.01
Discussed course content with students outside of class ^c	.20***	.18**
Been a guest in a professor's home ^c	-.02	.03
Tutored another student ^c	.07	.18**
Talked with faculty outside of class ^c	.11	.17**
Worked with a faculty member on a research project ^c	-.03	.08

^a Partial correlations were conducted with controls for selectivity of the college, gender, and students' academic self-concept.

^b Six-point scale, from A = 1 to C- or less = 6.

^c Three-point scale, from frequently = 3 to not at all = 1.

Table 2. Means and Standard Deviations of Sense of Belonging Scale, by Organizational Membership in Second and Third Years of College^a

Organization-Activity	Nonmembers		Members		T-value
	Mean	SD	Mean	SD	
<i>Second Year</i>					
Academic honor society	7.20 (235)	2.46	7.73 (37)	2.12	-.14
Athletics	7.09 (161)	2.49	7.55 (111)	2.28	-1.57
Ethnic organizations	7.21 (161)	2.39	7.44 (88)	2.50	-.70
Journalism, debating, drama	7.27 (243)	2.46	7.31 (29)	2.06	-.10
Art, music, dance	7.18 (231)	2.46	7.80 (41)	2.12	-1.68
Preprofessional or departmental	7.31 (216)	2.35	7.29 (54)	2.58	.06
Religious	7.10 (205)	2.44	7.80 (67)	2.30	-2.12*
Social or community	7.10 (176)	2.32	7.60 (96)	2.32	-1.66
Student government	7.21 (244)	2.38	7.79 (28)	2.71	-1.07
Sororities or fraternities	7.16 (235)	2.46	8.02 (37)	2.00	-2.35*
<i>Third Year</i>					
Academic honor society	7.18 (195)	2.40	7.52 (77)	2.46	-1.03
Athletics	6.97 (125)	2.44	7.54 (147)	2.38	-1.95*
Ethnic organizations	7.41 (122)	2.42	7.16 (150)	2.41	.86
Journalism, debating, drama	7.23 (225)	2.48	7.49 (47)	2.07	-.75
Art, music, dance	7.21 (203)	2.43	7.47 (69)	2.38	-.78
Preprofessional or departmental	7.12 (195)	2.47	7.66 (77)	2.24	-1.74
Religious	7.01 (182)	2.51	7.82 (90)	2.12	-2.79**
Social or community	6.76 (132)	2.52	7.76 (140)	2.21	-3.47***
Student government	7.16 (236)	2.45	8.02 (36)	2.02	-2.31*
Sororities or fraternities	7.15 (212)	2.44	7.71 (60)	2.31	-1.61

^a Numbers in parentheses are the number of cases for each group.

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

students who belonged to religious organizations and to sororities and fraternities had a significantly stronger sense of belonging than did nonmembers in the second year. Because these organizational memberships were measured in the second year, these findings indicate that such early memberships have a lasting effect on students' sense of belonging. However, the results show that memberships in some organizations that occur later in students' college careers (and are measured at a later point) can have different effects on students' sense of belonging.

Membership in social-community organizations was the most significantly associated with a sense of belonging ($p = .001$) in the third year of college. Members of religious clubs, the student government, and sports teams also tended to have a significantly higher sense of belonging than did nonmembers in the third year. However, membership in fraternities and sororities in the third year was not significant, possibly because the participation rates of nonmembers had increased in all other types

of activities. These findings suggest that some mainstream but also culturally related activities (social-community organizations and religious organizations) are associated with a sense of belonging in college. Members of ethnic student organizations, however, did not have a significantly higher sense of belonging than nonmembers in either year, perhaps because some students may join such organizations to share common interests and common problems related to their feelings of marginality in the campus community. These students may experience group cohesion and marginality simultaneously.

Membership in racial-ethnic student organizations may also mediate the effect of adverse climates. Additional analyses revealed that students who described their campus environments as characterized by racial-ethnic tension tended to have much lower levels of a sense of belonging. However, among the students who reported racial-ethnic tension on campus, those who belonged to racial-ethnic student organizations had relatively higher levels of a sense of

belonging with the overall community than did students who were not members of these organizations. The complexity of minority students' responses to adverse environments, including membership in cultural identity groups, is an important area for further study.

The Model

Initial statistics revealed that the hypothesized model fit the data moderately well. The chi-square for the initial model was 80.841, with 39 degrees of freedom (*df*). The Comparative Fit Index (CFI) was .96, and the Bentler-Bonnett Normed Fit Index (BBNFI) was .93, with a significant *p*-value of .001. The model was modified by evaluating the residual matrix and the Lagrange Multiplier (LM) Test for additional parameters that would improve its fit and determining whether each relationship had a theoretical basis. Correlations were added between college selectivity and academic self-concept on the basis of the LM Test. Two studies (Astin 1993; Pascarella, Smart, Ethington, and Nettles 1987) established that academic self-concept differs by the type of college one attends, indicating that we should have anticipated a significant relationship between academic self-concept and the selectivity of the college attended.

In addition, a direct effect from the cognitive mapping scale to the Sense of Belonging factor and a correlated error term from feeling a part of the campus community item to the disturbance term of the Transition factor were added to the model. Given that this was the first test of the Transition factor in relation to the Sense of Belonging factor, this change was difficult to anticipate. However, the finding makes theoretical sense; the cognitive-mapping construct, or "getting to know," is the primary element of the transition process that contributes to a sense of belonging. These changes were added and improved the fit of our final model, which is depicted in Figure 1. We included error terms (variances and correlations) in Table 2, but excluded them from Figure 1 to emphasize the major relationships and to simplify the presentation.

With these modifications, the CFI for the second model was .99 and the BBNFI was .96, with a chi-square of 50.27, 36 *df*, and a nonsignificant *p*-value of .06. These data suggest that the final model fit the data well. Table 3 presents the parameter estimates for the final model. The sense-of-belonging equation accounted for 25 percent of the variance, the hostile-climate equation accounted for 28 percent of the variance, and the ease-in-transition equa-

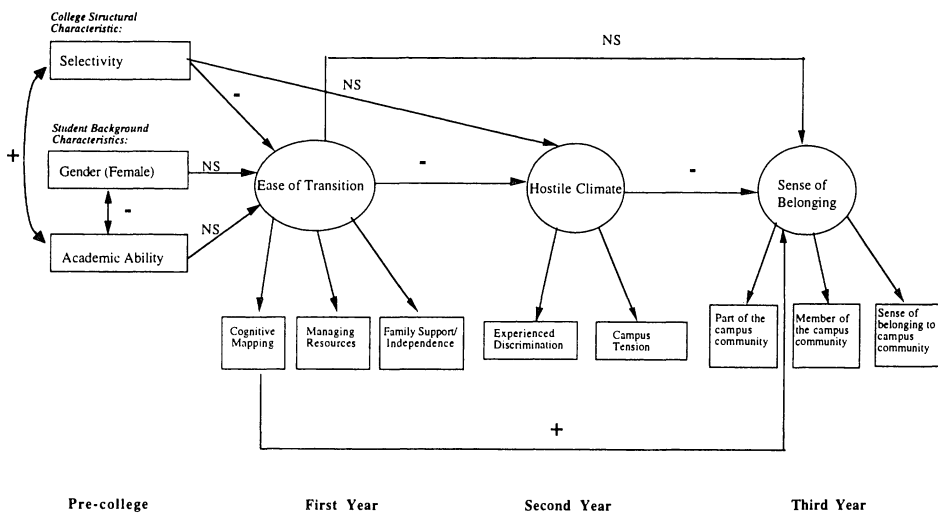


Figure 1. Final Model of Sense of Belonging

Table 3. Standardized Parameter Estimates for Causal Model

Effects of Observed and Latent Constructs	Regression Weights	Critical Ratio
<i>Direct Effects on</i>		
Ease of Transition		
Gender (Female)	-.10	-1.32
Academic self-concept	.08	1.04
Selectivity	-.20	-2.50*
Hostile Climate		
Selectivity	-.04	-.56
Ease of transition	-.53	-4.06***
Sense of Belonging		
Ease of transition	-1.36	-1.00
Hostile climate	-.29	-2.66**
Cognitive mapping	.43	5.02***
<i>Indirect Effects on</i>		
Hostile Climate		
Gender	.05	.58
Academic self-concept	-.04	-.55
Selectivity	.11	.57
Sense of Belonging		
Gender	-.03	-1.22
Academic self-concept	.02	.99
Selectivity	-.04	-1.26
Ease of transition	.41	3.69***
<i>Correlations</i>		
E18, D1 (error terms)		
Gender academic self-concept	-.26	-1.98*
Academic self-concept, selectivity	-.21	-3.39***
	.13	2.25*
<i>Percentage of Variance Explained</i>		
Ease of Transition	.06	3.52***
Hostile Climate	.28	3.42***
Sense of Belonging	.25	9.67***

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

tion accounted for only 6 percent of the variance. It was surprising that neither gender nor academic self-concept was significantly related to ease of transition. This finding suggests that the college environment has more to do with the transition to college than do students' background characteristics. It was confirmed by the finding that the selectivity of the college has a direct negative effect on transition, which indicates that the higher the selectivity of the institution, the more likely Latino students are to experience difficulty in their transition to college.

The Ease in Transition factor has a direct negative effect on students' perceptions of a hostile climate in the second year, indicating that the easier the transition to college, the less likely students are to perceive a hostile climate in the second year. No other significant direct or indirect effects are evident in this equation.

The Perceptions of a Hostile Climate factor has a negative direct effect on sense of belonging in the third year of college, indicating that Latino students are less likely to feel part of the campus community if they perceive racial tension or have experienced discrimination in their second year. The Ease of Transition factor has an indirect, positive effect on sense of belonging. However, one key element of the transition experience has a strong positive effect: the cognitive mapping construct. We discuss the implications of this finding in the final section of this article; here, it is sufficient to say that this finding suggests that early transition experiences can be important predictors of a sense of belonging in the later years of college.

DISCUSSION

In his latest revision of a theory of students' departure, Tinto (1993)

acknowledged points raised by critics and attempted to take the experiences of diverse students into account. He introduced the concept of membership, instead of integration, to avoid the assumptions of conformity and assimilation that critics have aptly pointed out are not inclusive of the diverse experiences of historically marginalized groups in higher education.

Our study developed the idea of membership in that the concept does not simply reflect behavior (participation or nonparticipation). If students make sense of their environments through memberships in multiple peer groups that help them acquire the skills they need in college, as Attinasi (1989, 1992) established, then particular activities and groups can both meet students' immediate needs and link students to the larger whole of campus life. The best example comes from our finding that students who frequently discussed course work with other students outside class (in both the second and third years) had a higher sense of belonging in the third year of college. Thus, specific activities may foster a broader sense of group cohesion and enhance an individual's sense of affiliation and identification with college. Future research might determine whether a high sense of belonging is evident in students with specific college majors or in various fields of study; in classrooms where faculty require study groups; and in other institutionally based structures, such as living-learning residential programs, that may enhance students' opportunities to discuss course content outside class.

We drew a distinction, originally posited and tested by Spady (1970, 1971), between a subjective sense of integration (psychological measures) and other measures that reflect students' participation in and interaction with the academic and social systems of college. Bollen and Hoyle's (1990) Sense of Belonging Scale also helped to clarify the distinction between researchers' views of what constitutes cohesion and the individual's subjective sense of cohesion. In drawing these distinctions, we began to assess the wide variety of

integration measures used by researchers who have tested Tinto's model. We found that not all activities in which Latino students engage during college create a sense of belonging to the larger college community. Specifically, membership in religious organizations in both years and social-community organizations in the third year are activities that are the most significantly related to students' sense of belonging. It is interesting to note that membership in both types of organizations may imply a student's stronger commitment relative to other activities, suggesting that the concept of membership may also include a level of individual commitment.

In addition, both the social-community organizations and religious organizations seem to have strong external-to-campus affiliations. Perhaps one reason why Latino students who belong to these organizations have a stronger sense of belonging is because they maintain connections with these external campus communities and hence maintain some link with the communities that they were familiar with before they entered college. Thus, for Latino students who attend predominantly White universities, feeling at "home" in the campus community is associated with maintaining interactions both within and outside the college community. Further investigations of students' affiliations with external communities that enhance the college experience may be a fruitful area of research on Latinos and other racial-ethnic groups.

Participation in sororities and fraternities and the student government has significant but somewhat weaker effects on students' sense of belonging in different years. In addition, not all types of interactions with faculty members enhance students' sense of belonging. These findings all suggest that not only the nature of the integration construct but *when* it is measured during a student's career stage may affect the results and interpretation. Overall, the longitudinal data show that students' participation rates increase in all types of college activities by the third year of college, but few individually

identifiable activities engender a strong sense of affiliation among Latinos with the overall college community. Thus, many of the measures that researchers have used may not yield the same attachment to the institution among different racial-ethnic groups.

Contrary to both Spady's and Tinto's models, the Latino students' GPAs in the second and third years did not significantly affect the students' sense of belonging. This finding confirms Spady's (1971) initial test of this relationship. Although GPAs may constitute a confirmation of the value that faculty place on the achievement of individual students, they may also reflect conformity in the classroom, students' sense of challenge (or lack of challenge) in selecting courses, students' effort, variation in faculty members' grading practices, students' priorities and the importance they attach to external rewards, students' motivation to achieve goals, and other factors. Future studies may help sort out these multiple dimensions associated with GPAs in college in relation to the concepts of integration and membership in a diverse community.

Despite revisions in the rationale to support Tinto's theoretical framework and his consideration of diverse students, the framework was largely unchanged, and key assumptions that support it require further testing. For this reason, the model we tested falls largely outside Tinto's framework. We set out to test some of the basic premises that underlie Tinto's model and attempted to incorporate aspects of the racial-ethnic experiences that students encounter on college campuses. We found that the ease of separation and maintaining family relationships are essential aspects of the transition to college (confirmed in the measurement model) for Latino students. The results of involvement in social-community organizations and religious organizations also suggest the importance of links with external affiliations that can enhance a student's sense of belonging. Thus, a strong "separation" assumption was not upheld as a necessary condition for transition and incorporation (integration) in college. It may

well be that students are finding ways to become *interdependent* with their families during college, not completely independent. Such an notion requires further study with other types of students who maintain multiple roles and responsibilities with their families while attending college.

Cognitive mapping, or getting to know, was also an important aspect of transition, as was managing resources (time, money, and schedules). Transition to college, particularly the concept of cognitive mapping, affects students' sense of belonging. An initial orientation to a college's social, academic, and physical geographies is essential to students' feeling that they belong in their college. This finding confirms and extends Attinasi's (1989, 1992) findings in that cognitive mapping appears to be important to students in a number of institutions with various levels of selectivity, although selective colleges pose particular difficulties for students' transition. In this respect, the results confirm the importance of the transition to college and how students manage the difficulties of transition to becoming part of the overall college community.

Changes in the racial-ethnic representation of various groups have not necessarily led to improvements in the psychological and behavioral aspects of campus environments (Hurtado 1994b); thus, we modeled aspects of the climate to understand its impact on Latino students' experiences. We found that perceptions of a hostile climate in the second year of college had a negative effect on Latino students' sense of belonging in the third year. This finding confirms those of previous studies on the alienation of minority students (Oliver et al. 1985) and adjustment (Hurtado, Carter, and Spuler 1996; Nora and Cabrera 1996; Smedley et al. 1993). It is important to note that despite these Latino students' great potential for success on the basis of their precollege ability, there was considerable variability in the students' sense of belonging. This variability can be attributed, in part, to the differences in the students' perceptions of their campus climates for

diversity. Students must learn and develop socially during college at the same time that they manage relationships with individuals from different racial-ethnic backgrounds. Facilitating this process is an important area of institutional practice.

NEW DIRECTIONS FOR RESEARCH

Researchers who wish to study a variety of student affiliations in relation to educational outcomes must determine whether Tinto's (1993) model has sufficient support to remain useful, whether they should pursue an elaboration of the model, or whether they should propose a new alternative model. The contribution of the model has been its emphasis on the importance of the college environment and the central idea that students must be engaged in the life of a college. However, the theoretical underpinnings of the model have been weakened by criticisms and empirical tests that have shown that many of the propositions are not uniformly supported (Braxton et al. 1997). We debated this issue in our study and concluded that we have learned a great deal about college students' engagement and involvement (and the outcomes) from studies that have and have not used the model as the theoretical base for research (Pascarella and Terenzini 1991). Nevertheless, Tinto's model is problematic in that it does not acknowledge that integration is complicated by racially tense environments for diverse groups of students whose responses to adversity are complex. Additional thinking is also needed about the multiple responsibilities and roles of college students that suggest that the modes of college attendance (such as service learning, part-time attendance, and distance learning) are now more complex and there is less separation between college and communities.

For researchers who wish to pursue empirical tests of the model, we recommend more careful attention to measures, the development of constructs that reflect the experiences of diverse students in diverse communities, and

more rigorous tests of the theoretical ideas that support the model but may be distinct from the conceptual framework. As our study showed, we continue to find important ideas in Tinto's (1993) revised model that serve as a springboard for theory and empirical study. Many new arenas represent logical extensions of Tinto's ideas that require further theoretical development and empirical testing. For example, we began to explore the notions of separation, exposure to external communities (included in the revised framework), and multiple forms of membership that have various consequences for students' attachment to their colleges.

For several years, however, Tinto's model has dominated the direction of research. The development of multicultural communities and research geared toward understanding the particular problems and experiences of racial-ethnic minorities have led to criticisms of the model as a dominant framework for research, interpretation, and practice. We advocate departures from this model that will allow researchers to develop the following:

1. Theories and models of transition to college, to gain a better understanding of the full range of difficulties that students encounter in college and for improving services and programs to address these transition issues.

2. An understanding of how students resolve transitional dilemmas or students' strategies for success, particularly with regard to the challenges that students face in the multiple communities that compose racially-ethnically diverse environments.

3. An understanding of how students' memberships in various communities are related to conformity (or nonconformity), cohesion (or marginalization), and successful negotiation of the social and academic interactions in college. For example, Stanton-Salazar's (1997) study of young students examined the formation of social networks in relation to the acquisition of skills (or social capital) in multiple sociocultural worlds. This subject may provide an interesting path for research on college

students who develop multiple affiliations to meet their various needs in multicultural contexts.

Additional studies are also needed to validate the links among the transition to college, students' perceptions of the campus climate, and the sense of belonging among students from other racial-ethnic groups. Aspects of the model tested here may work for other groups, and we encourage studies that will lead to campus programs that will diminish marginalization, as well as address critical periods in students' early careers to reduce attrition in college.

Furthermore, the outcomes of a subjective sense of integration or students' sense of belonging have not been the focus of systematic study. For example, a low sense of belonging to the overall college environment may or may not result in students' departure. This possibility raises the question of whether proximal affiliations (a sense of belonging to small social networks), rather than a feeling of belonging to the overall campus community, are more important to students' persistence.

More research is also needed to investigate students' views of their membership in less formal peer groups that may increase retention. However, a low sense of belonging does not enhance a

student's college experience and could explain why some college graduates from specific racial-ethnic groups are less satisfied with their college experience (Bennett & Okinaka 1990). The outcomes of students' sense of belonging may have more immediate effects on students' behaviors, such as the quality of students' social interactions, students' selection of academic programs, and their use of support services. Although it is beyond the scope of this article, investigation of the outcomes of students' sense of belonging is an important avenue of research. Further research may determine subenvironments that contribute to a high sense of belonging among members (in the aggregate), allowing researchers to understand how such communities can foster educational outcomes. These studies may ultimately provide important information to administrators who are attempting to build a greater sense of community from diverse student communities that have developed since the increased enrollment of different racial-ethnic groups in colleges.

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APPENDIX A

Variables and Scales for Statistical Model

		Mean	SD
<i>Dependent Measure</i>			
Sense of belonging to campus community	Scale items in Appendix B	7.28	2.42
<i>Student Background Characteristics</i>			
Gender (female)	Dichotomous: 1 = male; 2 = female	1.58	—
Academic self-concept	Ability self-rating; alpha reliability .62	3.32	.46
<i>College Structural Characteristics</i>			
Selectivity	Mean SAT of entering freshmen ^a for each college attended by students	7.84	1.44
<i>College Transition Measures</i>			
Managing resources	Scale items in Appendix B	2.17	.61
Separation and maintenance of family ties	Scale items in Appendix B	2.69	.63
Cognitive mapping	Scale items in Appendix B	2.81	.62
<i>General College Climate Measures</i>			
Perceptions of racial-ethnic tension	Scale items in Appendix B	2.00	.62
Experienced discrimination-exclusion	Scale items in Appendix B	1.15	.29

^a 400 to 499 = 1, 500 to 599 = 2, 600 to 699 = 3, 700 to 799 = 4, 800 to 899 = 5, 900 to 999 = 6, 1,000 to 1,099 = 7, 1,100 to 1,199 = 8, 1,200 to 1,299 = 9, 1,300 to 1,399 = 10, 1,400 to 1,499 = 11, 1,500 to 1,600 = 12.

APPENDIX B

Scales and Survey Items Used in the Analysis

Factors and Survey Items	Factor Loading	Internal Consistency (Alpha)
<i>Sense of Belonging to Campus</i>		.94
I see myself as a part of the campus community ^a	.91	
I feel that I am a member of the campus community ^a	.83	
I feel a sense of belonging to the campus community ^a	.82	
<i>Academic Self-concept</i>		.62
Self-rating of mathematical ability ^b		
Self-rating of scientific ability ^b		
Self-rating of writing ability ^b		
<i>Cognitive Mapping</i>		.70
Seeking help when I needed it ^c	.71	
Getting to know my way around ^c	.67	
Communicating with instructors ^c	.50	
Making new friends ^c	.47	
<i>Managing Resources</i>		.71
Staying on a schedule ^c	.87	
Managing my time effectively ^c	.80	
Managing money effectively ^c	.35	
<i>Separation and Maintenance of Family Ties</i>		.62
Being separated from family ^c	.72	
Been lonely or homesick (reversed for analyses) ^d	-.47	
Maintaining family relationships ^c	.43	
<i>Experienced Discrimination-Exclusion</i>		.61
Were insulted or threatened by other students because of your Hispanic background ^e	.60	
Heard faculty make inappropriate remarks regarding minorities ^e	.55	
Felt excluded from school activities because of your Hispanic background ^e	.48	
<i>Perceptions of Campus Racial-Ethnic Tension</i>		.63
There is a lot of campus racial conflict here ^f	.85	
Students of different racial/ethnic origins communicate well with one another (reversed for analyses) ^f	-.38	
There is little trust between minority student groups and campus administrators ^f	.33	

^a Eleven-point scale, from "strongly disagree" = 0 to "strongly agree" = 10.

^b Factor developed through exploratory procedures in Hurtado (1993). Four-point scale, from "below average" = 1 to "highest 10%" = 4.

^c Four-point scale, from "very difficult" = 1 to "very easy" = 4.

^d Three-point scale, from "not at all" = 1 to "frequently" = 3.

^e Three-point scale, from "not at all" = 1 to "frequently" = 3.

^f Four-point scale, from "disagree strongly" = 1 to "agree strongly" = 4.

APPENDIX C

Measurement Model Estimates

Factors	Factor Loadings	Error Terms
<i>Ease of Transition</i>		
Cognitive mapping	.61	.79
Managing resources	.51	.86
Separation and maintenance of family ties	.65	.76
<i>Hostile Climate</i>		
Perceptions of racial-ethnic tension	.65	.76
Experienced discrimination-exclusion	.66	.75
<i>Sense of Belonging</i>		
Part of campus community	.99	.25
Feel member of campus community	.91	.42
Sense of belonging to campus community	.93	.37

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