

**HISPANICS AND HIGHER EDUCATION:  
AN OVERVIEW OF RESEARCH, THEORY AND PRACTICE**

—Prepared for the Hispanic Association of Colleges and Universities—

*Prepared by:*

**Amaury Nora, Professor and Director  
Center for Hispanic Student Success  
College of Education  
University of Houston  
[anora@uh.edu](mailto:anora@uh.edu)**

**Gloria Crisp, Research Assistant  
College of Education  
University of Houston**

**May, 2006**

## **HISPANICS AND HIGHER EDUCATION: AN OVERVIEW OF RESEARCH, THEORY AND PRACTICE**

According to the 2000 Census, there are currently 35.3 million Hispanics living in the United States, a near 60 percent increase from just ten years earlier (Pew Hispanic Center, 2005). The largest subgroup of Hispanics is of Mexican origin (66 percent), followed by groups from Central or South America (15 percent), Puerto Rico (9 percent), Cuba (4 percent) and other Hispanic countries (6 percent) (US Department of Commerce, 2001). While immigration has been the major contributor to this increase in the past four decades (National Research Council, 2006), it is believed that future increases in the Hispanic population will be driven primarily by high birth rates of second- and third-generation citizens (Pew Hispanic Center, 2005). A substantial Hispanic population will result, as it is projected that in the next 50 years this group will account for 51 percent of the population growth, making one-fourth of the total U.S. population by 2050 of Hispanic origin (Llagas & Snyder, 2003).

Unfortunately, Latinos lag behind other groups educationally (Fry, 2004). In 2000, only 10 percent of Hispanics age 25 to 29 had earned a bachelor's degree or higher compared to 34 percent of Whites and 18 percent of African Americans (Llagas & Snyder, 2003). This variation in postsecondary educational attainment has caused substantial labor market inequalities with this population. In contrast to African Americans who continue to suffer from discrimination that contributes to disparities in earnings, Hispanics are presently paid comparably to whites given the same amount of education (National Research Council, 2006). Regardless, the low levels of formal schooling earned have contributed to the overrepresentation of the Latino population in low-skill occupations, who earn less, and have higher unemployment rates than other groups (6.8

percent for Hispanics compared to 4.3 percent for whites). Currently, Hispanic households own less than 10 cents for every dollar in wealth owned by white households (Pew Hispanic Center, 2005). Unless college graduation rates of Hispanic students show significant increases the unemployment and poverty rates for this group are sure to rise. In Texas, for example, it is projected that by 2030 the average household will be \$4,000 dollars poorer than in 1990, increasing the poverty rate nearly 3 percent (President's Advisory Commission, 2002).

Although Latinos are among the least educated groups in the United States, they are making a significant impact in schools at all levels (Laden, 2004). In 2000, over 11.4 million school-aged Hispanic children resided in the country, representing 16 percent of all children. By 2020, it is projected more than 20 percent of all children under age 18 in the United States will be Hispanic (Llagas & Snyder, 2003). Unfortunately, differences in the educational experiences of Latinos are seen as early as preschool, as Hispanic children are significantly less likely than other children to attend preschool programs (Pew Hispanic Center, 2005). These differences are consistent throughout Hispanic students' K-12 education; the percentage of 16 to 24 year-old dropouts who leave school before earning a high school credential is consistently higher for Hispanic students. It is believed that roughly 48 percent of Hispanic students enrolled in middle school in the eighth grade will not return to school to begin their high school education. Moreover, Mexican American students failing to earn a high school credential has been estimated at nearly 50 percent (using 9<sup>th</sup> grade enrollment as the baseline year). And finally, of those Latino students that survive high school and graduate, only a mere 35 to 40 percent enroll in college (Arbona & Nora, 2005; Nora, 2005).

The low high school completion rate, particularly among immigrants, is negatively impacting Hispanic postsecondary enrollment. Less than half of all Hispanic high school

students in this country currently qualify to enroll in four-year institutions. Of those, only between 30 and 40 percent (depending on geographic region) are enrolling in college immediately following graduation (President's Advisory Commission, 2002). This figure equates to only 22 percent of the 18 to 24 year old Hispanic students in this country enrolled in college in 2000. Fortunately, the percentage of eligible Hispanic students attending college appears to be on the rise, at least at the community college level (Fry, 2005). In 2000, 36 percent of high school completers enrolled in college, up from only 27 percent in 1985 (Llagas & Snyder, 2003).

Figures from the 2000-01 California Postsecondary Education Commission (CPEC) provide a sobering illustration of Hispanic postsecondary educational pathways in the state. According to CPEC, of every 100 Hispanic students who graduate from California high schools only 40 enroll at a post-secondary institution. Of these 40 students, 30 begin at one of the state's community colleges (CCC), 3 are admitted and enroll at the University of California (UC) and 7 at California State University (CSU) system campuses (Solorzano, Villalpando & Oseguera, 2005). Regrettably, the figures present in California appear to be reflective of Hispanic students around the country.

Discrepancies are also seen in the types of institutions Latino students attend when compared to white students. Presently, Latinos are much more likely to attend community colleges or less selective four-year universities than white students (Pew Hispanic Center, 2005). In 2004, 66.2 percent of Hispanic students enrolled at an open-door institution or community college, compared to 45 percent of white students. Although similar percentages attended highly selective colleges, 9 percent of white students attended selective four-year institutions compared to 6 percent of Hispanics (Fry, 2004). It is important to note that these disparities are only

partially attributable to differences in academic preparation, as these enrollment differences are seen not considering high school preparation (Pew Hispanic Center, 2005).

At the graduate level, Hispanics earn a mere 4 percent of all master's degrees, 3 percent of doctoral degrees, and 5 percent of professional degrees. Compared to national averages, Hispanic students are more likely to earn master's degrees in education (33 verses 27 percent) and are less likely to earn their master's degree in engineering, health professions, business and computer information sciences. Similarly, at the doctoral level Hispanics are earning higher than average numbers of degrees in education and psychology but are less likely to earn a terminal degree in engineering (7 percent for Hispanics compared to 12 percent nationally), physical science and science technologies (6 percent compared to 9 percent nationally) (Llagas & Snyder, 2003).

The importance of reaching a higher level of academic accomplishment past a high school diploma is evident in that it provides increased opportunities for career development and enhances the choices that are made available to those with an undergraduate degree. Its importance is even much more evident in that advancement and salary are highly associated with a four-year degree. In the year 2000, among people 25 years and older, 1.7 percent of those with a bachelor's degree or higher were unemployed in contrast to 3.5 percent of high school graduates and 6.4 percent of high school dropouts. Those with higher levels of education garner better incomes. In 1999 the median annual income for year-round full-time male workers was about \$25,000 for high school dropouts, \$33,000 for high school graduates, and \$53,000 for college graduates (the median incomes for women were, \$17,000, \$23,000 and \$38,000, respectively). Overall, a college graduate is estimated to earn one million dollars more in income

and benefits over a lifetime than a high school graduate (National Center for Educational Statistics, 2001).

Improving access and success of Hispanic students at all postsecondary levels has been declared a national priority by the Clinton and Bush administrations (Fry, 2004). Sadly, substantial gaps exist in our knowledge base relative to understanding and serving the unique needs of Latino students in higher education (Hurtado & Ponjuan, 2005). In order to improve access for Hispanic students in higher education a better understanding of the current issues surrounding access and the in- and out-of-college experiences which lead to persistence for this group is needed. More specifically, an understanding of the multi-dimensional components of Hispanic students' academic experiences is critical (Castellanos & Jones, 2004).

## **–CURRENT BARRIERS TO COLLEGE ACCESS–**

### **Academically-Related Barriers**

**Dropping Out of High School.** It has been reported that in the last twenty years there has been a substantial increase in the participation of minorities in higher education (Harvey, 2003). Despite these reported increases, Hispanic youth continue to show lower college participation and graduation rates than their African American and white counterparts. Among the general population of individuals between the ages of 25 to 29, the percentage of those with at least a bachelor's degree in 2000 was lower for Hispanics (10 percent) as compared to African Americans (18 percent) or Whites (34 percent) (National Center for Educational Statistics, 2002).

Not surprising, a major reason for the small numbers of Hispanic students enrolling in college is grounded in the fact that there is a high incidence of high school dropout behavior among Hispanics. Data from the National Center for Education Statistics (2002) indicates that in

2000 the school dropout rates among 16 to 24 years olds was much higher for Hispanics (28 percent) than for African Americans (13 percent) or Whites (7 percent). It is estimated that the dropout rates among Hispanics and African American students enrolled in inner-city or urban school districts may be as high as 56 percent (National Center for Education Statistics, 2000). Utilizing the NELS 88:2000 database, Arbona and Nora (2005) examined those factors that would impact on whether or not Hispanic students attended college, whether or not they enrolled initially in a two- versus a four-year institution, and whether or not they graduated six years following their initial enrollment in college. In that study, the authors found that only 56 percent of students starting in the eighth grade managed to graduate with a high school diploma.

**Academic College Preparation.** Using information from the National Educational Longitudinal Study (NELS), Swail, Cabrera, Lee and Williams (2005) analyzed the high school academic preparation of Hispanic students and its impact on their postsecondary educational attainment. In their study, Swail et al. noted substantial differences between Latino and white students regarding their pre-college academic preparation. Those differences included the number of remedial courses taken, scores on the college qualification index, their high school curricula, placement in advanced courses, and testing for college placement. In sum, Latino students were less academically prepared *for* high school, *during* high school and, ultimately, *for* college as compared to white students. Evidence of this lack of preparation was evident in that only 12 percent of Latino students scored in the top quartile of the NELS reading and mathematics tests compared to nearly a third of white students. Moreover, scores on the College Qualification Index indicated a 19 percent gap between Latino and white students. Without the appropriate academic background needed to enter and compete in college, it is no wonder that so few Hispanic students go on to college.

In a study funded by the Association for Institutional Research (AIR), Arbona and Nora (2005) further substantiated that significant factors leading to enrollment in college among Hispanic students included following a more rigorous academic curriculum or just taking an academic track while in high school. At the same time, Zarate and Gallimore (2005) also found that the enrollment in college for all students was driven by their academic achievement in high school.

**Academic Performance.** While academic achievement might be a significant predictor of college enrollment, Zarate and Gallimore (2005) believe that it is because studies to date have relied almost solely on high school academic achievement measures. The problem with this approach is that other non-cognitive factors are often excluded from any data analyses leaving mainly pre-college academic performance measures to predict Hispanic student participation. What the higher education community is left with is that very little is known about what differentiates Latino/a students who enroll in college and those that do not (Zarate & Gallimore, 2005). Policy makers, educators and researchers who focus their attention on Hispanic students after they have been admitted to college are only addressing part of the problem and may be overlooking what is creating barriers that limit the degree of access for Hispanics (Nora & Oliva, 2004).

**Socioeconomic Barriers/Cultural and Social Capital.** While cognitive stumbling blocks play a major role in accessing higher education, other non-cognitive factors also point to barriers (economic, cultural, and social) that are equally as influential in denying access to higher education. In 2000, 28 percent of all Hispanic children in the United States were living in poverty (Llagas & Snyder, 2003). Researchers argue that, in addition to economic circumstances, college decisions of minority and low-income students are limited due to a lack of cultural and



social capital. That is, these students may not have the cultural knowledge or access to informal and social networks needed to engage in seeking and acquiring the necessary college-related information that could provide easier access to college participation (Gonzalez, Stoner, & Jovel, 2003).

In contrast to the parents of white and/or upper middle-class students who can draw on their own personal experiences in higher education and can count on social networks to improve their children's abilities to successfully enroll in and graduate from college, low-income Hispanic parents typically prepare for college later in their students' academic careers. Concomitantly, these same families face more obstacles with fewer resources that can assist their children in achieving their educational aspirations (Auerbach, 2004).

A recent qualitative study conducted by Gonzalez, Stoner, and Jovel (2003) examined how the relationships established between school personnel and families more often than not affect college opportunities for Latina students. Using life history research methods, the school experiences of Latina students were investigated. The findings indicated that the lack of social capital, or limited assets, ultimately impacts on the student's actual and/or perceived access to college. More specifically, students who did not have access to high volumes of social capital early in their academic careers were often neglected in the college planning process. Research by Gándara (1998, 2002) had earlier found that the single most influential barrier to access for Hispanic students in California is not having the instrumental knowledge of the steps involved in enrolling in post-secondary education. Access to guidance counselors and teachers has been found to play a critical role in the college attendance decisions of Latino students (Gonzalez, Stoner, & Jovel, 2003).

Gonzalez et al. (2003) further found that, among Latina community college students that managed to overcome those barriers and enroll in college, these students continued to endure institutional neglect and abuse resulting from an inadequate curriculum in their secondary education, were tracked into remedial or ESL courses in college, had negative experiences with faculty, and had limited or negative contact with college counselors.

**Increasing Tuition and Lack of Financial Aid.** One key contributor to access for minorities and low-income students is financial assistance or, more succinctly, college affordability (Nora, 2004b). According to a report released by the College Board (2003), average tuition and fees have risen almost 50 percent at public four-year colleges and 22 percent at community colleges over the past ten years (1993-2003). Moreover, this upward trend continued for the 2003-04 academic year; average tuition and fees rose an additional 15 percent at both two and four-year public colleges and universities. Santiago and Brown (2004) argue that the growth in tuition and fees will continue due to gradual decreases in state funding for higher education.

To pay for college, Hispanic students have relied heavily on support from the federal government to meet the costs of tuition, books, housing, etc. According to data from the National Postsecondary Student Aid Study (NPSAS), for the 2003-04 academic year 80 percent of Hispanic undergraduates applied for financial aid, of which 63 percent were awarded some form of financial assistance. Although proportionately Latinos were more likely to receive federal aid than all of the other racial groups combined, they received the lowest average aid award of any racial/ethnic group (i.e., \$5,415 dollars for Latino students compared to \$6,230 dollars for whites). It is evident that grants and loans are critical for Latinos as 50 percent of these students receive grants and 30 percent receive loans. However, it should be noted that the average loan

amount received was \$5,620 dollars compared to only \$3,810 dollars in grants (Santiago & Cunningham, 2005).

**Acculturative Stress.** Several Hispanic researchers have identified non-cognitive features that also have a predictive nature related to college enrollment (Contreras, 2005; Zarate & Gallimore, 2005; Arbona & Nora, 2005). As is most often anticipated, parental expectations and aspirations and socioeconomic status have been associated with college attendance. In examining differences in achievement between Latino and White college-bound (SAT and AP test takers) students with respect to background and achievement, Contreras (2005) reveals the gaps in “inputs” Latino students possess regarding disparate income, parent education levels, access to Advanced Placement courses and scores on standardized exams. In addition, the author notes that Latinos reported lower self-perceptions with regard to potential and ability than White students with comparable ability.

Research by Smedley, Myers, and Harrell (1993) found that minority status among Hispanics and African American students undermine a student’s academic confidence that only leads the student to question his or her ability to meet the demands of attending a highly competitive university. If this situation were not enough, minority students’ concerns among those that manage to enroll in college are only worsened by the negative expectations of their non-minority faculty and peers.

Early work by Nora and Lang (2000) identified the student’s academic self-efficacy as a major contributor of college enrollment. The authors believed a student’s perception that they possessed the academic ability to attend college was captured through a measure of the academic rigor of the student’s curriculum in high school. In this sense, psychosocial factors may also play a role in deciding whether to enroll in college or not.

A longitudinal study following a random selection of Latino/a students from kindergarten through college investigated the possibility that gender differences were at play when it came to those factors predicting college enrollment (Zarate & Gallimore, 2005). The authors indicated that while academic achievement, language proficiency and parental factors consistently predicted college enrollment for Latinos, the pursuit of college counseling services and teacher-rated classroom performance were found to significantly affect college going for Latinas.

**Parental Support and Encouragement.** Research has consistently demonstrated that parental support is critical to a student's decision to apply and enroll in college (Gándara, 1995, 2002; Hossler, Schmit, & Vesper, 1999; Hossler & Stage, 1992; McDonough, 1997; Perna, 2000). Hossler, Schmit and Vesper (1999) provided evidence that Latino parents with low socioeconomic levels or who lack a formal education does not necessarily lead to low college aspirations on the part of their children.

Ceja (2004) examined the importance of the role that parents play in the development of the educational aspirations of Chicana students. Interviews with 20 Chicana students revealed that each of the students indicated a belief that they were provided parental support to seek a college education. Although the majority of the Latino parents in the study had no previous formal college experience, Chicana students indicated their parents had still found unique ways of influencing their thoughts and college aspirations.

Using a multiple case study design, Cedja, Casparis, and Rhodes (2002) investigated those factors that influence Hispanic students' decisions to attend and persist in Hispanic Serving Institutions (HSIs). Familial support and encouragement as well as a motivation to "not repeat" or "not be like" other family members that did not attend college were found as primary influences on students' college going decisions.

Arbona and Nora (2005), however, found that parental expectations were not as influential as has been found in the past. The researchers found that several variables distinguished Hispanic students who attended college from their peers who did not attend college. Students whose native language was Spanish were *more likely* than not to attend college. The result was thought to be consistent with other studies in that second generation Hispanic students tend to show higher academic achievement than their later generation counterparts (Ortiz, 1986). Students' academic goals as well as their high school preparation also predicted their college enrollment. Students who followed a more rigorous academic curriculum in high school and who had expectations of obtaining a bachelor's degree while in the 10<sup>th</sup> grade were more likely to attend college than students with lower academic achievement and expectations.

Perna and Titus (2005) also found that parental encouragement, defined as a mother's educational expectations and her involvement in her child's pre-college education, were unrelated to college enrollment for Hispanic students. The authors speculate that this contradictory finding may be at least partially attributed to the fact that parental involvement is typically defined as a single indicator, rather than a multi-dimensional construct.

**The Transfer Function and Hispanic Students.** Another issue of concern regarding Hispanic participation in higher education is their disproportionate representation in two-year colleges (Chronicle of Higher Education, 2001; Nora, Rendon, & Cuadraz, 1999). In the Fall of 2000, 58 percent of Hispanics enrolled in college were attending two-year institutions whereas the same was true for 42 percent of African American and 36 percent of White students (Harvey, 2003). Contrary to what was once thought, community colleges have not served as the gateway to a bachelor's degree for large numbers of lower income and ethnic minority populations. Approximately 25 percent of Hispanic students in the Beginning Postsecondary Students

Longitudinal Study (BPS:96/01) who attended a two-year college intended to transfer to a four-year institution and obtain a bachelors degree. However, six years after first enrolling in the community college only 6 percent had obtained a bachelor's degree and an additional 12 percent remained enrolled in college (Hoachlander, Sikora, Horn, & Carroll, 2003).

One of the major barriers to graduation for Hispanic students appears to be transferring from the community college to the university. Although 71 percent of Latino students attending community colleges report desiring to transfer to a four-year institution, currently only 7 percent to 20 percent actually transfer (U.S. Department of Education, 2001). Contributing factors to the poor transfer rates include an absence of a "transfer culture," a lack of articulation agreements between two- and four-year colleges, poor academic guidance and counseling, the myth that completing an Associates of Arts degree will fulfill transfer requirements, and low expectations of community college faculty (Ornelas & Solórzano, 2004).

### **–BARRIERS/LIMITATIONS IN COLLEGE CHOICE–**

Not only is preparing for college an important issue; choosing which type of college to attend, which campus will provide a good fit and which student populations are more likely to be tolerant or accepting is just as equally important for Latino students. The choice of college that a Latino student makes affects so many different aspects of a student's life, from the academic and social integration and adjustment of that student to his or her academic performance and, ultimately, his or her degree attainment. Studies have examined such issues as selectivity patterns among Latino students as well as an examination of the different factors that students consider in making a final choice.

**The Choice Process**. In comparing Hispanic and white freshman with average or near average level of high school preparatory work, a report by the Pew Hispanic Center (2005)

revealed that Hispanics tend to choose less selective colleges and universities. Hurtado, Inkelas, Briggs, and Rhee (1997) investigated the differences in college access and choice among students of different racial/ethnic groups using the National Educational Longitudinal Study (NELS:88/92) and the Beginning Postsecondary Student Longitudinal Study (BPS:90/92). The investigators found significant group differences in the number of colleges students applied to, preparation behaviors, and the decision to attend their first-choice institution. Specifically, Latino students applied to fewer colleges, were less likely to engage in an extensive search and college choice process, had the lowest goal aspirations, and were less likely to enroll in college immediately following graduation when compared to other ethnic groups.

A qualitative study by Immerwahr (2003) identified several intangible impediments faced by Hispanic students that influence their college choices including a lack of knowledge about higher education in general, misinformation on admissions requirements and financial aid, and competing options. Many of the Hispanic students interviewed indicated they failed to receive adequate guidance from parents or counselors. As a result, many students were misinformed about higher education which led to poorly informed choices. Additionally, competing options were found to keep students away from higher education as many of the students interviewed were already offered full-time employment or military service that were perceived as more attractive in the short-term.

Using data from the NELS 88:2000 database, Arbona and Nora (2005) examined the likelihood of Hispanic high school graduates attending either a two- or four-year college. The results of a hierarchical logistic regression analysis indicated that the likelihood of attending a four-year versus a two-year institution following graduation from high school was influenced by five significant factors. These factors were the student's gender, parental educational

expectations as perceived by the student, the student's self-concept as it related to English, enrollment in a Calculus course in high school and the perception that most, if not all, of the student's peers planned on attending college.

The results revealed that male Hispanic students, in contrast to female students, were more inclined to enroll in a two-year college while female Hispanic students were much more likely to attend a four-year postsecondary institution. Hispanic students' choice of institutional type was also dependent on expectations on the part of their parents that their children would attend college. Those students whose parents had low expectations that their children would attend college were twice as likely to enroll in a community college as opposed to a four-year higher education institution. Moreover, the more positive a Hispanic student's academic self-concept in science, the more likely they would enroll in a four-year university. The two most influential factors that predicted enrollment in a four-year college were taking a pre-calculus or calculus course while in high school (3.98 times more likely) and knowing that most, if not all, of a student's peers also planned on going to a four-year institution. It becomes apparent that the choice to attend a community college by Hispanic students is impacted more by a student's academic curriculum and the degree of perceived academic capital than by the social capital received at home.

Nora (2003) examined the influence of *habitus* and social capital within the context of both persistence theory and college choice theory. The intent was to test whether factors such as a student's psychosocial experiences during high school (Nora & Lang, 2000), encouragement and support from family (Nora, 2004), environmental pull factors (Nora & Wedham, 1993) and pre-college academic performance also contributed in much the same way they did to persistence to a student's choice of college and, subsequently, to the degree of satisfaction (overall, with the



institution, and with the intent to re-enroll). The results of testing a more holistic model of student college choice and persistence were especially strong regarding the impact of psychosocial factors, specifically *habitus*, on different measures of college satisfaction experienced by students and their intent to re-enroll in college for a second year. In sum, the findings established that students take into consideration such factors as comfort within the university, acceptance by students, faculty and staff and the degree of fit between the student and different aspects of the institution.

### **–FACTORS INFLUENCING STUDENT RETENTION OF HISPANIC STUDENTS–**

Although the literature on college choice as it relates to Hispanic students is still in its infancy, numerous analyses can now be found in the persistence literature making it possible to provide a fuller profile of the different factors that impact on the retention of Hispanic students. This body of knowledge, however, should not be taken to imply that there is no longer a need to further investigate the withdrawal phenomenon among Latinos. As such, the following review of existing literature begins to focus on the many and differential impacts of various academic, social, non-cognitive, perceptual and behavioral variables on the persistence of Hispanic students.

***A Profile of Latinos in Higher Education***. Swail, Cabrera, Lee and Williams' (2005) analysis of data from the NELS:88/00 database found substantial differences between Hispanic and white students with regard to postsecondary persistence and completion. Nearly two-thirds (66 percent) of Latino students that survived a K-12 educational system and were encouraged to enroll in college failed to earn any degree by the year 2000. This figure compares to only 40 percent for white students. As discouraging as this may sound, while half of white students earned a bachelor's degree or higher, only 24 percent of Latino students accomplished the same.

Contributing to the differences in educational attainment among students included: *attendance patterns, delay of entry into college, time to degree completion and semester credit hours earned.*

Over half (53 percent) of Latino students attend college part-time, compared to only 37 percent of white students. Moreover, while 70 percent of white students remained continuously enrolled throughout their stay in college, only 44 percent of Latino students were able to do the same. And, a five-point gap exists between Latinos (78 percent) and white (83 percent) students as to entering postsecondary education within seven months of graduating from high school. Not only do Latino students take longer to enroll in college but they also need more time to graduate; 44 percent of white students earn a degree within four years compared to only 23 percent of Latino students. Upon closer examination of the first two years in college, it was found that 81 percent of white students earned 60 or more college credit hours compared to 65 percent of Latino students. One logical conclusion is that a large number of Latino students may be dropping out much sooner than other student populations.

Hurtado and Kamimura (2004) point out that to more fully realize why Hispanic students may not persist to graduation, we must understand that a student's withdrawal decision is contingent on a variety of institutional support structures and college experiences. However, other factors external to an institution have also been found to contribute to a student's resolve to stay in college or, in a far more negative sense, to consider non-academic options in their lives (dropping out of college). A recent publication of the Center for Higher Education Policy Analysis (CHEPA) identified nine propositions found in the literature that influence student college success including co-curricular activities; a rigorous academic curriculum; academic, college and career counseling; mentoring; peer support; family and community engagement;

incorporating students' cultures in intervention efforts; funding priorities; and the timing of interventions (Tierney, Corwin, & Colyar, 2004).

**Cultural and Background Variables.** Two major conclusions reached by DesJardins, Ahlbrug, and McCall (2002) were that the quality of the school from where Hispanic students were enrolled made a difference as to whether they persisted or not and that the socioeconomic status with which minority students enter college negatively affect their retention. However, earlier studies by Nora and associates (Nora, 1987; Cabrera, Nora, & Castaneda, 1992; Cabrera, Nora, & Castaneda, 1993) indicated that of the two factors, socioeconomic status as measured by the educational attainment of the student's parents and the total amount of income earned by the family was only minimally associated with a student's integration into his or her social environment and not related to a student's decision to re-enroll in college.

The influence of socioeconomic status on the integration of students into a college environment and in predicting college retention and graduation for all students was once more revisited by Hamrick and Stage (1998), Hurtado, Inkelas, Briggs, and Rhee (1997) and by Perna (2000). However, their findings demonstrated that socioeconomic status may impact different groups of students in different ways as SES offers benefits to some and limitations or barriers to others (Hurtado et. al, 1997; Perna, 2000).

While certain aspects of a student's socioeconomic status may have limited influence, other cultural aspects have been uncovered to significantly impinge on the retention of minority students (Rendon & Hope, 1996). Among those factors are limited English proficiency, irregular attendance patterns on the part of minority students, being raised in a single parent home and the quality of a minority student's education prior to college attendance. Moreover, the quality and type of education that minority students receive prior to enrolling in college has been shown to

not only keep these students engaged in a higher education but to also predict different measures of college success (Castellanos & Jones, 2003).

**Educational Goal Commitments or Aspirations.** One of the most influential factors on any student's decision to remain enrolled in college is exerted by the educational aspirations of that student. Similarly, prior research has established that Hispanic students' educational hopes play a part in a student's decision to remain in college (Cabrera, Nora & Castaneda, 1993; Nora, Castaneda, & Cabrera, 1992). While the impact is good news, the sad part is that a number of circumstances have been identified that negatively influence the educational aspirations of Hispanic students. These factors include having to deal with family responsibilities, working off-campus as opposed to on-campus, commuting long distances to a college campus, performing poorly in coursework, and perceiving a sense of prejudice and discrimination on a campus (e.g. Nora & Cabrera, 1996; Cabrera & Nora, 1994; Cabrera, Nora & Castaneda, 1992; Nora & Lang, 2001; Nora, 2002, 2004a).

The strength of this commitment to an educational goal is evident even years after it was first solidified in middle or high school. Perna (2000) found that the desire for a higher education following high school graduation and continuing into graduate school for an advanced degree has a positive and long-lasting influence on the college enrollment rates for Hispanic students. Having a goal in mind from early on remains a driving force so much so that it influences a Hispanic student from withdrawing from college.

**Sense of Belonging.** Another highly important factor for Latino students is the belief that they are part of the academic and social life going on around them (Hurtado et al., 2006). This sense of belonging on campus subsequently influences a student's desire to remain in college. In an attempt to apply Tinto's theoretical model of student departure to a population of Latino

students, Hurtado and Carter (1997) focused on clarifying the structure of a conceptual model that specified those factors that led to a sense of belonging on the part of the student. The authors tested the extent to which Latino students' background characteristics (i.e., gender and academic self-concept) and academic and social experiences in the first and second years in college contributed to a sense of belonging in the third year. Their findings confirmed that the first-year academic and social experiences of Latino students at four-year institutions led to a strong sense of belonging at their respective institutions in their third year of college. Hurtado and Carter established that Hispanic students' sense of belonging on campus was closely linked to the frequency with which they engaged in discussions with other students outside of class, their membership in religious and social-community organizations, and negatively associated with perceptions of a hostile racial climate on their campuses. In other words, in an environment that encourages tolerance and acceptance and engages students and faculty in academic and social discourse, a Latino student's sense that they belong in college and are accepted at that institution is established and nourished.

A recent study conducted by Gloria, Castellanos, Lopez, and Rosales (2005) assessed the degree to which social support, university comfort and self-beliefs were interrelated and predictive of undergraduate Hispanic students' decisions to persist. All three constructs were found to be significantly interrelated as well as predictive of student attrition. Individual variables of perceived mentorship, perceptions of social support from friends and perceptions of the university environment as comforting to Latino students were found to have the strongest predictive value.

**Student Engagement.** Padilla, Trevino, Gonzalez, and Trevino (1997) examined the different forms of informal knowledge that are required by minority students to be able to handle

their academic and social environments while enrolled in college and to be able to succeed, which they operationally-defined as graduating from college. Their findings indicated that sophomore, junior and senior minority college students that successfully involved themselves at their college campuses took specific actions to overcome four major categories of barriers: *discontinuity, lack-of-nurturing, lack of presence, and financial resources.*

To overcome any discontinuity barriers (or a disconnect with one's surroundings), successful minority students took actions that would engage them in the different aspects of the academic and social life on their campuses. Such engagement included joining an organization of interest, formulating and making their own decisions, and researching the profitability of their own chosen majors. To successfully deal with the issue of nurturing, students confronted issues of self-worth, dealt with their specific needs or sought nurturing from others through support groups or through mentoring resources on his or her campus. The issue of a lack of presence on a university campus involved meeting head-on the institutional culture and practices that devalued and ignored ethnic minority students. Students successfully met such challenges by seeking out an ethnic presence on their respective campuses, fully participating in the activities of ethnic student organizations, and making themselves known on campus one way or another. Finally, successful minority students had to overcome barriers brought on by a lack of resources by preparing and applying early for financial aid, talking to people familiar with the financial aid process, and developing time management skills.

**Financial Assistance**. The importance of financial aid within the student persistence process is well-established (Cabrera, Nora & Castaneda, 1993; Cabrera, Stampen, & Hansen, 1990; Stampen & Cabrera, 1988). In 1993, Cabrera, Nora and Castaneda identified an intangible feature associated with financial aid. In addition to the more traditional tangible component

considered when investigating financial assistance (the receipt of loans, grants, etc.), the authors believed that affective/emotional attitudes were associated with different aspects of student finances. Because college costs such as tuition, room-and-board, and books (to name a few) are stressors in the lives of many minority students, a sense of relief is associated with the ability to meet financial responsibilities through different forms of financial aid. In their study, both the intangible and tangible (financial aid received) components were found to directly and indirectly influence Hispanic student's persistence decisions.

Hu and St. John (2001) examined the effects of receiving financial aid on the within year persistence of Hispanic, African American and white students. Their findings confirmed that the receipt of financial assistance serves an important role in equalizing the playing field and providing opportunities for Hispanic and African American students. In comparing the odds of persisting between those that had received a financial aid package versus those students of each ethnic/racial group that did not receive aid, Hispanic and African American students who received financial aid were more likely to persist than their non-financial aid counterparts.

A recent study of Latino student retention conducted by Longerbeam, Sedlacek, and Alatorre (2004) examined the reasons for dropping out of college among Latino and non-Latino students. Based on a series of multivariate analyses, significant differences were found between Latino and non-Latino students in the perceptions that most likely led to attrition. Among those factors identified as reasons for dropping out of college among Latino students were financial circumstances, the perception on the part of students that they lacked the academic capital needed to be successful in college, and the desire to enter military service. Embedded within those financial reasons was the expectation to send money home to help with family finances.

*Social Interactions/Experiences*. Very early in the investigation of what contributed to student dropout behavior among undergraduates, Pascarella and Terenzini (1980) established the importance of the student's social integration on his or her campus. While earlier studies substantiated the influence of a student's social integration within a college environment on their choice to persist in college (e.g. Braxton & Brier, 1989; Terenzini & Pascarella, 1980; Bean, 1980), its conceptualization and importance was questioned as appropriate for minority students (Tierney, 1992; Rendon, Jalomo, & Nora, 2001). Much of the criticism centered on cultural differences that would question whether social integration was forcing an acculturation or assimilation on minorities by proposing that social integration should be applied equally to all groups. The final conclusion reached by some researchers was that the theoretical construct was not an inappropriate variable within persistence models as they applied to minority students but, rather, that the form or manner in which it expressed itself among minorities versus non-minorities was different; that all groups of students are engaged in socially interacting and integrating on a college campus could not be denied. The issues raised were more a matter of measurement and implementation and not the theoretical applicability of the construct (Nora & Cabrera, 1994).

Studies on minority and non-minority students in two- and four-year institutions reveal some overall conclusions regarding the social experiences of Hispanics and their relationship to student persistence. Early on Nora (1987) found that the influence of social experiences, at least in a small way, impacted Hispanic student's decisions to remain enrolled in college. In Nora and Cabrera's (1996) study on the role of perceptions of prejudice and discrimination within a theoretically-based model of college persistence, the authors hypothesized that social interactions with peers and faculty were positively influencing student persistence decisions equally for



majority and non-majority college students. In contrast to what had previously been established among white student populations, Nora and Cabrera found that social experiences only had a minimal indirect effect on the persistence of minority students as opposed to Whites where the effect was much more direct. Moreover, Nora, Cabrera, Hagedorn, and Pascarella (1996) found that student interactions were not significantly related to the persistence of minority students. The indication is that factors other than the social integration of Hispanic students in college may be more important in deciding whether to return to college for a second year. Social experiences of Hispanic students play a much lesser role within the persistence process.

**Academic Integration/Experiences.** It comes as no surprise that constructive academic experiences during the first year of college enhance the commitment to earn a college degree and to remain in college on the part of Latino students. Rendon (1994) found that, when Latino students were engaged in positive and validating classroom and laboratory experiences, study groups and academic discussions, they were more likely to stick to their goals and to continue to return to college for another academic year.

In one of their earlier studies, Hurtado, Carter, and Spuler (1996) focused on those features that affected Latino students' adjustment and attachment to college. One measure of adjustment to college concentrated on academic integration. The authors found the size of the Latino population at a university and the students' perceptions of their interactions with faculty positively influenced the academic adjustment of Latino students. A large concentration of Hispanic students enrolled and positive interactions between students and faculty were identified as two major reasons contributing to the retention of Hispanic students.

**Commitment to a Specific Institution.** The desire to attend and graduate from a specific higher education institution has been found to be one of the major influences on student

persistence for non-minority students. However, the same research indicates that this commitment to a specific institution has shown mixed findings when it comes to Latino students. While this factor was shown to positively impact student persistence in studies by Braddock (1981), Nora and Cabrera (1993, 1996) and Nora, Castaneda, and Cabrera (1992) more recently established that the importance of this commitment to an institution is the number one factor influencing the persistence of White students and it does not play as big a role in re-enrollment for Hispanic students. The finding is not that it doesn't play a role in deciding to return to college but that other factors outweigh the influence of this commitment.

*Academic Performance in College.* In considering the importance of academic performance as it impacts returning or dropping out of college, one should note (or at least be reminded) that the decision to withdraw from college in studies of student retention is voluntary and not based on academic performance. To this end, the impact of a student's academic performance on returning to college is based on the notion that the student has the option to re-enroll or to withdraw from college. The most influential factor on a Hispanic student's decision to persist is his or her academic performance (cumulative grade point average) during their first year in college (Nora & Cabrera, 1996; Nora, Cabrera, Hagedorn, & Pascarella, 1996; Nora, 2004b; Hu & St. John, 2001). The authors believe that, based on racial/ethnic comparisons, lack of self-efficacy in academically-related matters and self-doubt, Hispanics may be more prone to question whether they belong in college and whether they can compete and succeed academically. In other words, a C average will weigh much more negatively on a Hispanic student's decision to return to college than it would for a non-minority student. What the studies revealed was that, for Hispanics, earning less than "good" grades made these students question

their ability to attain a college degree. The end result was a sense of giving up and a decision to drop out.

More importantly, though, is the enormous influence that a Latino student's academic performance has on re-enrolling in college as the GPA increases. Research by Nora, Kraemer, and Hagedorn (1997) and Hu and St. John (2001) substantiated the importance of academic performance on the persistence decisions of non-traditional Hispanic students finding that the GPAs of these students have a significant and positive direct influence on those students' decisions to remain in college. Moreover, Nora and Cabrera (1996) found that not only did the academic achievement of Hispanic students have a positive impact on persistence but that even the perceptions that they had made cognitive gains during their first year in college were influential in a Hispanic student's decision to remain enrolled in college.

**Environmental Pull Factors.** Early on in the research on student persistence, Nora and Wedham (1991) proposed that a set of environmental pull factors would exert a "pulling away" or a "drawing in" of students into the academic and social campus environments and that, subsequently, these pulls would impact on a student's tenacity to continue a college education. These pulls centered on factors external to university life: having to work off-campus immediately before or after classes, family responsibilities (i.e. taking care of children, siblings, parents or their entire family), and having to commute to campus. The findings revealed that while working on-campus resulted in a positive pull by providing the opportunity to interact with faculty and peers, working off-campus only increased the chances of dropping out of college.

In much the same way, students that took on serious family responsibilities and could not spend more time on campus to participate in academic and social activities were also very likely to drop out at the end of their first year in college. The inability to spend more time on campus is

also embedded within the third pull factor, commuting. As the distance that students needed to drive to attend classes increased, the more likely that the students would choose not to return. The other side of this coin indicated that students residing on campus and not having to leave the campus for work or family provided them with the time necessary to fully integrate both academically and socially at their institutions.

Nora, Cabrera, Hagedorn, and Pascarella (1999) later examined differences between minority and non-minority male and female students on a national sample of two- and four-year institutions on those pull factors earlier identified by Nora and Wedham (1991). Latino and African American students who commuted large distances to campus, who left campus to work elsewhere and who assumed responsibility to take care of family members before or after classes were less likely to persist in college. The pulling away brought on by family responsibilities was particularly detrimental to female students. Women who assumed those household tasks were 83 percent more likely to give up attending college and their educational goals.

*Cultural Climate/Perceptions of Prejudice and Discrimination.* Critical to the adjustment and engagement of students in college, academically or socially, is an atmosphere of acceptance, tolerance or rejection by others. The realization that a campus climate is not conducive to student learning, interactions and engagement is an area of research that has received much attention in the persistence literature. The perception that racial/ethnic tensions continue to exist on campuses even after the advances that were made in recruiting and enrolling Latino students in higher education institutions in the 1970s and 1980s were substantiated by Hurtado (1992) who found that Latino/a students tended to perceive the campus climate more negatively when compared to white students. Further evidence was reported by Hurtado (1994)

and Nora and Cabrera (1996) who also found that Latino/a students reported more discrimination while on campus than white students.

In three separate studies, Nora et al. (Nora & Cabrera, 1996; Cabrera & Nora, 1994; Cabrera, Nora, & Castaneda, 1993) established the impact that these perceptions of discriminatory behavior exerted on both the educational aspirations and withdrawal behavior of Hispanics. Student perceptions of prejudice and discrimination on campus, inside as well as outside of the classroom, were extremely harmful to the goal of attaining an undergraduate degree. Of specific importance was the finding that it was not only the direct exposure to discriminatory words and gestures that led to the negative impact on the hopes and expectations of Hispanic students but also to the perception that an environment of intolerance and discrimination existed on their campus and, more specifically, in the classroom.

Although Nora and Cabrera (1996) found that both Hispanic and white students were just as likely to *perceive* discriminatory acts and gestures in and outside the classroom, the magnitude with which they were felt was much stronger for Latino students. The perceptions that students are exposed to acts of racial bigotry were realized to have negative effects on the academic performance of students, their social experiences with faculty and peers, students' academic and intellectual development, and on institutional commitment. Moreover, perceptions of discriminatory behaviors were also found to indirectly affect Hispanic student's decisions to persist.

Hurtado, Carter, and Spuler (1996) found that Latino/a students exposed to a cultural climate on their campuses that they perceived to be hostile were less prone to adjust socially, emotionally and academically at their institutions. Moreover, Hurtado et al.'s findings held

constant regardless of a student's background characteristics, type of institution they attended or even on the percentage of Hispanic students attending their college.

More recently, Longerbeam, Sedlacek, and Alatorre (2004) investigated the issue of diversity on a college campus as it related to the persistence of Latino students. The authors' overall conclusions indicated that those Hispanic students that came to perceive their campuses as being ethnically diverse were much more likely to remain enrolled. However, even after years of research, Nora (2004b) notes that there exists a lack of minority mentors and role models in our higher education campuses, curricula that does not appropriately address minority issues, and a lack of minority support groups and programs that has led to adverse conditions for Hispanic students that they must somehow overcome.

**Family Support.** The importance of a support system through words (and actions) of encouragement and validation by parents has long been established as significantly impacting on student persistence (Cabrera, Nora, & Castaneda, 1993; Nora, 1987; Nora & Cabrera, 1996). Nora (2004) notes that encouragement and support come in different forms (e.g. financial, emotional, psychological, etc.) and from different sources (e.g. parents, spouses, professors, etc.). Collectively these different types of encouragement from a variety of people provide a safety net for Latino(a) students that they come to rely on under stressful and non-stressful circumstances.

Most importantly, *la familia* has been identified as a major source of support affecting Latino/a persistence decisions (Hurtado, Carter, & Spuler, 1996). The importance of family in the Latino/a culture makes it central in considering the impact that a family support system exerts on student persistence (Castellanos & Jones, 2004). For example, Flores (1992) established that Latino/a students whose mothers and fathers provided continuous

encouragement to attend college and remain in college increased the likelihood that Hispanic students would persist. Sanchez, Marder, Berry and Ross (1992) found that Latino/a students who were not retained reported family and related financial obligations and the need to take on adult roles as major reasons for dropping out of college.

**Pre-College Psychosocial Experiences.** While specific pre-college factors were included in studies that tested Tinto's (1987, 1993) model of student persistence, the operationalization of those factors was limited to the student's entering academic ability, high school rank at time of graduation and desire to attend college (Pascarella & Terenzini, 1990). However, Nora and Lang (1999) identified a set of high school psychosocial experiences engaged by students prior to enrolling in college as representing pre-college student characteristics. The authors found that past leadership experiences, anticipatory attitudes to attend college, a student's sense of his or her social self-efficacy, close personal relationships with peers, and the importance of attending college expressed by parents significantly impacted a student's transition to a college environment as well as the student's decision to persist. No longer is it thought that the only factors to consider prior to enrollment in college are the student's academic performance in high school, their rank at the time they graduated or, at most, students' educational aspirations.

**Attitudes Related to Remediation in College.** Most of the studies focusing on student persistence have used student populations from two- and four-year institutions relying on minority and non-minority student populations. This line of research centered on identifying, testing and confirming specific models of student retention and the variables in those studies. Because so many students enter college academically underprepared, many of these students are forced or encouraged to enroll in remedial courses. While the same theoretical constructs apply to these students in establishing those factors that influence subsequent dropout behavior, it was

hypothesized by Nora and Garcia (1999) that student perceptions and attitudes related to their remediation would also be likely to impact on their dropout behavior. Some of the most notable factors affecting the withdrawal of development students in negative or positive ways included: the student's perceptions of whether or not they needed to take remedial courses, the value placed on remediation on the part of the student, and the extent to which the student believed that their pre-college academic preparation allowed them to develop the necessary competencies to succeed in college. If students did not come to accept the value and utility of remediation and development courses, the likelihood that they would remain enrolled in college was drastically minimized.

**Mentoring experiences.** The importance of mentors and role models for Latino/a students has been stressed in the literature (e.g., Castellanos & Jones, 2004). The authors note that its impact on Hispanic student persistence should not be underestimated. However, only until quite recently have researchers started to examine the nature of this construct prior to testing its influence on student retention or its role in the student persistence process, specifically as it relates to the student's adjustment to college. Nora and Crisp (in press, 2006) examined the different dimensions of mentoring, hypothesizing that several subcomponents underlie this much noted factor. The authors believed that extracting the appropriate latent variables underlying a set of items that related to mentoring experiences would uncover or capture the different domains or conceptualization of mentoring. Although the intent of their research focused on establishing the factor structure of mentoring, preliminary results indicated that when introduced within the context of current persistence models, these mentoring components make a contribution in explaining why students drop out of college.



**Spirituality**. During the last few years, the topic of spirituality on the part of faculty and students has become quite prevalent. Rendon (*in press*; 2000) speaks of the “Academics of the Heart” as she engages faculty and researchers to consider a more spiritual approach to students in the classroom and in the empirical investigations of undergraduate students. Influenced by this current interest in spirituality among students and faculty, Nora and Anderson (2003) studied the differential impact that religiosity versus spirituality exerted on the adjustment of Hispanic students to college, their academic performance, and on withdrawal decisions within the context of current persistence models. The results of a quantitative data reduction revealed that subcomponents of religiosity focused on the more symbolic expression of a student’s religious beliefs while indicators of spirituality focused on the treatment of one another. The findings indicated that while Hispanic students who were more satisfied with the development of their religious philosophy in life were more likely to persist, several components more of a spiritual nature exerted a greater influence on re-enrollment decisions. Those Latino students that experienced a positive treatment from others on campus, who reported an overall positive outlook on life, and trusted or had faith in others were much more likely to remain enrolled in college.

### **–AN OVERVIEW OF POLICY ON HISPANIC EDUCATIONAL OPPORTUNITY–**

This section will examine the impact that state and federal policies/legislation has on Latinos in higher education. This review will focus on the following five major policies/legislation/initiatives: (1) the role of Hispanic-Serving Institutions (HSIs), (2) policy granting in-state tuition to undocumented students, (3) state policy banning the use of race-sensitive criteria in college admission decisions, (4) state percent plans, and (5) the dual enrollment higher education market.

## Hispanic Serving Institutions

**Hispanic Enrollment:** For many Latino students, the pathway to higher education is through an Hispanic-Serving Institution (HSI) as nearly half of all Latino students enroll at a HSI (Laden, 2004; Santiago, Adrade, & Brown, 2004). HSIs are defined as colleges and universities that enroll 25 percent or more full-time equivalent Latino students, with 50 percent of that group classified as low income students (U.S. Department of Education, 2005). In 1997, nearly 90 percent of Hispanics were enrolled in HSIs located in California, Texas, New Mexico, New York, Illinois, and Arizona (De Los Santos & De Los Santos, 2003). Due to the large concentration of Hispanic students in community colleges, over half (53 percent) of all HSIs are community colleges (Benitez & DeAro, 2004).

Attempts to identify salient characteristics of Hispanic-Serving Institutions and their student outcomes have been minimal (Flores, Horn & Crisp, 2006). Two exceptions are recent work by Mulnix, Bowden, and Lopez (2002) and De Los Santos and De Los Santos (2003). Mulnix, Bowden, and Lopez (2002) brought attention to the documented disparities in institutional advancement activities which exist between HSIs and other universities around the country. According to the U.S. Department of Education (1998) the total revenues of HSIs are 42 percent less per full-time equivalent (FTE) student compared to other institutions. Additionally, HSIs report spending 43 percent less on instruction, 51 percent less on academic support functions and 27 percent less on student services per FTE than other colleges and universities.

Examining the unique challenges/issues facing HSIs, De Los Santos and De Los Santos (2003) surveyed presidents, chancellors and CEO's of HSIs to discuss the three most important concerns facing HSIs in the next few years. The most frequently cited responses included the

lack of funding and technology, diversity among their faculty, student growth and diversity, the academic pre-college preparation of students, high attrition rates with corresponding low graduation rates. Although some indicated that the problems faced are generic to higher education, half of the respondents indicated a relationship between the issues faced and being a leader of an HSI.

## **In-State Tuition for Undocumented Students**

**Legislative Action:** Demographers estimate that the total undocumented population in the country is currently 10 million of which roughly 80 percent are believed to be of Hispanic origin (Pew Hispanic Center, 2005). In response to an increased number of Hispanics wanting to attend college, both federal and state policy makers are currently creating and revising policies related to granting in-state tuition to undocumented students (Biswas, 2005; Olivas, 2004). Section 1623 of the Illegal Immigration Reform and Immigrant Responsibility Act (IIRIRA) of 1996 prohibits states “from providing a post-secondary education benefit to an alien not lawfully present unless any citizen or national of the United States is eligible for such a benefit (in no less an amount, duration, and scope) without regard to whether the citizen or national is such a resident eligible for such benefit” (p. 673).

Another important piece of legislation that may impact undocumented students is the Development, Relief, and Education for Alien Minors (DREAM) Act is presently being debated in Congress. This legislation would repeal Section 1623 of the IIRIRA eliminating federal penalties to states that provide in-state tuition to undocumented immigrant residents (National Immigration Law Center, 2005; Olivas, 2004). To date, nine states have passed bills into law allowing undocumented students to pay in-state tuition at public institutions and another twenty-four states have formally considered such legislation. However, even those states that have

successfully passed such bills for illegal undocumented students continue to face legislative and legal challenges (Flores, Horn & Crisp, 2006). Moreover, several states have recently introduced bills which would restrict in-state tuition for undocumented students. Mississippi is the only state that, by statute, has mandated all undocumented students be classified as non-residents (Mississippi Code, 1972).

## **Race-Sensitive Criteria in College Admissions**

**Legislative Action:** Recently, several states (e.g. Texas, California and Florida) have implemented policies banning the use of race-sensitive criteria in admission decisions that have dramatically affected the pool of Hispanic students who are able to gain admission into selective colleges and universities (Tienda, 2001). Decisions by the Fifth Circuit in *Hopwood v. Texas*, Proposition 209 in California, and an order by the governor in Florida, known as the One Florida Initiative, are the specific policies and/or legislation which ended race-sensitive admissions (Horn & Flores, 2003).

**Legislative Impact:** As one would expect, the affects of the state policies in Texas, California and Florida have proven to negatively impact Hispanic participation in higher education. In California, for instance, although community colleges and the California State University system do not appear to be significantly affected, the percentage of Hispanic students admitted to and enrolling at the University of California (UC) system has been extreme. According to Gandara and Chavez (2003), the percentage of Hispanic undergraduates admitted to the two flagship campuses (UC Berkeley and UCLA) decreased from an all time high of 15 percent to only 8.6 percent in 1998, the year Proposition 209 went into effect. Since that time the UC system has not been able to return to the Hispanic representation prior to Proposition 209 (Gandara, 2005).

## State Percent Plans

**Legislative Action:** Specific attempts to address the anticipated negative impact of state policies banning race-sensitive criteria in admissions Texas, California, and Florida have lead to the implementation of percent plans that guarantee admission to state universities or the state university system for the top percentage of high school graduates (Horn & Flores, 2003). In Texas, House Bill 1678 mandates that the top 10 percent of all graduating seniors be admitted to the public university of the student's choice (Montiel, 2002). In contrast, California limits guaranteed admission to only the top 4 percent. Furthermore, admission is only guaranteed to a university in the UC system, not the university of the student's choosing. Similarly, Florida guarantees admission only to the state university system (Horn & Flores, 2003). However, admission to the university system is granted to an impressive 20 percent of graduating seniors (Tienda, 2001).

**Legislative Impact:** It is assumed percent plans are at least partially effective in maintaining a racial diversity on the campuses of these states because of the extreme residential segregation that ensures minority representation among the top percentage of students graduating (Tienda, 2001). However, recent findings indicate that percent plans or other race-neutral policies are actually less effective than race-conscious policies in promoting student diversity (AERA Amicus Brief). Horn and Flores (2003) and Tienda, Leicht, Sullivan, Maltese and Lloyd (2003) recently began to investigate the impacts of each state's plan toward the goal of an ethnically diverse student body. Unfortunately, state plans previously mentioned have shown to have little effect on the majority of students in California and Florida, simply because admission is only guaranteed into the state system which in most cases would be the situation without the plans (Tienda et.al., 2003). Findings by Horn and Stella (2003) have also indicated that short-

term effects have had the least impact on minority admission to the most competitive campuses, especially in California. It appears that those state plans have the potential to work when used in conjunction with other recruitment and race-attentive outreach programs. However, Horn and Stella's findings also indicated that in some cases, despite the state plan and the existence of retention and outreach efforts, student diversity is not guaranteed (Horn & Flores, 2003).

## Dual Admissions Programs

**Institutional Policy:** Policies related to increasing the number of formal collaborations and partnerships between two- and four-year colleges are currently in development at the institutional and state level (Zamani, 2001). Some of the most notable of these efforts include articulation agreements between transferring and receiving institutions, dual admissions, guaranteed university admissions to students completing Associates' degrees at a community college, and coordinated student support services (Flores, Horn, & Crisp, 2006). The most comprehensive link between the community college transfer function and the four-year university system to date is California's Dual Admissions Program (DAP). DAP is designed to grant students who rank in the top 4 to 12.5 percent of their high school graduating class admission to one of the University of California campuses after successfully completing course requirements at a California community college. Unfortunately, the program is not currently active due to financial/budgetary circumstances in California (Flores, Horn & Crisp, 2006).

## Federal/State Programs

**Federal Initiatives:** Major federal programs that support postsecondary education in the United States are authorized by The Higher Education Act (HEA). Among the institutional aid and development programs that have been authorized, the two that directly serve Hispanic students are the *Developing Hispanic Serving Institutions (HSIs) Program* and the *Minority*

*Science and Engineering Improvement Program (MSEIP)*. The Developing HSIs Program, first authorized in 1994, provides grants to institutions that serve large percentages of Hispanic students (HSIs). This is an important avenue for targeting services to Latino students in higher education as roughly half of Hispanic students are enrolled in HSIs. The MSEIP Program is specifically designed to address the underrepresentation of Hispanic and other minority groups in engineering and science fields. Since 2002 the overall initiative has allotted \$8.5 million toward institutional grants aimed at increasing recruitment and supporting Latino students seeking bachelor's degrees in science and engineering (Santiago & Brown, 2004).

To help prepare low-income students for higher education, HEA has authorized programs such as Gaining Early Awareness and Readiness for Undergraduate Programs (GEAR-UP) and TRIO that includes Upward Bound, Talent Search, and Student Support Services. HEA also authorizes federal grant and loan programs to provide financial assistance to students in the form of Pell Grants, special programs for migrant families, Federal supplemental educational opportunity grants (SEOG), Federal Family Education Loan Programs (PLUS), loan forgiveness for teachers and child care providers, unsubsidized loans, direct loans, College Work Study and Perkins loans. At the graduate level, HEA supports several national graduate fellowship programs that support education in law, the humanities and disciplines of national need including the *Jacob K. Javits Fellowship Program*, *Graduate Assistance in Areas of National Need*, and *Thurgood Marshall Legal Educational Opportunity Program* (Santiago & Brown, 2004).

**State Initiatives:** At the state level, a number of programs designed to increase minority access and persistence have been implemented in the past five to ten years. For instance, GEAR-UP was modeled after several localized programs from around the country. Three of the most notable include the *AVID (Advancement Via Individual Determination) Program*, *Project GRAD*

(*Graduation Really Achieves Dreams*), and “*I Have a Dream*” (Santiago & Brown, 2004). Another well-known program, *The Futures Project*, follows urban minority students in diverse educational settings from high school to college. The program is conceptually driven by several theoretical frameworks including socio-cultural learning theory, critical pedagogy, and critical sociology (Collatos, Morrell, Nuno & Lara, 2004).

In response to poor transfer rates, the PUENTE Project was implemented in California in 1981. PUENTE provides three areas of service to all community college students: teaching, counseling, and mentoring. As a partnership between the state’s community colleges and University of California (UC) system, the program currently serves students in 56 community colleges and 36 high schools throughout the state (Puente, 2006). The project is unique in that it is tailored to affirm Hispanic students’ ethnic identities and validate their unique cultural experiences through course offerings (Saenz, 2002).

At the graduate level, organizations such as the Hispanic Border Leadership Institute (HBLI) are being created to better prepare minority educational leaders, largely absent in higher education. HBLI is a doctoral program in educational leadership designed to provide students interaction with influential minority scholars in the field through internships in policy and binational settings. HBLI prepares students to pursue careers in a multicultural environment and foster the educational attainment and persistence of Latino students (Derlin & Martinez, 2000).

### **–EVALUATION OF FEDERAL AND STATE PROGRAMS–**

Perna and Titus (2005) emphasize the need to examine the effectiveness of existing federal and state programs designed to improve the preparation, recruitment, enrollment and degree completion of students. Although evaluations of federal and state programs are limited, existing evaluations have shown mixed results that call into question the quality and, in some



cases, the integrity of the evaluations. For example, while one evaluation (Laden, 2000) found that 50 percent of Puente students transferred to a four-year institution in a three-year period, Saenz (2002) reported disappointing results for the same time period that included low high school graduation rates, minimal enrollment rates at the post-secondary level, and high attrition rates during the students' first years in college. Gandara and Bial (2001) identified the program as a template for designing programs geared toward the persistence of Hispanic students in higher education.

National evaluation efforts at assessing the effectiveness of such programs as the National Center for Urban Partnerships (NCUP) and GEAR-UP have been lacking in theoretical soundness and methodological rigor. Initially, the emphasis on outputs rather than on outcomes did little to address the issue of how effective these programs were in affecting student achievement and success. Even when efforts were focused more on outcomes, methodological issues cast doubt on the accuracy of those evaluations. Moreover, the separateness of programmatic and evaluation components associated with these programs was consistently responsible for the lack of rigor in the assessment of activities and outcomes. More often than not, those implementing the programs and those assessing the programs did not collaborate their efforts from the beginning. Evaluation was not taken seriously until the end of the programs when outcomes assessments were requested or required. Oftentimes it was impossible to assess specific outcomes when no baseline data existed.

### **–BEST PRACTICES: IMPLICATIONS OF WHAT MAY WORK–**

While there is still much more to be done on evaluating state and federal initiatives, several characteristics and components of programs targeted at expanding access to and retention in higher education for Latino students have surfaced as successful. The following section is not

intended to be a detailed profile of activities, practices and interventions making up those programs but, rather, a summary of general/overall recommendations that are associated with increased Latino access and/or persistence at different institutions. The summary of recommendations is based on pragmatic investigations by CHEPA (2002) on early intervention programs, evaluations by the Building Engineering and Science Talent (BEST) initiative (Building Engineering and Science Talent, 2003), features of effective college access programs found by Gandara and Bial (2001), principals aimed at providing strategic direction for administrators to increase access and retention rates of Hispanic students at four-year colleges according to Hurtado and Kamimura (2004), and Rendon and Taylor's (1990) ten-point action plan targeted at community colleges.

### **Recommendations at the K-12 Level**

***Parental Impact:*** From early on, Rendon and Taylor (1990) emphasized the involvement of the Hispanic family in the education process. One factor that has consistently been found to influence college enrollment is the early and constant reinforcement of college aspirations provided by family members, specifically by parents. Auerbach (2004) notes that reinforcement of educational aspirations and goals must be done often and in a variety of ways. The author suggests that Hispanic students should research and present college information to their parents at public meetings to attract and build interest.

CHEPA (2002) concluded that all students, parents and educators should be provided with timely, accurate information. At the junior high and high school level, resources should be provided to students who are high risk, not on a college bound track with information regarding those courses that help students prepare for college-level coursework. They strongly urge the mandatory advisement of the college application process before the student's senior year.

Furthermore, K-12 should attend to the specialized information needs of Latino parents, such as worries surrounding their children's safety on a higher education campus, undocumented status, and financial aid opportunities and responsibilities. Counselors should also make parents aware of the barriers students may face on campus and the strategies that can be used or overcome them in a sensitive, culturally appropriate way (Auerbach, 2004).

## **Recommendations at the Postsecondary Level**

**Administration/Campus Leadership:** One key factor that must be acknowledged by higher education administrators is the number of faculty of color on their campuses (Gregory, 2003; Hurtado & Kamimura, 2004). The leadership on campus must also have a strong and genuine commitment to a diverse student body and a sense of inclusiveness across the campus community (Building Engineering and Science Talent, 2003).

More specifically, chief administrative officers must provide a means of rewarding faculty that are successful in developing student talent (Building Engineering and Science Talent, 2003). They should strive to build coalitions between the college, families, business, and the community-at-large (Rendon & Taylor, 1990). In line with a strong commitment to diversity among students and faculty, administrators must examine those dimensions that affect the campus climate (Hurtado & Kamimura, 2004). Lastly, because so many Hispanic students first enter higher education through community colleges, the transfer function must take on more importance to both two- and four-year administrators. Linkages with feeder schools should be established and maintained (Building Engineering and Science Talent, 2003; Rendon & Taylor, 1990).

**Student Services:** Auerbach (2004) urges that recruiters reach out to parents in both English and Spanish - especially on the Internet and in college directories and catalogues. The

important thing is to make communication with students and parents as personal as possible such as inviting personal stories from guest speakers of similar backgrounds to help families make sense of complex information and feel comfortable asking questions.

Recruitment of targeted Hispanic students can be achieved through executed feeder systems (Building Engineering and Science Talent, 2003). More importantly, Hurtado and Kamimura (2004) stress that recruiters at four-year universities should utilize more aggressive recruitment strategies, identifying students who are not college bound. The authors further note that institutions must focus on underrepresented areas such as engineering and science programs.

One key suggestion by Gandara and Bial (2001) is the “untracking” of students once they enroll in college. An emphasis should be placed on providing access to the most challenging courses at the university to Hispanic students. They also note that special attention should be paid to financial aid assistance and incentives and that structural elements be incorporated into the campus environment that increases retention.

**Campus Climates:** Once students are admitted, institutions must assist those students in navigating the institution (Hurtado & Kamimura, 2004), implement summer programs for incoming minority and low-income students such as CAMP (California Alliance for Minority Participation) and provide orientation programs designed specifically for minority students and/or low-income first generational students. In other words, institutions must engage Latino students in the academic and social fabric of the college (Building Engineering and Science Talent, 2003; Gandara & Bial, 2001; Hurtado & Kamimura, 2004; Rendon & Taylor, 1990) such as providing opportunities or avenues for peer support that helps to build social experiences and support institutional commitment and real opportunities for Latinos to participate in student groups/organizations. At the same time, these opportunities must be accompanied by an

encouragement of communication and tolerance between racial groups (Hurtado & Kamimura, 2004). Programs that attempt to change intergroup dynamics, formal activities around understanding race and culture (especially important at predominantly white institutions) and activities designed to increase knowledge on campus of Chicano/a and Latino/a cultures are especially important at predominantly white institutions.

**Faculty:** In addition to providing a climate of acceptance and tolerance, faculty must be strongly encouraged to provide high-quality instruction. This level of instruction can be provided through tutoring and courses specifically designed to meet the needs of Hispanic students (Building Engineering and Science Talent, 2003), by setting high and reasonable faculty expectations of their students and continually measuring their learning and growth (Rendon & Taylor, 1990), reinforcing faculty to stay current in their teaching field and by training faculty to use assessment as a teaching tool (Rendon & Taylor, 1990).

Hurtado and Kamimura (2004) suggest that faculty identify academic problems early on in the semester and address the issue with the student. A conference at the end of a semester will not provide the student with enough time to engage in any remediation that is necessary. They also stress that faculty must also accept the responsibility of assisting students with managing their time and resources.

**Mentoring:** Currently, close attention is being paid to the issue of mentoring undergraduates. While not much specifically has been empirically researched in this area, and there is confusion as to what constitutes a mentoring experience (Nora and Crisp, in press), the consensus is that mentoring is beneficial to students and more so to minority students and that it should be long-term (Gandara & Bial, 2001). An important aspect of mentoring is the realistic appraisal of student needs and strengths that help to focus on the unique needs/talents of each

student (Building Engineering and Science Talent, 2003; Nora & Crisp, in press). Gandara and Bial (2001) believe that mentoring should not be engaged in a half-hearted manner nor should it be assigned simply to other students but that a key person should be formally assigned and responsible for individual students.

### **–POLICY RECOMMENDATIONS: A FINAL NOTE–**

Researchers at Stanford University responsible for the evaluation of their Bridge Program offer several policy recommendations relative to increasing access and postsecondary academic success for Hispanic students. Their most notable recommendations focus on shifting media, policy and research attention to the 80 percent of students who do not attend a highly selective university. Access and admissions into flagship universities, while important, will not address the many issues facing Latino students in higher education. Just as important is the need to expand the focus of local, state and federal programs to include access to success in college rather than the current focus on access exclusively.

A major part of the dilemma with the research on Hispanic students and the evaluation of federal and state initiatives is the lack of theoretically-sound longitudinal databases. Typically, state and national databases are not informed by a body of empirical evidence suggesting which variables should be collected and tracked year-to-year. Those databases that may exist at the institutional level and rich in the kinds of constructs captured are not linked to state databases. Even when two- and four-year institutions have data on the same set of students, efforts to link the two institutions are nonexistent. Venezia, Kirst, and Antonio (2003) propose that States should create K-16 databases that can enable researchers and policy makers to monitor and track students' progress.

Ultimately, all interventions and policies can only be informed by research using databases that are longitudinal in nature, conceptually sound, theoretically-driven and analyzed with sophisticated statistical techniques. Until attitudinal, behavioral and perceptual factors are linked to cognitive and non-cognitive outcomes, creating appropriate interventions is difficult, assessing those efforts may be misguided and accepting the findings from evaluation studies questionable.

DRAFT

## References

- Auerbach, S. (2004). Engaging Latino Parents in Supporting College Pathways: Lessons From a College Access Program. *Journal of Hispanic Higher Education*, 3(2), 125-145.
- Benitez, M., & DeAro, J. (2004). Realizing student success at Hispanic Serving Institutions. In B. Vigil Laden (Ed.), *Serving minority populations* (pp. 35-49). San Francisco, CA: Jossey-Bass.
- Biswas, R.R. (2005). *Access to community college for undocumented immigrants: A guide for state policymakers*. Boston, MA: Jobs for the Future. Retrieved from <http://www.jff.org/jff/PDFDocuments/AccessToCCUndoc.pdf>
- Braddock, J.H. (1981). Desegregation and Black students. *Urban Education*, 15, 43-418.
- Building Engineering and Science Talent. (2003). *Gateways of higher education into America's scientific and technological workforce*. San Diego, CA. Retrieved from [www.bestworkforce.org](http://www.bestworkforce.org)
- Cabrera, A.F., Nora, A., & Castaneda, M.B. (1993). College persistence: Structural equation modeling test of an integrated model of student retention. *Journal of Higher Education*, 64(2), 123-137.
- Cabrera, A.F., & Nora, A. (1994). College students' perceptions of prejudice and discrimination and their feelings of alienation: A construct validation approach. *The Review of Education/Pedagogy/Cultural Studies*, 16(3-4), pp. 387-409.
- Cabrera, A.F., Stampen, J.O., & Hansen, W.L. (1990). Exploring the effects of ability to pay on persistence in college. *Review of Higher Education*, 13(3), 303-336.
- Castellanos, J., & Jones, L. (2004). Latino/a undergraduate experiences in American higher education. In J. Castellanos and L. Jones (Eds.) *The Majority in the Minority*. Stylus.
- Cejda, M. (2004). Chicana college aspirations and the role of parents: Developing educational resiliency. *Journal of Hispanic Higher Education*, 3(4), 338-362.
- Cejda, B.D., Casparis, C., & Rhodes, J. (April, 2002). *Influences on the educational decisions of Hispanic students enrolled in Hispanic Serving Institutions*. Paper presented at the annual conference of the Council for the Study of Community Colleges. Seattle, WA.
- Center for Higher Education Policy Analysis. (2002). *Making the grade in college prep: A guide for improving college preparation programs*. Los Angeles: California.
- Chang, J.C. (2005). Faculty student interaction at the community college: A focus on students of color. *Research in Higher Education*, 46(7), 770-802.



- Collatos, A., Morrell, E., Nuno, A., & Lara, R. (2004). Critical sociology in K-16 early intervention: Remaking Latino pathways to higher education. *Journal of Hispanic Higher Education*, 3(2), 164-179.
- Contreras, F.E. (2005). Access, achievement, and social capital: Standardized exams and the Latino college-bound population. *Journal of Hispanic Higher Education*, 4(3), 197-214.
- De Los Santos, A.G., & De Los Santos, G.E. (2003). Hispanic-Serving Institutions in the 21st century: Overview, challenges, and opportunities. *Journal of Hispanic Higher Education*, 2(4), 377-391.
- Derlin, R.L., & Martinez, M. (April, 1999). *Leadership and change for the 21<sup>st</sup> century: Preparing educational leaders to foster persistence and achievement among Hispanic students*. Paper presented at the annual meeting of the American Educational Research Association, Montreal, Quebec, Canada.
- DesJardins, S.L., Ahlbrug, D.A., & McCall, B.P. (2002). A temporal investigation of factors related to timely degree completion. *Journal of Higher Education*, 73 (5), 555-582.
- Flores, J.L. (April, 1992). *Persisting Hispanic America college students: Characteristics that lead to the baccalaureate degree completion*. Paper presented at the annual meeting of the American Educational Research Association, San Francisco, CA.
- Flores, S.M., Horn, C.L., & Crisp, G. (2006). Community colleges, public policy, and Latino student opportunity. In C.L. Horn, S.M. Flores, & G. Orfield's (Eds.) *Latino educational opportunity: New Directions for Community Colleges*. Jossey-Bass.
- Fry, R. (2004). Latino youth finishing college: The role of selective pathways. *Pew Hispanic Center*. Retrieved June 24, 2004 from the Pew Hispanic Center website: [www.pewhispanic.org](http://www.pewhispanic.org)
- Fry, R. (2005). Recent Changes in the Entry of Hispanic and White Youth into College. *Pew Hispanic Center*. Retrieved January 28, 2006 from the Pew Hispanic Center website: [www.pewhispanic.org](http://www.pewhispanic.org)
- Gándara, P. (1995). *Over the ivy wall: The educational mobility of low-income Chicanos*. Albany: State University of New York Press.
- Gándara, P. (1998). Capturing Latino students in the academic pipeline. *California Policy Seminar Brief Series*, 10(3). Berkeley: University of California Latino/Latina Policy Research Program.
- Gándara, P. (2002). A study of high school Puente: What we have learned about preparing Latino youth for postsecondary education. *Educational Policy*, 16(4), 474-495.

- Gándara, P. (2005). Addressing educational inequities for Latino students: The politics of “forgetting.” *Journal of Hispanic Higher Education*, 4(3), 295-313.
- Gándara, P., & Bial, D. (2001). *Paving the way to postsecondary education: K-12 intervention programs for underrepresented youth*. Washington, DC: National Center for Educational Statistics.
- Gándara, P., & Chávez, L. (2003). Putting the cart before the horse: Latinos in higher education. In D. López & A. Jiménez’s (Eds.), *Latinos and public policy in California: An agenda for opportunity*. Berkeley: Regents of the University of California.
- Gloria, A.M., Castellanos, J., Lopez, A.G., & Rosales, R. (2005). An Examination of Academic Nonpersistence Decisions of Latino Undergraduates. *Hispanic Journal of Behavioral Sciences*, 27(2), 202-223.
- Goldenberg, C., Gallimore, R., Reese, L., & Garnier, H. (2001). Cause or effect? A longitudinal study of immigrant Latino parents aspirations and expectations, and their children’s school performance. *American Educational Research Journal*, 38, 547-582.
- Gonzalez, K. P., Stoner, C., & Jovel, J. (2003). Examining the role of social capital in access to college for Latinas: Toward a college opportunity framework. *Journal of Hispanic Higher Education*, 2, 146-170.
- Grimes, S.K., & David, K.C. (1998). Under prepared community college students: Implications of attitudinal and experiential differences. *Community College Review*, 27(2), 73-92.
- Hamrick, F., & Stage, F.K. (1998). High minority enrollment, high school lunch rates: Predisposition to college. *Review of Higher Education*, 21(4), 343-357.
- Horn, C.L., & Flores, S.M. (2003). *Percent Plans in College Admissions: A Comparative Analysis of Three States’ Experiences*. Cambridge, MA: The Civil Rights Project at Harvard University.
- Hossler, D., Schmit, J., & Vesper, N. (1999). *Going to college: How social, economic, and educational factors influence the decisions students make*. Baltimore: Johns Hopkins University Press.
- Hossler, D., & Stage, F.K. (1992). Family and high school experience influences on the post secondary educational plans of ninth-grade students. *American Education Research Journal*, 29(2), 425-451.
- Hu, S., & St. John, E.P. (2001). Student persistence in a public higher education system: Understanding racial and ethnic differences. *Journal of Higher Education*, 72 (3), 265-286.

- Hurtado, S. (1992). The campus racial climate: Contexts for conflict. *The Journal of Higher Education*, 63(5), 539-569.
- Hurtado, S. (1994). The institutional climate for talented Latino students. *Research in Higher Education*, 35(1), 21-41.
- Hurtado, S., & Carter, D.F. (1997). Effects of college transition and perceptions of the campus racial climate on Latino college students' sense of belonging. *Sociology of Education*, 70, 324-435.
- Hurtado, S., Carter, D.F., & Spuler, A. (1996). Latino student transition to college: Assessing difficulties and factors in successful college adjustment. *Research in Higher Education*, 37, 135-157.
- Hurtado, S., & Kamimura, M. (2004). Latina/o retention in four-year institutions. In J. Castellanos and L. Jones' (Eds.) *The majority in the minority*. Stylus Publishers.
- Hurtado, S., Inkelas, K.K., Briggs, C., & Rhee, B. (1997). Differences in college access and choice among racial/ethnic groups: Identifying continuing barriers. *Research in Higher Education*, 38(1), 43-64.
- Hurtado, S., & Ponjuan, L. (2005). Latino educational outcomes and the campus climate. *Journal of Hispanic Higher Education*, 4(3), 235-251.
- Immerwahr, J. (2003). *With Diploma in Hand: Hispanic High School Seniors Talk About Their Future*. San Jose, CA: National Center for Public Policy and Higher Education.
- Laden, B.V. (2004). Hispanic Serving Institutions: What are they? Where are they? *Community College Journal of Research and Practice*, 28, 181-198.
- Llagas, C., & Snyder, T.D. (2003). Status and trends in the education of Hispanics. Washington D. C.: U.S. Department of Education, National Center for Educational Statistics. (NCES 2003-008).
- Longerbeam, S.D., Sedlacek, W.E., & Alatorre, H.M. (2004). In their own voices: Latino student retention. *NASPA Journal*, 41 (3), 538-550.
- Marks, J.L. (2001, June). *SREB fact book on higher education*. Atlanta, GA: Southern Regional Education Board.
- McDonough, P. (1997). *Choosing colleges: How social class and schools structure opportunity*. Albany: State University of New York Press.
- Montiel, A. (2002). The recruitment of work-bound, at-risk Hispanic high school students by Texas community colleges. *Journal of Hispanic Higher Education*, 1(4), 338-350.

- Mulnix, M.W., Bowden, R.G., & Lopez, E.E. (2002). A brief examination of institutional advancement activities at Hispanic Serving Institutions. *Journal of Hispanic Higher Education*, 1(2), 174-190.
- National Immigration Law Center (2005). *Basic facts about in-state tuition for undocumented immigrant students*. Los Angeles, CA: National Immigration Law Center. Retrieved from [http://www.nilc.org/immlawpolicy/DREAM/in-state\\_tuition\\_basicfacts\\_052405\\_rev.pdf](http://www.nilc.org/immlawpolicy/DREAM/in-state_tuition_basicfacts_052405_rev.pdf)
- National Research Council (2006). *Multiple Origins, Uncertain Destinies: Hispanics and the American Future*. Panel of Hispanics in the United States. Committee on Population, Division of Behavioral, and Social Sciences and Education. Washington: DC. The National Academies Press.
- Nora, A. (1987). Determinants of retention among Chicano college students: A structural model. *Research in Higher Education*, 26(1), 31-59.
- Nora, A. (2002). A theoretical and practical view of student adjustment and academic achievement. In W. Tierney and L Hagedorn's (Eds.), *Increasing access to college: Extending possibilities for all students*. State University of New York Press: Albany.
- Nora, A. (2004a). The role of *habitus* and cultural capital in choosing a college, transitioning from high school to higher education, and persisting in college among minority and non-minority students. *Journal of Hispanic Higher Education*, 3(2), 180-208.
- Nora, A. (2004b). Access to higher education for Hispanic students: Real or Illusory? In J. Castellanos and L. Jones (Eds.) *The majority in the minority*. Stylus.
- Nora, A., Barlow, L. & Crisp, G. (2005). An assessment of Hispanic students in four-year institutions of higher education. In J. Castellanos, A. M. Gloria, and M. Kamimura's (Eds.) *The Latina/o Pathway to the Ph.D.* Stylus Publishing, LLC.
- Nora, A. & Cabrera, A.F. (1993). The construct validity of institutional commitment: A confirmatory factor analysis. *Research in Higher Education*, 34(2), 243-262.
- Nora, A. & Cabrera, A.F. (1996). The role of perceptions of prejudice and discrimination on the adjustment of minority students to college. *Journal of Higher Education*, 67 (2), 120-148.
- Nora, A., Cabrera, A.F., Hagedorn, L.S., & Pascarella, E.T. (1996). Differential impacts of academic and social experiences on college-related behavioral outcomes across different ethnic and gender groups at four-year institutions. *Research in Higher Education*, 37 (4), 427-451.
- Nora, A., & Crisp, G. (*in press*). Mentoring students: Conceptualizing and validating the multi-dimensions of a support system. *Journal of College Student Retention: Theory and Practice*.

- Nora, A., Castaneda, M.B., & Cabrera, A.F. (1992). *Student persistence: The testing of a comprehensive structural model of retention*. Paper presented at the annual conference of the Association for the Study of Higher Education, Minneapolis, MN.
- Nora, A., & Lang, D. (undated). *Precollege psychosocial factors related to persistence*. Unpublished manuscript, University of Houston, Houston, TX.
- Nora, A., Kraemer, B., & Hagedorn, L. (November, 1997). *Persistence among non-traditional Hispanic college students: A causal model*. Paper presented at the annual meeting of the Association for the Study of Higher Education, Albuquerque, New Mexico.
- Nora, A., & Oliva, M. (2004). College Access and the K-16 Pipeline: Connecting Policy and Practice for Latino Student Success. *Journal of Hispanic Higher Education*, 3(2), 117-124.
- Nora, A., Rendon, L.I., & Cuadraz, G. (1999). Access, choice, and outcomes: A profile of Hispanic students in higher education. In A. Tashakkori and H.S. Ochoa's (Eds.), *Readings on Equal Education: Education of Hispanics in the U.S.: Policies, practices and outcomes* (Vol. 16). AMS Press, Inc: New York.
- Nora, A., & Wedham, E. (April, 1991). *Off-campus experiences: The pull factors affecting freshman-year attrition on a commuter campus*. Paper presented at the annual meeting of the American Educational Research Association, Chicago: IL.
- Olivas, M.A. (2004). IIRIRA, the dream act, and undocumented college student residency. *Journal of College and University Law*. 30. J.C. & U.L. 435.
- Ornelas, A., & Solórzano, D. (2004). The transfer condition of Latina/o community college students in California: Policy recommendations and solutions. *Community College Journal of Research and Practice*, 28, 233-248.
- Quintana, S.M., Vogel M.C., & Ybarra, V.C. (1991). Meta-analysis of Latino students' adjustment in higher education. *Hispanic Journal of Behavioral Sciences*, 13(2), 258-283.
- Perna, L.W. (2000). Differences in the decision to attend college among African Americans, Hispanics, and Whites. *The Journal of Higher Education*, 71(2), 117-141.
- Perna, L.W., & Titus, M.A. (2005). The relationship between parental involvement as social capital and college enrollment: An examination of racial/ethnic group differences. *The Journal of Higher Education*, 76(5), 485-518.
- Pew Hispanic Center. (2005). *Hispanics: A People in Motion*. Washington, D.C.: Pew Hispanic Center.

- President's Advisory Commission on Educational Excellence for Hispanic Americans. (2002). *The Road to a College Diploma: The Complex Reality of Raising Educational Achievement for Hispanics in the United States*. Washington, D. C.
- Puente Project. (2006). The Puente Project homepage. Retrieved at: <http://www.puente.net/>
- Rendon, L.I. (1994). Validating culturally diverse students: Toward a new model of learning and student development. *Innovative Higher Education*, 19(1), 23-32.
- Rendon, L.I., & Hope, R.O. (1996). *Educating a new majority: Transforming America's educational system for diversity*. San Francisco: Jossey-Bass.
- Rendon, L., & Taylor, M. (1990). Hispanic students: Action for access. *Community, Technical, and Junior College Journal*, 60(3), 19-22.
- Saenz, V.B. (2002). Hispanic students and community colleges: A critical point for intervention. University of California, Los Angeles: ERIC Digest.
- Sanchez, J., Marder, F., Berry, R., & Ross, H. (1992). Dropping out: Hispanic students, attrition and the family. *College and University*, 67, 145-150.
- Santiago, D.A., Andrade, S.J., & Brown, S.E. 2004. *Latino student success at Hispanic-serving institutions*. Washington, D.C.: Excelencia in Education, Inc. Retrieved from <http://www.cierp.utep.edu/projects/lss/pbrief.pdf>
- Santiago, D.A., & Brown, S. (2004). *Federal policy and Latinos in higher education*. Washington, D.C.: Pew Hispanic Center.
- Santiago, D.A., & Cunningham, A.F. (2005). *How Latino students pay for college: Patterns in financial aid in 2003-04*. Washington, D.C.: Excelencia in Education, Institute for Higher Education Policy.
- Solorzano, D.G., Villalpando, O., & Oseguera, L. (2005). Educational inequities and Latina/o undergraduate students in the United States: A critical race analysis of their educational progress. *Journal of Hispanic Higher Education*, 4(3), 272-294.
- Stampen, J.O., & Cabrera, A.F. (1988). Is the student aid system achieving its objectives: Evidence on targeting and attrition. *Economics of Education Review*, 7, 29-46.
- Swail, W.S., Cabrera, A.F., Lee, C., & Williams, A. (2005). *Latino students and the educational pipeline*. Washington, D.C.: Educational Policy Institute.
- Tienda, M. (2001). *College Admission Policies and the Educational Pipeline: Implications for Medical and Health Professions*. Princeton, New Jersey: Texas Higher Education Opportunity Project at Princeton University.

- Tienda, M., Leicht, K., Sullivan, T., Maltese, M., & Lloyd, K. (2003). *Closing the gap?: Admissions and enrollments at the Texas public flagships before and after affirmative action*. Princeton, NJ: Texas Top 10 % Project.
- Tierney, W.G., Corwin, Z.B., & Colyar, J.E. (Eds.). (2004). *From high school to college: Evaluating access*. Albany, NY: SUNY Press.
- U.S. Department of Commerce (2001). *Bureau of the Census, The Hispanic Population in the United States*. Washington: D.C.
- U.S. Department of Education. (1998). *Fact sheet: Title III institutions*. Washington, DC: Government Printing Office.
- U.S. Department of Education. (2005). *Title V Developing Hispanic-Serving Institution Programs*. Retrieved from <http://www.ed.gov/programs/idueshsi/definition.html>
- Venezia, A., Kirst, M.W., & Antonio, A. (2003). *Betraying the college dream: How disconnected K-12 and postsecondary education systems undermine student aspirations*. Stanford, Connecticut: The Bridge Project.
- Zamani, E.M. (2001). Institutional responses to barriers of the transfer process. *New Directions for Community Colleges*, 114, 15-24.