Ensuring Latina/o College Student Success: A Data-Driven Approach

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Abstract

Many colleges and universities are trying to understand the factors that contribute to Latina/o college student success. San Diego State University (SDSU) has been recognized by The Education Trust Report (2012) for having the highest increase in graduation rates, but most importantly, comparably to White students, increasing the graduation rates for African American and Latina/o students. This article illustrates how SDSU analyzed potential factors contributing to Latina/o college student success for first time freshmen using three years of longitudinal cohort databases. A particular focus was given to first generation Latina/o college entering freshmen with basic developmental needs in writing and/or math. Logistic regression analysis was used to assess the predictive validity of various factors on Latina/o college student success. The findings are discussed in terms of how data collection, research, and assessment can inform policy and develop campus programs.

According to recent national projections, the number of Latina/o students in the K–12 pipeline is expected to increase. The U.S. Census Bureau projects that the Latina/o school age population will grow by 166 percent by 2050 compared to an expected 4 percent growth among non-Latina/o school age children (Jenkins 2009). These students will be graduating high school and ready to enter college or the work force by 2020.

As the number of Latina/o students in the K–12 pipeline increases, more are aspiring to obtain a college degree. Unfortunately, most are not college ready. Since 2005, we have seen a 60 percent increase in the number of Latina/o students taking the ACT exam (ACT, Inc. 2009). However, of the Latina/o high students who took the ACT from 2007 to 2009, only 10 percent demonstrated college readiness in all four of the test subject areas (Blankenship 2010). In addition to being non-college ready, many Latina/o students enter college with financial need (Olivas 1997) and are the first in their family to attend college. Moreover, most Latina/o public school students (84 percent) were born in the United States, yet 70 percent speak a language other than English at home and nearly half (44 percent) of first-generation students speak English with difficulty, compared to 20 percent of second-generation students and 5 percent of the third and higher generation (Jenkins 2009). Other trends show a majority of Latina/o students choose to enroll at community colleges (Crisp and Nora 2010) and urban public universities (Oseguera, Locks, and Vega 2009). According to the Hispanic Association of Colleges and Universities, educating the workforce of tomorrow is a national imperative. By 2025, Hispanics will represent one of every two new workers entering the U.S. labor force. Therefore, it is critical for colleges and

universities to understand and identify those factors that contribute to and accelerate Latina/o college student success.

Given the national trends previously described, it's not surprising to see many colleges and universities spending more time and resources in trying to understand the factors that contribute to Latina/o college student success. Even at San Diego State University (SDSU), which has been recognized by The Education Trust (2012) for having the highest increase in graduation rates especially for African American and Latina/o students, there is still a need to further examine Latina/o college student success indicators. Thus, the purpose of this article is to describe the results of a recent study conducted at SDSU that assessed key factors affecting Latina/o college student success and more importantly, how these results informed policy and contributed to the development of campus programs.

In the literature review section, we will first explore recent research related to Latina/o college student success. Next, we will outline our use of social, cultural, economic, and human forms of capital as the basis of forming a conceptual framework in understanding factors influencing Latina/o college student success. In our approach and methodology sections, we will describe the institutional factors and success indicators that were evaluated using logistic regression for a subset of our Latina/o student population, in particular, those who were high risk (non-college ready and first to attend college). Finally, we will discuss the implications as it relates to particular policy decisions that were made and specific programs that were developed as a result of our research.

Literature Review

A growing number of studies have focused on various factors that affect Latina/o student performance and retention. Cabrera, Nora, and Castaneda (1993) found that adequate financial aid reduces the stress experienced by Latina/o students, enabling them to focus on their academic responsibilities. Nora and Wedham (1991) describe "pull factors," such as familial responsibilities, commuting, and other off-campus obligations that affect their drive toward completing a college education. Other factors that have been identified as impacting Latina/o college student success include navigating between two cultures (Torres 2006), culture shock (Castellanos and Jones 2003), cultural congruity (Gloria and Kurpius 1996), and a sense of belonging (Hurtado and Carter 1997).

In a more recent study, Cerna, Perez, and Saenz (2009) drew from prior research that had defined various forms of social and cultural capital (Nora 2004; Perna 2000) and human and economic capital (Coleman 1988; Perna and Titus 2005).

- Social capital was defined as the relationships students have with key figures who may provide them access to resources and knowledge pertinent to college enrollment and degree attainment.

- Cultural capital was defined as students' perceptions, aspirations, and cultural values related to college choices.

- Human capital reflected an individual's abilities and educational achievement based on performance measures.

- Economic capital reflected a student's financial conditions.

Cerna, Perez, and Saenz (2009) used these concepts as a framework to examine the precollege values, aspirations, and relationships of Latina/o college graduates. Their findings suggested that particular forms of capital, such as human capital (for example, high school GPA, opportunity to attend a highly selective university), act as key predictors to Latina/o college degree attainment. The authors also speculated that other precollege social and cultural capital measures also might serve as significant influences. For instance, some Latina/o pre-college students said they anticipated participating in certain activities once in college (student protests, community service, and/or religious activities). This predisposition to engage in socio-culturally meaningful experiences might lead them to seek out their niche, reinforcing their sense of belonging while also introducing them to relationships (social capital) with others sharing the same interests and values (cultural capital). And this accumulation of capital might better equip them to persist until graduation.

Conceptual Framework

In keeping with the findings of Cerna, Perez, and Saenz (2009) and others (Nora 2004; Perna 2000; Coleman 1988; and Perna and Titus 2005), the present study uses social, cultural, economic, and human forms of capital as a framework for examining factors affecting Latina/o college student success. Previous studies using social and cultural capital theory to explain the college student experience have focused on students' precollege values and aspirations (Cerna, Perez, and Saenz 2009), decision to attend college (Perna and Titus 2005), or their transition from high school into college (Nora 2004). Given the research supporting the value of capital in enhancing the college student experience, the purpose of this study is to examine the impact that certain institutional factors have on providing college students access to various forms of capital, which, in turn, increases their likelihood of retention and eventual graduation.

While in high school, many Latina/o students have little or no access to the social and cultural capital that might positively affect their decision to attend college (Perna and Titus 2005). But for those Latina/o students who have successfully graduated from high school and entered an institution of higher education, their access to the various forms of capital may depend on actions they take early in their college career. In other words, it is our contention that the actual choices Latina/o students make—such as living on campus, declaring a major, attending orientation, joining Greek organizations, enrolling in the Educational Opportunity Program (EOP), and applying for financial aid—may influence the amount of access they have to the appropriate types of capital necessary for them to succeed academically. Furthermore, we assume

that these choices are more critical for Latina/o students who matriculate with the least access to capital during their K–12 system experience.

Approach

In order to test our assumptions, we employed the following strategies: (1) Location—select an institution of higher education with a significant proportion of Latina/o students and an available longitudinal student database needed for analysis; (2) Targeted Population—identify for analysis a subset of Latina/o college students with the least amount of capital upon college matriculation; (3) Institutional Factors—identify several institutional factors assumed to provide students with access to various forms of capital and thus to be potentially predictive of their academic success; and (4) Institutional Success Indicators—utilize five- and six-year graduation rates as our measures of student success. We describe each of the previous strategies in more detail below.

Location: A large Southern California urban university was selected for its critical mass of Latina/o students even though they made up only 26 percent of the student population (slightly below the required proportion to be considered a Hispanic Serving Institution). In addition to its critical mass of Latina/o students, the institution selected for the present study had longitudinal cohort databases available. Three separate cohorts of first-time Latina/o freshmen entering in fall 2005 (N = 827), fall 2006 (N = 1,150), and fall 2007 (N = 1,298) were utilized. We identified two benefits to our having access to this longitudinal data. First, we were able to track each cohort over time in order to determine actual graduation rates along with academic standing and performance during the students' first year of college. Second, in addition to the usual demographic information (for example, high school GPA, SAT scores, financial aid profile, gender, and ethnicity), the longitudinal databases also included the extent to which students lived in the residence halls or participated in various programs and/or organizations such as EOP, new student orientation, or Greek organizations. Having the variables set up in this manner was critical in enabling us to perform the necessary logistic regressions described later in the study.

Targeted Population: Table 1 provides a demographic breakdown of the Latina/o population of first-time freshmen entering the institution in fall 2005, fall 2006, and fall 2007. As can be seen in Table 1, the Latina/o college students at this institution tend to reflect the national trends of Latina/o students as earlier described. For example, the Latina/o population increased from 827 first-time freshmen in fall 2005 to 1,298 first-time freshmen in fall 2007. Furthermore, the number of non-college-ready Latina/o students increased from 450 (fall 2005) to 812 (fall 2007), while those choosing to live on campus their first year also increased from 381 (fall 2005) to 464 (fall 2007). Finally, compared to other ethnic groups, the Latina/o first-time freshmen at this institution had the highest proportion of first-generation students (around 40 percent).

Table 1. Demographics

	Fall 2005 Cohort		Fall 2006 Cohort		Fall 2007 Cohort	
	N	%	N	%	N	%
FIRST-TIME FRESHMEN (FTF)						
Cohort Enrollment						
Latino	827	20.4%	1,150	22.5%	1,298	23.3%
Non-Latino	3,236	79.6%	3,953	77.5%	4,272	76.7%
Total	4,063	100.0%	5,103	100.0%	5,570	100.0%
FTF LATINO DEMOGRAPHICS						
Residence Status						
Non-Resident	446	53.9%	779	67.7%	834	64.3%
Resident	381	46.1%	371	32.3%	464	35.7%
Gender						
Female	520	62.9%	696	60.5%	801	61.7%
Male	307	37.1%	454	39.5%	497	38.3%
College Readiness						
Non-College Ready	450	54.4%	732	63.7%	812	62.6%
College Ready	377	45.6%	418	36.3%	486	37.4%
Generation Status						
First Generation	320	39.8%	450	40.3%	522	41.4%
Non-First Generation	484	60.2%	666	59.7%	738	58.6%

Although Latina/o students as defined in the present study represent a large diverse group in terms of geography, history, and culture, we can't assume a uniform degree of access to social, cultural, economic, and human capital for all Latina/o students. Therefore, our goal was to identify for a more meaningful analysis, a subset of the Latina/o student population that could be defined as having the least access to forms of capital relative to other Latina/o students. According to studies examining national educational trends, a significant proportion of college-going Latina/o students are the first in their family to attend college (Olivas 1997) and academically are not college ready (Blankenship 2010). In other words, first-generation college status and college readiness status are two significant characteristics impacting Latina/o college students. Research findings on first-generation college students suggest they are at a disadvantage because they lack the necessary social and cultural capital needed to navigate the college environment (Crisp and Nora 2010; Berger 2000). Studies on Latina/o students also provide evidence supporting this notion (Longerbeam, Sedlacek, and Altorre 2004; Pascarella et al. 2003). Furthermore, students who are non-college ready reflect their limited level of academic preparation and are defined by researchers as lacking the human capital necessary for college success (Cerna, Perez, and Saenz 2009; Perna and Titus 2005).

For the present study, we defined the subset of Latina/o college students as those with the least amount of access to capital who are also first generation and non-college ready; these students we labeled as High Risk. On the other end of the continuum are the Latina/o college students who are non-first generation and who are college ready. Relative to the High Risk Latinas/os, these students are assumed to have the most access to capital and are thus labeled here as Low Risk. Finally, in between are two other subsets: High Medium Risk (non-first generation and non-college ready) and Low Medium Risk (first generation and college ready). Together, these four subsets make up our College Risk Factor Matrix, which is shown in Figure 1.

Figure 1. College Risk Factor Matrix
Latina/o First-Time Freshmen

	Non-College Ready	College Ready
First Generation	**High Risk**	**Low Medium Risk**
	Fall 2005 (N = 201 or 24.3%)*	Fall 2005 (N = 119 or 14.4%)*
	Fall 2006 (N = 338 or 29.4%)**	Fall 2006 (N = 112 or 9.7%)**
	Fall 2007 (N = 369 or 28.4%)***	Fall 2007 (N = 153 or 11.8%)***
Non-First Generation	**High Medium Risk**	**Low Risk**
	Fall 2005 (N = 217 or 26.2%)*	Fall 2005 (N = 267 or 32.3%)*
	Fall 2006 (N = 346 or 30.1%)**	Fall 2006 (N = 320 or 27.8%)**
	Fall 2007 (N = 388 or 29.9%)***	Fall 2007 (N = 350 or 27.0%)***

** Percent of total cohort (N = 827); fall 2005 Latina/o first-time freshmen.*
*** Percent of total cohort (N = 1,150); fall 2006 Latina/o first-time freshmen.*
**** Percent of total cohort (N = 1,298); fall 2007 Latina/o first-time freshmen.*

Once the four subsets of the College Risk Factor Matrix were defined, Latina/o first-time freshmen from the selected institution were then grouped accordingly. Figure 1 shows the distribution of Latina/o students within the four risk factor subsets for each of the three longitudinal cohorts. As can be seen, the Latina/o students were evenly distributed (about 25 to 30 percent per group) across three of the four risk factor subsets; high risk, high medium risk, and low risk. Only 12 percent of the Latina/o students were defined as low medium risk students.

Overall, the data in Figure 1 reflects the diversity among Latina/o students in the present study, particularly as it pertains to first-generation status and college readiness. However, since the goal of the present study was to identify Latina/o students with the least amount of access to various forms of capital, it should be noted that only the High Risk Latina/o first-time freshmen were used in the analysis.

Although the College Risk Factor Matrix conceptually defines the degree of social, cultural, and human capital to which Latina/o students have access, it does not take into consideration economic capital—another important form of capital relevant to college student success (Cerna, Perez, and Saenz. 2009; Perna and Titus, 2005).

However, previous studies have shown that first-generation college students also tend to come from low-income families, thereby lacking economic capital (Engle 2007; Pascarella et al. 2004). Thus, it can be assumed that the first-generation college students in the present study defined as High Risk and Low Medium Risk would have less access to economic capital than the non-first generation students defined as Low Risk and High Medium Risk. In order to further validate this assumption, we computed the average family income for each of the four risk factor subsets; see Figure 2. As expected, the data shows the average family income for the first-generation students (top row: High Risk and Low Medium Risk) to be between $40,000 and $50,000, while the average family income was much higher for the non-first-generation students (bottom row: High Medium Risk and Low Risk) ranging from $61,000 to as high as $95,000. Thus, previous research suggesting a link between first-generation college students and low income is supported. Moreover, the results suggest that college generational status drives family income.

Figure 2. College Risk Factor Matrix
Latina/o First-time Freshmen –
Average Family Income and SAT Composite Score

	Non-College Ready	**College Ready**
First Generation	**High Risk** **Average Family Income**	**Low Medium Risk** **Average Family Income**
	Fall 2005: Mean = 40,039 SD = 27,294, N = 183	Fall 2005: Mean = 48,156 SD = 33,374, N = 111
	Fall 2006: Mean = 39,539 SD = 25,637, N = 315	Fall 2006: Mean = 48,567 SD = 33,537, N = 99
	Fall 2007: Mean = 39,540 SD = 25,128, N = 349	Fall 2007: Mean = 52,764 SD = 35,457, N = 139
	Average SAT Composite Score	
	Fall 2005: Mean = 893 SD = 104, N = 201	Fall 2005: Mean = 1075 SD = 105, N = 119
	Fall 2006: Mean = 870 SD = 110, N = 331	Fall 2006: Mean = 1059 SD = 98, N = 107
	Fall 2007: Mean = 869 SD = 114, N = 360	Fall 2007: Mean = 1074 SD = 106, N = 150
Non-First Generation	**High Medium Risk** **Average Family Income**	**Low Risk** **Average Family Income**
	Fall 2005: Mean = 61,376 SD = 47,535, N = 178	Fall 2005: Mean = 88,244 SD = 52,793, N = 204
	Fall 2006: Mean = 65,332 SD = 47,980, N = 274	Fall 2006: Mean = 90,959 SD = 60,596, N = 233

Fall 2007: Mean = 70,423 SD = 52,355, N = 311	Fall 2007: Mean = 95,657 SD = 68,355, N = 266
Average SAT Composite Score	
Fall 2005: Mean = 948 SD = 96, N = 217	Fall 2005: Mean = 1118 SD = 101, N = 267
Fall 2006: Mean = 911 SD = 107, N = 335	Fall 2006: Mean = 1092 SD = 100, N = 318
Fall 2007: Mean = 914 SD = 104, N = 377	Fall 2007: Mean = 1099 SD = 102, N = 341

Note: Due to the fact that a small number of students had no financial aid information available or did not take the SAT exam, the number of students per cohort will differ from the actual total listed in Figure 1.

The data in Figure 2 also shows the average SAT composite scores across the three cohorts for each of the risk factor subsets. As shown in Figure 2, the average SAT composite score for non-college-ready students (left column: High Risk and High Medium Risk) ranged between 869 and 948. In contrast, the average SAT composite scores for college-ready students (right column: Low Medium Risk and Low Risk) was much higher, ranging from as low as 1059 to as high as 1118. Therefore, in the same way that college generational status drives family income, college readiness status drives SAT composite performance.

Institutional Factors: Based on previous studies, we identified several factors that we believe, or that previous research has found, to positively impact the college student experience and/or success. Moreover, given our assumption that these factors provide students access to various forms of capital, we believe that they also have the potential to be predictive of college student success. Each factor is described below:

1. Pre-College Performance—High GPA and SAT/ACT, which reflect a student's human capital, are typically used in retention and graduation studies (Braxton, Sullivan, and Johnson 1997).

2. Financial Aid Profile—For the purposes of our study, the five-category financial variable was broken down into four separate binary (1 and 0) or dummy-coded predictor variables: (1) No Gift Aid and No Loans—students who applied for financial accepted no gift aid nor loans, (2) Gift Aid Only—students who accepted gift aid only, (3) Loans Only—students who accepted loans only, and (4) Gift Aid and Loans—students who accepted both gift aid and loans. It should be noted, that the category of students who did not apply for financial aid was the one category left out and thus not computed.

3. Gender—Although our primary focus is on institutional factors, Cerna, Perez, and Saenz (2009) also found significant differences between Latino (male) and Latina

(female) students in how they utilize various forms of capital. Thus, we chose to include this predictive factor in our analysis.

4. Declared Major—Students who enter college with a declared major are assumed to have earlier access to the academic department of their major, particularly with regard to academic advising and tutoring.

5. Orientation Status—Defined as whether or not a student attended the new student orientation, these events have become more intentional in providing students with the necessary resources to navigate the complex requirements of college

6. Campus Resident Status—Students who live on campus, as contrasted with those who commute from home, have access to more campus resources and engagement activities such as tutoring, learning communities, campus events, faculty, and staff.

7. Educational Opportunity Program (EOP) Status—Many Latina/o students qualify for EOP due to their financial status. EOP requires all of its students to meet regularly with their assigned counselor and to utilize tutoring services.

8. Greek Organization Status—Although a small percentage of Latina/o students join Greek organizations, those who do generally participate in Latina/o-based fraternities and sororities. These organizations can provide students with a sense of belonging.

9. First-Year Success Indicators—First-year college attrition represents approximately half of all attrition (Tinto 1993; Johnson 1994; Pattengale 2000; Wintre et al. 2006; Willcoxson, Cotter, and Joy 2011). Furthermore, as Tinto (1993) has pointed out, first-year students are the group at greatest risk of attrition from colleges and universities. For the present study, two first-year success variables were used as predictors: (1) First Semester Academic Probation Status—students who were not on academic probation after their first semester; and (2) First Year Retention—students who returned their sophomore year.

Institutional Success Indicators: We utilized the following success indicators:

1. Five-Year Graduation—Proportion of students who graduated within five years.

2. Six-Year Graduation—Proportion of students who graduated within six years.

Research Questions

As previously described, we identified several predictive factors that are assumed to afford High Risk Latina/o first-time college freshmen access to various forms of capital and thus, to be predictive of college student success. In order to test these assumptions, the following research questions were formed:

Research Question 1: For first-time High Risk Latina/o freshmen, what factors increase the likelihood of five-year graduation?

Research Question 2: For first-time High Risk Latina/o freshmen, what factors increase the likelihood of six-year graduation?

Methodology

Population: First-time High Risk (first-generation and non-college-ready) Latina/o freshmen students enrolled at a large Southern California urban university during the fall 2005 (N = 201), fall 2006 (N = 338), and fall 2007 (N = 339) semesters were included in the study.

Measures and Analytical Procedures: The dichotomous dependent measures utilized in our study are the two institutional success indicators previously described. The fourteen predictive (institutional) factors, also described, were used as the independent measures. Two multivariate (forward, Wald) logistic regression models (one for each dependent measure) were used to compare how the independent measures affected the degree of graduation differently for High Risk Latina/o first-time college freshmen. For logistic regression model 1 (five-year graduation), three equations were computed, one for each of the three cohorts: fall 2005—Model 1/Equation 1; fall 2006—Model 1/Equation 2; and fall 2007—Model 1/Equation 3. Since six-year graduation data were available for only two cohorts (fall 2005 and fall 2006), only two equations were computed for logistic regression model 2 (six-year graduation): fall 2005—Model 2/Equation 1 and fall 2006—Model 2/Equation 2. Table 2 lists the dependent and independent variables along with their respective coding schemes. The dependent measures and independent measures utilized for each of the five multivariate logistic regression models/equations are described in Table 3.

Table 2. Logistic Regression Variables

Success Indicators (Dependent Variables)	
Variable Name	**Coding Scheme**
Five-Year Graduation Rate	1 = Graduated within five years 0 = Did not graduate within five years
Six-Year Graduation Rate	1 = Graduated within six years 0 = Did not graduate within six years
Predictive Factors (Independent Variables)	
Variable Name	**Coding Scheme**
High School GPA	0.0 – 4.0 Scale
SAT Composite Score	400 – 1600 Scale
Accepted No Gift Aid and No Loans	1 = No Gift and No Loans, 0 = All Other

Accepted Gift Aid Only	1 = Gift Aid Only, 0 = All Other
Accepted Loans Only	1 = Loans Only, 0 = All Other
Accepted Gift Aid and Loans	1 = Gift Aid and Loans, 0 = All Other
Gender	1 = Female, 0 = Male
Declared Major	1 = Declared Major, 0 = Undeclared
New Student Orientation	1 = Attended Orientation, 0 = Did not attend Orientation
Campus Resident Status	1 = Lived on Campus, 0 = Lived off Campus
EOP Status	1 = EOP, 0 = Non-EOP
Greek Status	1 = Greek Member, 0 = Non-Greek Member
First Semester Academic Probation Status	1 = Not on probation, 0 = On probation (GPA below 2.0)
First-Year Retention	1 = Returned sophomore year, 0 = Did not return sophomore year

Table 3. Logistic Regression Equations

Model 1

Dependent Variable	**Independent Variables**	
5-Year Graduation Rate	(1) High School GPA	(8) Declared Major
	(2) SAT Composite	(9) New Student Orientation
	(3) No Gift Aid & No Loans	(10) Live On Campus Status
	(4) Gift Aid Only	(11) EOP Status
	(5) Loans Only	(12) Greek Organization Status
	(6) Gift Aid & Loans	(13) 1st Sem. Probation Status
	(7) Gender	(14) 1st Year Retention

Model 2

Dependent Variable	**Independent Variables**	
6-Year Graduation Rate	(1) High School GPA	(8) Declared Major
	(2) SAT Composite	(9) New Student Orientation
	(3) No Gift Aid & No Loans	(10) Live On Campus Status
	(4) Gift Aid Only	(11) EOP Status
	(5) Loans Only	(12) Greek Organization Status
	(6) Gift Aid & Loans	(13) 1st Sem. Probation Status
	(7) Gender	(14) 1st Year Retention

Results: Logistic Regression

Logistic regression results for both models (research questions 1 and 2) are listed in Table 4. The results are summarized here.

Table 4. Logistic Regression Equations Results

	Fall 2005 Cohort		Fall 2006 Cohort		Fall 2007 Cohort	
LOGISTIC REGRESSION RESULTS	**b**	**Exp (b)**	**b**	**Exp (b)**	**b**	**Exp (b)**
MODEL 1: Five-Year Graduation						
Significant Predictors:						
1. SAT Composite			0.004**	1.004	0.004*	1.004
2. Gift Aid Only			0.936**	2.550		
3. Gender			0.904**	2.469	0.927**	2.526
4. Attended Orientation			-1.000*	0.368		
5. Campus Residence Status	0.742*	2.101	1.148**	3.152	0.819*	2.269
6. Greek Status	1.611*	5.009	1.895**	6.651		
7. First Semester Academic Probation Status	1.899***	6.679	0.750*	2.116	1.121***	3.068
8. First-Year Retention	1.560**	4.759	2.712***	15.054	3.459***	31.777
Model Chi Square	57.288***		117.934***		153.765***	
Degrees of Freedom	4		8		5	
Nagelkerke R Square	.344		.424		.481	
MODEL 2: Six-Year Graduation						
Significant Predictors:						
1. Gender			0.552*	1.737		
2. Campus Residence Status	0.703*	2.020	0.739*	2.093		
3. Greek Status	1.687*	5.406				
4. First Semester Academic Probation Status	1.606***	4.983				
5. First-Year Retention	1.592**	4.911	3.068***	21.492		
Model Chi Square	65.951***		106.915***			
Degrees of Freedom	4		3			
Nagelkerke R Square	.374		.377			

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

Research Question 1: For first-time High Risk Latina/o freshmen, what factors increase the likelihood of five-year graduation?

Logistic regression model 1 tested the influence of the fourteen predictor variables on the likelihood of graduating within five years. Of the fourteen predictor variables, only three were found to be significantly predictive of five-year graduation across all three

of the high risk Latina/o first-time freshmen cohorts; Campus Residence Status, First Semester Probation Status, and First Year Retention.

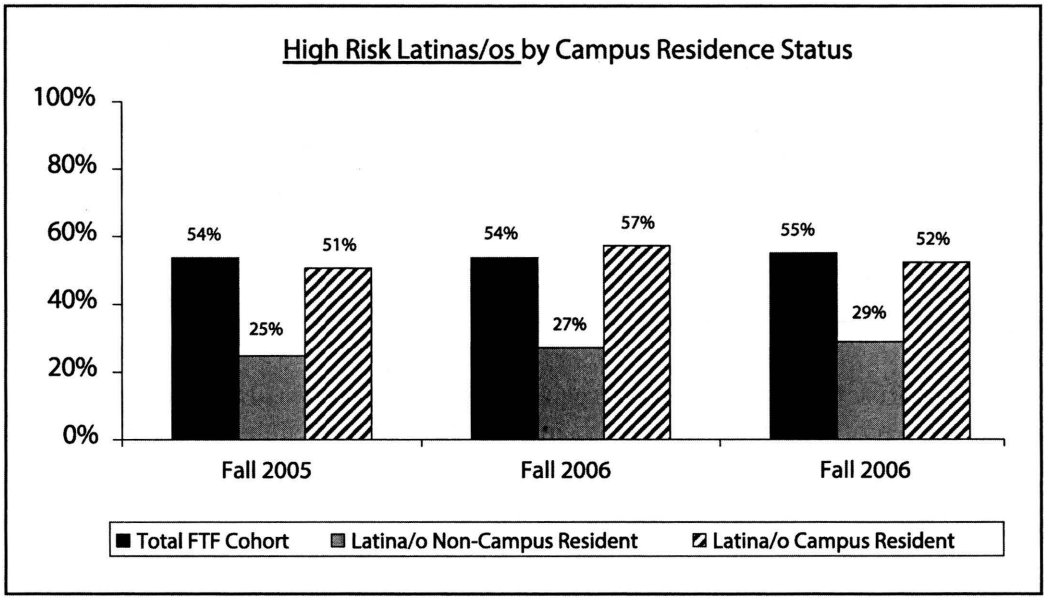
Research Question 2: For first-time High Risk Latina/o freshmen, what factors increase the likelihood of six-year graduation?

The influence of the fourteen predictor variables on the likelihood of graduating within six years was tested using logistic regression model 2. Results of the two regression equations showed that Campus Resident Status and First Year Retention were the only variables predictive of six-year graduation across the two high risk Latina/o first-time freshmen cohorts.

Discussion

The purpose of the present study was to assess the impact of several predictive factors that were assumed to provide access to social, cultural, economic, and human capital for first-time college freshmen, specifically, High Risk Latina/o students attending a large Southern California urban university. It was further assumed that these factors would also be predictive of various college graduation rates. Results of the multivariate logistic regression models showed that of all the predictive factors assessed, campus resident status, first semester probation status, and first year retention were consistently identified as significant predictors of five- and six-year graduation across the three sample cohorts. In other words, by living on campus their first year, not being on probation the first semester, and by returning their sophomore year, the High Risk Latina/o students in our study significantly increased their likelihood of academic success.

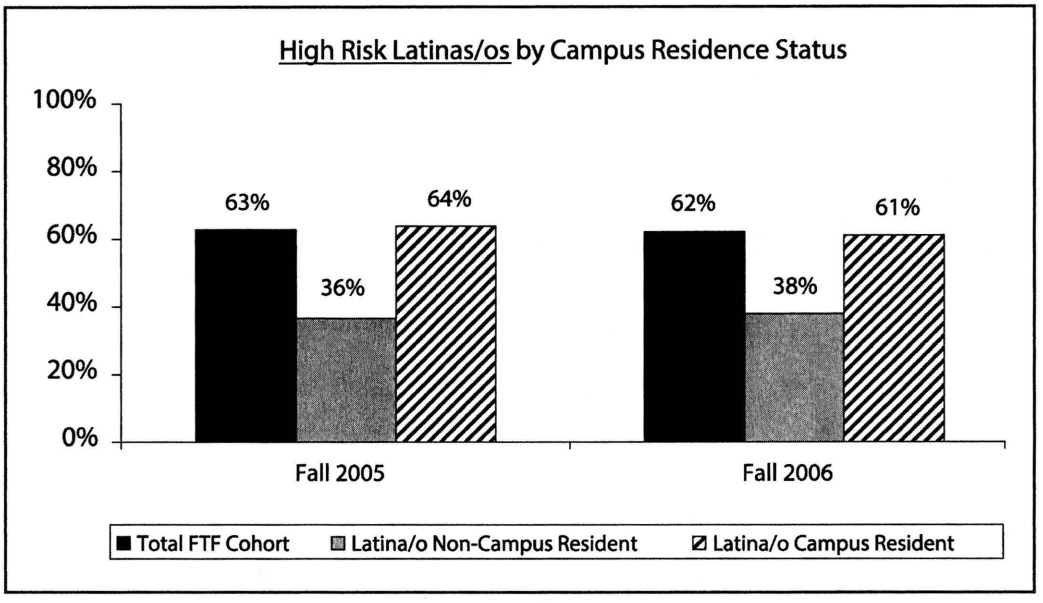
Figure 3. 5 Year Graduation (Percent Graduated in 5 Years)



Although the predictive strength of the first year success variables (First Semester Probation Status and First Year Retention) on graduation was not surprising, the predictive consistency of living on campus was potentially informative. Thus, we went back and looked at the graduation rates between high risk Latina/o students who lived on campus their first year and those who commuted. Figure 3 descriptively shows five-year graduation rates of the High Risk Latina/o students who lived on campus versus the High Risk Latina/o students who commuted during their first year of college. Six-year graduation rates are shown in Figure 4.

As can be seen in Figure 3, between 25 to 29 percent of the High Risk Latina/o students who commuted during their first year of college graduated in five years. In contrast, the five-year graduation rate for the High Risk Latina/o students living on campus was twice as high for the fall 2005 (51 percent) and fall 2006 (57 percent) cohorts and almost twice as high for the fall 2006 (52 percent) cohort. Similar to Figure 3, the chart in Figure 4 shows that the High Risk Latina/o students living on campus graduate in six years at almost twice the rate than the High Risk Latina/o students who commuted; fall 2005 (36 percent compared to 64 percent), fall 2006 (38 percent compared to 61 percent).

Figure 4. 6 Year Graduation (Percent Graduated in 6 Years)



Since High Risk Latina/o students are generally low-income, we also examined the financial aid profile to see if there were any differences between those who commuted and those who lived on campus. A majority of the High Risk Latina/o students who commuted accepted only Gift Aid (fall 2005—68.2 percent; fall 2006—60.4 percent; fall 2007—62.5 percent) as part of their financial aid profile, while most of the students who lived on campus accepted a combination of Gift Aid and Loans (fall 2005—59.4 percent; fall 2006—46.3 percent; fall 2007—44.0 percent). These data

suggest that: (1) even though most of these students qualify for gift aid, it is not enough to make living on campus affordable; and (2) students who choose to live on campus, do so with a combination of gift aid and loans, even though student debt aversion is more pronounced among Hispanics and Asians (Pope 2011).

Implications for Policy and Program Development

As the national conversation to ensure Latina/o college student success increases, urban colleges and universities are beginning to consider residence halls as a tool to better retain and graduate students who may be underprepared and overwhelmed by their transition to college (Oguntoyinbo 2011). The results of the present study provided us the evidence needed to support and promote the use of residence halls as an effective retention and graduation strategy specifically for High Risk Latina/o students who historically enter college with little or no personal access to the social, cultural, economic, and human forms of capital. Moreover, the data enabled us to focus on providing the capacity for these students and their families to consider living on campus as a viable option through outreach and access to resources.

In terms of outreach, we recently created a leadership position in Residential Education with the purpose of outreaching to the families of high risk students and making them aware of the benefits of living on campus. In addition, accurate and complete financial aid information was disseminated in such a way that college financing was seen as an investment as opposed to a cost. Through this process, we also discovered that many students and their families were not aware (or not told by the high school counselors) that the amount of gift aid awarded is increased when they choose to live on campus. In other words, by choosing to live on campus, their cost of attendance goes up and thus, so does their gift aid.

Convincing low-income, high-risk Latina/o students and their families to consider modest loans to make up for the gap between their gift aid and the cost of attendance may work in the short-term. However, we also realized that as the cost of higher education increases (through tuition and housing costs), the loan amount students would need to borrow to supplement their gift aid also will increase, thus increasing the gap between gift aid and the cost of attendance. In other words, each year, the growing cost of attendance is outpacing the total gift amount a student with an Expected Family Contribution (EFC) of zero would be eligible for. At this rate, even modest loans would not be enough to cover the gap, and given that many low-income families are loan aversive and/or have bad credit (Pope 2011) their students would have no choice but to commute. In the long term, providing access to other resources that can mitigate the cost of living on campus will be imperative if higher education leaders want to sustain an adequate proportion of low-income students enrolled at their respective institutions.

On the other side of the coin, the data also suggested that high risk Latina/o students who commuted from home their first year did not have the same experience or access to capital as their counterparts who lived on campus. In other words, commuting from

home itself is considered a risk factor, particularly due the push-pull factors (Nora and Wedham 1991). Furthermore, given that it's unrealistic to assume that all high risk Latina/o first-time freshmen would be able to live on campus, it was important for us to consider efforts aimed at providing commuting students the same quality experiences as their counterparts who live on campus. As a result, the Casa Azteca Commuter Learning Community was established, particularly for low-income, high-risk Latina/o students. Although, the Casa Azteca Commuter Learning Community is relatively new, the results of the fall 2011 semester look promising. Of the forty-four students enrolled in the program, only three (6.8 percent) were on academic probation after the first semester, with 86.4 percent returning their sophomore year, and they earned an average of 31.9 units their first year. This is remarkable considering the fact that students comparable to them were on probation at a 22 percent rate, with 81.5 percent returning their sophomore year, earning an average of 27.6 units their first year.

In general, the findings of the present study also created a campus-wide awareness of our commuter students and their needs. Consequently, a commuter lounge was added to the new student union, which is currently under construction. In addition, we have established campus discussions regarding the types of programming needed in such a space, whereby commuter students would have access to tutoring, writing assistance, leadership opportunities, and freshman year seminars/experiences geared toward commuter students and their issues. Finally, we are assessing the strategic use of faculty, staff, and administrators in the form of faculty/staff mentoring, student assistant/work study opportunities, and commuter learning communities, which would provide commuter students an opportunity for the same collegiate experience as their on-campus counterparts.

Limitations and Opportunities for Further Research

Although living on campus during the first year was found to be a predictive factor for graduation among Latina/o students, the present study specifically focused on first-generation, non-college ready Latina/o first-time freshmen at a single institution. Thus, caution should be used when considering these results.

From a quantitative perspective, the results of the present study suggest that high risk Latina/o first-time freshmen who live on campus during their first year are more likely to have an academically successful experience than those who commuted. As mentioned earlier, we believe that by living on campus, students have access to more forms of capital, which leads to student success. However, in order to gain a better understanding of how forms of capital and other aspects of living on campus contribute to academic success, a qualitative study (for example, focus groups or structured interviews) would be instrumental. Also, further research examining factors predictive of successful graduation for all Latina/o students and other ethnic groups across multiple institutions would be warranted.

Finally, the predictive factors utilized in the present study reflected only the first year of college. Further research is needed to examine the degree to which other factors that

occur beyond the first year (for example, study abroad, internships, and undergraduate research) contribute to student success.

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