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For-profit Colleges and Universities and the Latina/o Students Who Enroll in Them

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Abstract

While for-profit institutions continue to enroll large numbers of students, less is known about the for-profit institution itself, the reasons for its proliferation, or even students' impetus for selecting for-profit options over not-for-profit options, specifically among the Latina/o population; a group overrepresented on for-profit college campuses. This manuscript presents an overview of for-profits followed by insights into Latina/o pathways to postsecondary education using data from the Educational Longitudinal Study (ELS) 2002-2006 panel, collected for the National Center for Education Statistics (NCES).

Introduction

Today's prospective college student faces a variety of college options. Among these options is the attractiveness of for-profit colleges and universities (FPCU's) that advertise flexible hours, rapid time-to-degrees, and job placement upon graduation. For-profit postsecondary institutions, also referred to as private career schools and proprietary schools, have been known as institutions that provide mostly occupational, vocational and trade training for post-high school students (Apling, 1993; Zamani-Gallaher, 2004). Historically, for-profit institutions offered credentials such as diplomas and certificates within certain vocational and trade fields but more recently, these institutions have expanded their services by offering higher education degrees, which include associate, baccalaureate, masters, and doctoral degrees. While for-profit institutions continue to enroll large numbers of students, less is known about the for-profit institution itself, the reasons for this growth, or even students' impetus for selecting for-profit options over not-for-profit options, specifically among the Latina/o population; a group overrepresented on for-profit college campuses (Levesque et al., 2008). As such, this manuscript presents an overview of for-profits followed by insights into Latina/o pathways to postsecondary education using data from the Educational Longitudinal Study (ELS) 2002-2006 panel, collected for the National Center for Education Statistics (NCES). The guiding questions for this study are: What are the characteristics of Latina/o students who pursue for-profit college destinations? What factors predict Latina/o students' enrollment in for-profit colleges?

Background and Historical Overview

For-profit postsecondary institutions generally speaking are businesses that prepare graduates for jobs and career advancement. Private career schools should not be confused with corporate education (that is private corporate universities) which provide non-collegiate and

collegiate courses that may be collegiate generating (Allen, 2002; Nash & Hawthorne, 1988). For-profit institutions generally offer a focused range of programs that are limited to high-demand occupational or professional fields. Programs are typically accelerated and provide "hands-on" training. Classes are small and are scheduled at times considered to be convenient times for the clients they serve. Typically, for-profit institutions consider their students to be "customers" therefore they focus on resources that provide an array of student services and measure their success through program retention and completion rates, and job placement rates.

In the United States, the Vocational Act of 1917 marked the first piece of federal legislation designed to support occupational and career education (Ruch, 2001). During the formative years of the industrial era, many privately owned commerce schools responded to the needs of the changing economy (Lee & Merisotis, 1990). As career education differed greatly from the classical course of study offered by most early American colleges and universities, for-profit career education schools thought of this curriculum as overly restrictive and sought to provide a course of study and credentials that offered "practical issues" while filling the needs of a rapidly changing and growing industry (Zamani-Gallaher, 2004).

Federal funding has served as an impetus for growth and popularity for these institutions. For-profit institutions gained a great deal of popularity and legitimacy during the 1940s with the passage of the GI Bill, granting more postsecondary access for working class students (Zamani-Gallaher, 2004). Since this time, the reputation of proprietary schools decreased in part because of changes in federal regulations for student aid programs (St. John, Starkey, Paulsen, Mbaduagha, 1995). In the 1970s, high loan default rates plagued private for-profit institutions. While 80% of for-profit school students were receiving federal financial aid, some default rates approached 50% (Goodwin, 1991). The reputation of proprietary schools as abusing federal

financial aid and carrying out deceptive student aid practices has stigmatized these institutions within the higher education community (Lee, 1996, Zamani-Gallaher, 2004). In an effort to remedy the loan default rates, access to federal funds was reduced in the 1990s (Lee, 1996). As Selingo (1999) notes, over time the reputation of proprietary schools has improved; the 1998 set of federal provisions for the first time treated private, for-profit institutions as equals to forms of higher education.

Growth of For-Profit Colleges and Universities

Recently there has been a rapid increase in for-profit enrollment, at least when compared to that of traditional colleges and universities (Tierney & Hentschke, 2007). Of the 9,485 postsecondary institutions in the United States today, about 47% are organized as for-profit schools (Tierney & Hentschke, 2007). Despite this large share proportion, FPCU's are still less visible than traditional colleges and universities due to their enrollment (less than 5% of postsecondary student population) and because their campuses tend to be small in size (Kinser, 2005, 2007; Tierney & Hentscke, 2007). However, FPCUs are also the fastest-growing segment of the PSE market. Between 1998-2003, for-profit enrollment increased 80% in less-than four-year programs and 91% in degree-granting institutions (Tierney & Hentschke, 2007).

While FPCUs have had a long history in U.S. higher education, their rapid growth in recent years can be interpreted as a response to several changes occurring. According to Tierney & Hentschke (2007), with the population growth overall, there is an increased demand of postsecondary education and training. Additionally, these authors note that other factors have contributed to this rapid growth: FPCUs are able to focus on flexibility and adaptability to changes in the labor market by expanding programs high in employment demand; they have access to investment capital; they have been successful at maintaining operational costs of

programs within the limits of earned revenue; and, they operate under a small business model in which small, distributed campuses offer convenient locations for their students. Information technology has been an underlying factor that has served as an impetus for growth of the for-profit, this is increasing the demand for schooling because not only are jobs shifting "toward greater intellectual content, but they are also shifting more from permanent positions toward less permanent ones. In the future, the nature of work will require that individuals are increasingly able to retrain themselves and adapt to new or enhancing employment circumstances" (Tierney & Hentschke, 2007, p. 32). Thus, workforce education and training will involve continuous learning through the work life.

Greater overall college participation is also fueled by the growth of the so-called "non-traditional" adult population (Tierney & Hentschke, 2007). The increase of adults 25 years old and older contributes to the overall demographic growth and demand within postsecondary education. Between 1987 and 2000, the number of "non-traditional" PSE students grew nearly 23% (from 4.9 million to 6 million) (Silber, 2004). This shift in postsecondary enrollment also highlights the importance of looking further at how not-for-profit institutions serve older students.

The topic of accreditation has served as an important topic that is associated with growth of FPCUs as eligibility for student loan funds depends on it (Tierney & Hentschke, 2007). Historically, for-profit school accreditation was voluntary and centered on the employability of graduates (Lee & Merisotis, 1990). The emphasis on higher education accountability in recent years has brought new regulatory restraints on for-profit institutions particularly because these schools have expanded to baccalaureate-level and beyond programs of study. As for-profit

institutions have once again received increasing attention as they have developed into large, multi-campus, multi-state systems many are now fully accredited (Ruch, 2001).

Tierney and Hentschke (2007) note that enrollment in postsecondary degree-granting institutions has more than doubled since the mid-1960s to above 15 million students in 2001-2002 (Silber, 2004). Postsecondary sectors therefore are increasingly competing for shares of the student market and for-profit institutions have uniquely positioned themselves to capture the growing number of students entering postsecondary education (Zamani-Gallaher, 2004). For-profit schools exhibit a customer service approach and foster a market orientation (Zamani-Gallaher, 2004). With a strong emphasis on recruitment and retention, these institutions have employed a wide array of strategies to attract clients.

Review of Literature

For-profit universities and colleges have existed in the United States since the beginning of the last century. Despite this long history, the literature surrounding this subject remains scarce mainly due to the limited amount of data available (Chung, 2008) and this extends to matters of college choice. Part of the problem with these gaps is that historically, for-profit schools do not report to the U.S. Department of Education. With the development of the Institutional Postsecondary Education Data Systems (IPEDS), information about some for-profit schools could be located in the database but it was not until 1996 that there has been an effort to locate Title IV[1] eligible schools. Even though IPEDS reports data about proprietary schools, the universe of these schools are represented poorly and as Chung notes, "to this day we do not really know the extent to which the for-profit sector is misrepresented" (p.4). Part of this

[1] A Title IV institution is "an institution that has a written agreement with the Secretary of Education that allows the institution to participate in any of the Title IV federal student financial assistance" (IPEDS Glossary). All nationally-representative data collected by the Department of Education (DOE) is based on the set of IPEDS schools and is not fully-represented of the entire US for-profit sector (Chung, 2008).

complication for conducting research in this area is that the for-profit postsecondary sector has been structurally changing since the late 1990s. These structural changes have been handled poorly in the national data collections because it has not been clear on how to classify the new institutions in the context of the existing taxonomy of for-profit schools.

Given the limited knowledge of for-profits as they apply to students' college choice, we elect to present a general review of services offered in for-profits and then follow with our conceptual framework which we argue can be applied to for-profit college choice models. For brevity, we do not include extensive review of the college choice process of Latina/o students in not-for-profit campuses. For readers interested in Latina/o college choice, we encourage them to review the works of Ceja, 2004; 2006; Perez and McDonough, 2008 and Smith, 2008.

The literature that focuses on for-profit institutions often compares the characteristics and quality of these institutions to community colleges, as they are also major providers of postsecondary occupational training. While for-profit institutions have long operated on the fringes of the postsecondary sector because of the perceived differences in their institutional missions and functions, proprietary schools and community colleges both attract students preparing for occupational careers and they increasingly have come to resemble more of their mainstream counterparts, so the traditional lines between these institutions are blurring (Apling, 1993). Proprietary schools have also moved in the direction of hoping to attract students who may seek a conventional four-year degree program, thus increasing the competition to not only community colleges but also four-year degree granting institutions (Lee & Merisotis, 1990; Hawthorne, 1995). For Zeiss (1998), the recent success of proprietary schools has meant that community colleges must adapt quickly, or risk losing a substantial portion of their students. The same holds possibly true for non-profit colleges and universities as FPCUs increase in growth.

Zeiss asserts that both students and employers now demand skills that proprietary schools can provide perhaps more easily and effectively than can community colleges, and that there is a "serious mismatch between educational policy and market need [and so] there is no certainty that community colleges can dominate those new roles" (p. 11). With an increased demand for postsecondary institutions to provide education to accommodate rapidly advancing technology in the workforce, there is an increasing competition between community colleges and proprietary institutions (Jones, 1996). This concern merits special attention from the non-profit public and private postsecondary sectors as they compete for students and resources.

Apling's (1993) study using the National Center for Education Statistics' (NCES) 1986 National Postsecondary Student Aid Study (NPSAS) found that students' reason for attending for-profit institutions differ from reasons students attend community colleges. The school's reputation, availability of desired course, financial aid, and job placement rates are among the most important reasons why proprietary school students say they chose their school.

A disproportionate number of undergraduate Student of Color (particularly African American and Latina/o students) enroll in colleges offering associate of arts degrees as opposed to research universities and other baccalaureate colleges. For-profit postsecondary institutions have met the demand of students of Color seeking a postsecondary education due to the lack of institutional response from non-profit private and public schooling institutions. For example, in California, close to 500,000 students are enrolled within 3,000 for-profit institutions, which is more than the University of California and State University systems combined (Foster, 2004). Grodsky and Kurlaender (2006) note that after the elimination of affirmative action within the state's university admission policies, enrollment of African American and Latina/o students within for-profit postsecondary institutions increased.

Zamani-Gallaher (2004) also note that students of Color and working class students are attracted to for-profits because they are perceived to offer practical education that will lead to job placement. Further, may FPCU's are located in areas closer to where students of Color and working class students reside or are employed (Zamani-Gallaher, 2004).

Much of the previous literature lacks a comprehensive look at the differences between less-than two-year, two-year, and four-year for-profit schools. The profile of students at for-profit institutions differs from the overall population of students at traditional colleges and universities (Chung, 2008; Tierney & Hentscke, 2007). In regards to gender, more women than men attend for-profits of less than four years as compared to their traditional counterparts. For-profits of less than four years have fewer white students and a greater percentage of students of Color than their not-for-profit counterparts. Students are less likely to be single, but also more likely to have a dependent and be single parents (Chung, 2008). Students who attend FPCUs are also more likely to be more financially independent and about 61% of attendees at for-profits work either part time or full time. Fewer students who attend a for-profit institution have a high school diploma compared to their non-profit counterparts. There is also a higher share of GED holders among for-profit students and higher percentages of these students have parents with either less-than-high school education or high school diploma (Chung, 2008).

According to Chung (2008), for-profit students are a very heterogeneous body. Students at less-than two-year for-profit schools are different from the students in two-year for-profit schools, and there is a greater difference between students in for-profit four-year schools and the rest of for-profit students. More men (55%) attend four-year institutions (Tierney & Hentschke, 2007). Chung also notes that the four-year for-profit seekers (compared to their not-for-profit four-year counterparts) are more likely to be older, white and married. They are also more likely

to have children and less likely to be single parents. They have higher incomes and have parents who have educational levels comparable to those of non-profit two-year students. Four-year proprietary students are also more likely to attend one institution full time and work more while in school. Chung notes that these students represent a significant growing market share of for-profit schools. She argues that it is possible that these institutions are becoming closer substitutes for the professional or business education offered by the non-profit sector.

While the current literature describes the majority of for-profit enrollment are made up of women, low-income and students of Color, these students are more likely to attend less-than two-year and two-year for-profit schools. More Black and Latino students attend two-year for-profit institutions than four-year for-profits—32% and 26% respectively (Tierney & Hentschke, 2007). These findings that distinguish FPCU's enrollments by institutional type further emphasize the major gaps within the literature on these PSE institutions, especially considering the lack of research that focuses on students of Color, particularly Latina/o students.

In a study that examined student services between community colleges and for-profit institutions, Bailey, Badway, and Gumport (2001) found that these schools place great emphasis on admissions, counseling, and student services. For-profit institutions focus greatly on tightly integrating their services to better assist students in achieving their degrees or certificates. Administrators often track dropout rates from particular courses, and sometimes intervene when these rates increase. At some institutions, faculty receives bonuses based on recruited students' completion rates. A high priority is placed on completion rates at proprietary schools, as these outcomes are key for future accreditation (Rosa, 1997). While many studies have taken note of the effective strategies that for-profit institutions employ to recruit and retain students, they compare these findings to those student services provided at community colleges which are

considered to be highly fragmented and do not gather sufficient data to evaluate their effectiveness (Bailey et al., 2001). Farrell (2003) notes these perceptions of student services programs provide significance in making proprietary schools appealing to many underrepresented students. Of particular interest for students, according to Farrell's analysis, are job placement services that make proprietary schools seem like a more certain path to employment

The cost of attending a for-profit college or university is difficult to assess across the board due to the variation of programs offered and length of study (Chung, 2008; Tierney & Hentscke, 2007). Cellini (2005) and Chung (2008) note however, that for-profit programs are much more expensive than comparable programs at public institutions. Chung comments that the difficulty in discussing the cost of attending a for-profit vs. non-profit college is due to the "list" tuition price not fully reflecting the true cost of attendance of a for-profit student. Due to the high cost of attendance, more than three-fourths of students in for-profit institutions receive federal student aid in contrast to roughly one-third for all undergraduates (Goodwin, 1991; Lee, 1996). St. John et al. (1995) notes that two-thirds of this assistance comes in the form of loans. Due to the controversy surrounding high loan default rates, these authors raise questions if federal loans should be used to fund proprietary students especially when the returns are not substantial enough at least when compared to the earnings of high school graduates. The findings that underrepresented students and students without high school degrees are more likely to persist in proprietary schools merit consideration in these debates about regulating eligibility criteria for federal student aid especially when proprietary schools expand postsecondary opportunities for the historically disadvantaged students.

Despite growing knowledge on accreditation, funding, persistence, and job placement, limited knowledge exists as to why Latina/o students select proprietary colleges. To augment our knowledge of proprietary colleges and to inform the gaps in existing literature, we offer an analysis of college enrollment destinations. Our work is situated under a comprehensive conceptual model of college choice.

Theoretical Framework

Perna's (2006) conceptual model for college choice is based on the human capital investment model but also takes into account individual habitus, school and community context, the higher education context, and the broader environmental context. This model, though essentially a form of cost-benefit analysis, highlights the role that socioeconomic status plays in access to information. Although the model was primarily constructed from literature examining not-for-profit institutions, we felt its overall emphasis on college choice and its attention to broader social, economic, and political context allows for its application to for-profit campuses--an alternative form of postsecondary education which the existing literature shows is most responsive to broader forces. Perna and other college choice scholars advocate for a comprehensive model of choice as past research has demonstrated the inability of economic, psychological, or sociological models alone to help explain college choice. Perna (2006) identifies four contextual layers that all impact college choice. At the center of the model is a human capital perspective in which college choice decisions are based on weighing expected benefits against expected costs. Borrowing from economic concepts of supply and demand and rooted in notions of human capital, Perna (2006) describes how family income and financial aid can be conceived of as the supply of resources for attending postsecondary education while demand can be characterized as to how well prepared a student is to undertake postsecondary

education. In addition to the human capital perspective is inclusion of cultural and social capital or what in Perna's model is collectively termed, habitus, a concept borrowed from other scholars. Perna asserts that one's habitus influences college choice. These personal and academic characteristics (i.e. Habitus) are subsumed under the school and community context layer (i.e. layer 2) as school and community resources impact one's access and exposure to forming a habitus for college choice. Her third contextual layer recognizes the influence of marketing and other efforts by higher education institutions themselves to attract students to their campuses. Thus, a student's choices are influenced by the higher education institution itself including such things as size, location, course offerings, and reputation. The final contextual layer (i.e. layer 4) accounts for the broader social, economic, and political arena within which higher education institutions operate. These include areas that impact the daily operations of the institutions including how federal and state policy affect financial aid availability or even broader economic influences such as economic recessions and the impact this may have on college choice. The interplay between these contextual layers influences a student's decision to select a particular campus. The methodology section expands upon these layers using existing variables in the dataset.

Methodology

Data Source and Sample

The data are drawn from the Educational Longitudinal Study (ELS) 2002-2006 panel, collected for the National Center for Education Statistics (NCES). In 2002, the NCES surveyed 15,441 United States tenth graders whose responses are weighted to represent the population of tenth graders nationally. These same respondents were re-surveyed in 2004 and again in 2006 when the students were two years out of high school. Information was collected from the

sampled students and their parents, teachers, and school counselors. Data are weighted using ELS panel weights to reflect the responses of all U.S. students who were 10th graders in 2002, 12th graders in 2004, and subsequently, two years post high school in 2006. Thus, these data represent the behaviors of 10th graders in 2002 who subsequently enroll in college, it is not representative of the entire for-profit or not-for-profit enrollment population which could include students who had stopped out of high school before the 10th grade. The final Latino sample included 2,112 students (720 enrolled in a two-year campus, 555 enrolled in a four-year campus, and 837 did not enroll in college or they were still enrolled in high school).

Variables

The items selected for inclusion are operationalized according to Perna's conceptual framework. We identified items that have been incorporated into others models of college choice and that conceptual fit within this contextual layers framework. Appendix A provides a list of variables, item scaling, and means and standard deviations of the Latino sample. The demographic variables include gender, English language dominance, and immigration generation status constructed such that third generation plus includes students who were born in the U.S. to U.S. born parents; second generation is a student who is U.S. born and who has one or both parents born outside the U.S., and first generation includes a student and one or both parents who were born outside the U.S.

The cultural capital variables include items around one's knowledge and understanding of the value of a college education and include measures such as mother's educational level, how often parents check on homework which has been operationalized as familial capital by others (Oseguera, Conchas, & Mosqueda, forthcoming) and schooling expectations from parents, teachers, and students themselves which all indicate aspirations for social mobility. Other

researchers have conceptualized the effects of peers on educational outcomes as capital (Tierney, Corwin, & Colyar, 2005). We elected to operationalize a friend's value of education within the cultural capital subset since it is consistent with the definition of cultural capital employed by many educational scholars (see for example Carter, 2005 and Conchas, 2006).

Social capital variables include items that provide opportunities for information exchange to occur around the college choice process. In the strictest sense, social capital is only useful in its conversion (Coleman, 1988), nevertheless, we identified measures that offer the potential for social capital conversion to occur. Other researchers have successfully applied this definition to social capital (see Oseguera, Conchas, & Mosqueda, forthcoming). Variables in this section include who the student has spoken with about college, a student's high school curricular track placement as volumes of research demonstrate the stronger relationships and social supports students form in academic tracks versus general or vocational tracks (Carter, 2005; Conchas, 2006; Oakes, 1985; 2005). We also include whether parents participate in school events/activities on campus.

The next items include a student's academic preparation and achievement and these are measured by academic grade point average as of the 10^{th} grade, whether a student is enrolled in an academic or occupational concentrator curriculum, and how often a student has changed schools other than for non-promotion grade changes. The academic concentrator curriculum is based on the 1998 taxonomy of secondary schools and is classified as having enrolled in: 4 credits of English, 3 credits of mathematics with at least 1 credit higher than algebra II, 3 credits of science with at least 1 credit higher than biology, 3 credits of social studies with at least 1 credit in US or world history, and 2 credits in a single foreign language (NCES, 2006). The occupational concentrator curriculum also comes from the secondary school curriculum

taxonomy and is fulfilled if a student earned at least three credits in one specific labor market preparation area. These areas include: 1) Agriculture and Renewable Resources; 2) Business; 3) Marketing and Distribution; 4) Health Care; 5) Protective and Public Services; 6) Trade and Industry; 7) Technology and Communication; 8) Personal and Other Services; 9) Food Service and Hospitality; and 10) Child Care and Education (NCES, 2006). The final subsets within layer 1 include family income and aid and are measured by whether parents have saved for college and how many hours per week a student is employed (Mortimer, 2005). Expected benefits from college include measures of student rationales for the purpose of education.

Layer 2 includes school and community context variables which can be understood as the availability of resources as well as structural supports and barriers for academic preparation. The items included in this layer include parents' opinions of teaching staff on campus, counselor opinions of healthy and conducive learning environments and peer context measures such as percentages of the student body enrolled in academic or vocational preparation programs, but also a friend's post high school pathways. These school and community context variables are adapted from numerous studies on college access (Oakes, 2003; Oakes et al, 2006).

Layer 3 is the higher education context and includes institutional characteristics as well as how colleges market and recruit. We include a student's reports of reasons for selecting a particular college. We operationalize a college's marketing and recruitment efforts from the student perspective of whether they obtained college information from college representatives and college websites.

The final layer 4 includes an understanding of not only broader federal policies around institutional aid but also larger social and economic considerations. Accordingly we identified variables that can be understood as altruism more broadly such as seeking an education to help

others. The broader economic contexts include a parents and students report of the neighborhood context. Using middle and high school students, Noguera (2003) showed how the social context, including perceived safety issues in one's community, negatively influenced educational outcomes. As such, we included reports of crime in the area within this layer. Finally, we included a measure of how much education a student will need for their career at age 30 as we argue this provides a measure of students' understanding of the context they will operate in (see appendix A for item descriptions, scaling, and means and SD's).

Outcome Measures

There are two outcome variables in these analyses. The outcome variables are constructed such that two-year degree seekers are compared to two-year not-for-profit degree seekers and four-year degree seekers are compared to four-year not-for-profit degree seekers. The first outcome is constructed such that 1 is a two-year for-profit and 0 is a two-year not-for-profit. The second outcome is constructed such that 1 is four-year for-profit and 0 is a four-year not-for-profit.

Analytic Strategy

A series of descriptive and multivariate analyses are presented to explore for-profit and not-for-profit differences in degree attainment. Based on Chung's (2008) and Tierney and Hentscke (2007) findings on the heterogeneity of for-profit degree seekers we first confirmed that the students in this sample were heterogeneous before moving onto higher order analyses via an ANOVA on the entire dataset with college type (0=no college; 1=for-profit two-year college; 2=not-for-profit two-year college; 3=for-profit four-year college; and 4=not-for-profit four-year college) as the dependent variable and the variables organized under the conceptual framework as the independent variables (results available upon request). Overall, we noted more similarities

between students in the two-year campuses (regardless of proprietary or non-proprietary designation) relative to the four-year campuses (regardless of proprietary or non-proprietary designation). This preliminary ANOVA analysis confirms past research and substantiates our decision to examine the four-year degree seekers separately from the two-year degree seekers regardless of for-profit or not-for-profit designation. We employed two sets of t-tests analyses (one on the two-year campuses and one on the four-year campuses). T-test analyses allow for the comparison of means of independent samples to evaluate differences by for-profit/not-for-profit designation according to the conceptual framework. Given the decision to evaluate two-year campuses separately from four-year campuses, our analytic strategy included two sets of logistic regression analyses. Logistic regression is an appropriate analyses when the outcome variable is dichotomous. Logistic regression allows for the prediction of membership in a group or in our case, enrollment in a for-profit two or four-year campus.

To account for the common problem of missing data on surveys, we used multiple imputation to deal with missing values that were missing at random due to item non-response (Rubin, 1989). Multiple imputation uses information from the sample distributions of the variables themselves to replace missing values with randomly generated but contextually appropriate values. Our actual imputation procedure uses Imputation by Chained Equations (ICE) in the STATA software. ICE draws imputed values from a posterior distribution using OLS regression models to replace missing values for continuous variables and logit models to replace missing values for binary or ordinal variables (Royston, 2004). Since the imputed data sets themselves have no missing values, sample size was preserved.

We used Principal Axis Factoring with varimax rotation to produce factor scores for the analyses. Principal axis factoring analysis identifies sets of items that can be combined into a

single, aggregate indicator (a "scale score"). Factor analysis is a useful procedure as it helps reduce a large number of items into smaller factors that are more reliable than a single item indicator. Only items with loadings greater than .45 were retained for the scale. We then produced alpha reliabilities for the factors and retained scales with alpha reliabilities of at least .65. To maintain the original scale and for ease of interpretation, factor scores were created by summing up the variables and then dividing by the number of items in the factor to produce an average (Armor, 1974). Appendix B provides tables with item descriptions, loadings, and alpha reliabilities of the factors used in the analyses.

Findings

Before delving into the findings, it is important to acknowledge the heterogeneity within the Latina/o group. Table 1 presents the distribution of Latina/o subgroups in the sample. Of importance to note is the diversity of groups that are represented in the sample (and the small samples of virtually every group) but also the similar distributions within the two-year sectors relative to the four-year sectors thus reinforcing our decision to evaluate two-year institutions separately from four-year institutions.

Insert Table 1 Here

Mean Differences and Two-Year Campuses. Table 2 presents the results of the t-test analyses across different institutional types. Latina/o students in two-year for-profits tend to be male and of the third generation or more in the US. Two-year for-profit seekers report lower mother's educational level and educational expectations from parents, teachers, and themselves relative to their two-year not-for-profit counterparts. While there are no differences in a student's report of having spoken to a teacher about college, having participated in a vocational education program, or having enrolled in an academic track, students in for-profits, nonetheless, report

lower grade point averages, higher incidences of changing schools for non-promotion grade changes, and more hours worked in a typical week.

In terms of expected benefits and costs of college, similar percents of students report studying to ensure financial security and that education is important for job skill development. Similar to past studies, these results show somewhat poorer academic preparation among for-profit two-year degree seekers (Chung, 2008).

In examining the second layer, we witness differences in the quality of secondary schools students attended as counselors reported low morale and problematic learning environments for students who eventually enrolled in two-year for-profits. During high school, two-year for-profit students also reported fewer friends going to either two- or four-year colleges and are more likely to have come from a high school where a larger proportion of the student body was enrolled in vocational preparation programs. In the higher education context layer, we witness a slightly lower mean agreement that an important reason for selecting college was low costs and aid. There were no differences in selecting a campus based on reputation for job placement.

Overall, we see academic preparation differences as well as differences in access to higher quality resources in the secondary schools between the two-year sector students. The multivariate analyses will explore in greater detail how these variables interact to predict enrollment in a particular college type.

Insert Table 2 Here

Mean Differences and Four-Year Campuses. The four-year for-profit student is more likely to be first generation and not be English language dominant relative to their four-year not-for-profit counterpart. Opposite to what is seen in the two-year sector, Latinas/os in the four-year

for-profit sector are more likely to have entered US schools in middle school or later relative to their four-year not-for-profit counterpart.

Similar to the two-year analyses, the four-year for-profit students report lower parent, teacher, and self expectations for education yet both groups report that their friends value education. Unlike the two-year analyses, more four-year for-profit students report speaking to a teacher about college than their not-for-profit peers (50% versus 36%, respectively). Interestingly, more four-year for-profits students were enrolled in general curricular tracks (50% versus 31%, respectively) than in academic tracks (30% vs. 62%, respectively). While the for-profit four-year students report a slightly lower parent SES level, a slightly higher percentage of parents of for-profit degree seekers report saving for college. Similar to the two-year findings, the four-year for-profits are enrolled in slightly poorer resource schools as defined by parents' opinion of poorly trained teachers and low learning morale. However, there is virtually no difference in opinions that parents have a say in school policy or a belief that teachers show interest in students. Both four-year degree seekers report low costs and financial aid availability as a reason for selecting a particular college but the four-year for-profit students also report that easy admission requirements was a factor in their college selection (not shown). Similar to the conclusions among the two-year students, we see differences in the academic preparation of students and their access to school resources. The next section provides additional insight into how or whether these variables together predict the type of college a Latina/o student selects.

Two-year Logistic Regression Results. As a reminder, the regressions predict two-year for-profit enrollment versus two-year not-for-profit enrollment. The model correctly classified 89% of the cases for two-year institutions. Additionally the Cox & Snell r-squared is 17% in the two-year models. Table 3 provides a summary of the odds ratios and significance levels for the

variables in the analyses for the final models. Examining the habitus portion of the conceptual frame, we see that in the two-year sector, odds of enrolling in a two-year for-profit (relative to a two-year not-for-profit) increase for students who report English as their dominant language and who have been in the US for at least three generations. With a unit increase in mother's educational level, the odds of enrolling in a for-profit go down by a factor of 18% ((.821-1)* 100%). If a teacher reports an expectation of either work or doesn't care what the student will do post high school versus an expectation for college for the student, the odds of enrolling in a for-profit increase. If students report that their friends value education, they are less likely to enroll in a two-year for-profit versus a two-year not-for-profit. Surprisingly enrolling in a vocational education track reduces the odds of enrolling in a for-profit. If parents report more engagement in school the odds of their child enrolling in a for-profit two-year go down by 82%. Having spoken to a counselor increases the odds of enrolling in a for-profit but discussions with family and friends actually lowers the likelihood of enrolling in a for-profit campus. This is an important finding suggesting counselors may be tracking students into for-profit campuses over traditional two-year campuses. In examining the remaining layer 1 context variables, we see that with every increase in academic grade point average the odds of enrolling in a for-profit go down 9% but with every non-promotion school change, the odds of enrolling in a two-year for-profit go up by 8%. Interestingly in the two-year sector, after controlling for the other items in the model, higher SES student odds increase for enrolling in two-year for-profits. Also, reporting that education is important for job skills development reduces one's odds of enrolling in a two-year for-profit while studying to ensure financial security increases a student's odds of enrolling in a for-profit.

In examining the school and community context variables, the general pattern is that enrolling in secondary schools with more positive learning environments reduces the odds of enrolling in a for-profit two-year campus as compared to a two-year not-for-profit campus.

Moving to the higher education context, when compared to the not-for-profit two-year sector, students who report that low costs and financial aid are important considerations are less likely to enroll in a two-year for-profit but if they report that reputation for job placement is important then the odds of enrolling in a two-year for-profit increase, a result found in other work (Chung, 2008). If students report obtaining information about college from websites or college representatives, the odds of enrolling in a two-year for-profit go up by 27% and 359%, respectively. The extensive marketing efforts by two-year for-profits that other researchers have already alluded to appear to extend to the Latina/o students in this sample. Finally, among the two-year for-profit students, a parent's opinion of low crime in the neighborhood appear to increase the odds of enrolling in a two-year for-profit campus. This finding coupled with the SES finding suggest that while much research identifies the for-profit degree seekers as a disadvantaged group, in this study, these students do not appear to hail from the most disadvantaged backgrounds.

Insert Table 3 Here

Four-year Logistic Regression Results. As a reminder, this second model predicts four-year for-profit enrollment versus four-year not-for-profit enrollment. The model correctly classified 93% of the cases in the four-year prediction model. Additionally the Cox & Snell r-squared in the four-year models is 19%. Table 3 provides a summary of the odds ratios and significance levels for the variables in the analyses. In terms of background characteristics we witness differences between their two-year counterparts. That is, Latina women's odds go way

up for enrollment in a four-year for-profit campus but their odds went down in a two-year campus. This counters literature that states that men are more likely to enroll in a for-profit campus. In the four-year sector, the odds of enrollment go down if a student is a third generation or later resident of the US. Conversely, entering US schools in middle school or later significantly increases the odds of enrolling in a four-year for-profit. For every unit increase in a student's educational expectations, the odds of enrolling in a four-year for-profit go down 60%. Among the four-year college attendees, if a teacher's post high school expectation is that he/she does not care (versus desire for student to attend college), the odds of enrolling in a for-profit increase 323%. Similar to the two-year findings, reporting that friends value education reduces the likelihood that a student will enroll in a for-profit over a not-for-profit. Interestingly in examining the social capital variables, having completed a vocational track versus a general or academic track increases the odds of four-year for-profit enrollment by 456% and so does having completed an occupational concentrator curriculum. Additionally, having reported speaking to a counselor about college increases Latina/o students' odds that they will enroll in a for-profit campus versus a not-for-profit campus but discussions with teachers or family/friends decreases the odds of for-profit enrollment versus not-for-profit enrollment. Also similar to the two-year for-profit models, having changed schools and hailing from higher SES families increases odds of for-profit enrollment as does reporting studying to ensure financial security but reporting that education is important for job skills development reduces the odds of enrolling in a for-profit. Apparently the students do find job value in enrolling in a traditional higher education institution over a for-profit campus despite the strong effort of for-profits to market themselves as "practical" institutions.

In the school and community context we see overall similarities with the two-year models. That is, more positive learning environments are associated with increases in non-profit four-year enrollment and not the for-profit four-year enrollment. Within the higher education context is where we see an opposite story from their two-year peers. That is, four-year for-profit students do report that low costs and financial aid are important considerations for selecting a college but if a student reports that reputation for job placement is important, their odds of enrolling in a four-year for-profit go down. Having obtained college information from a website increases for-profit four-year enrollment but goes down if students had spoken to a college representative. One plausible explanation for this finding could be that high achieving high school Latina/o students are also being heavily recruited by traditional four-year campuses.

If students report that helping others is an important goal for them, their odds of enrolling in a four-year for-profit go down. This may be because for-profits heavily market towards individual gain while their not-for-profit counterparts are increasingly marketing themselves as education for the public good. Finally, for every unit increase in level of education needed for a career at 30, the odds of enrolling in a four-year campus decrease. These results suggest that students are making very rationale choices about what they will secure from different types of educational paths they choose.

Summary

The results of the multivariate analyses show some similarities between student experiences and their election of for-profit campuses but overall, different variables surfaced as significant across the two-year and four-year sector. The results of these analyses continue to remind us that the two-year sector students are different from the four-year sector students. After taking other variables into consideration, it also points to the fact that the for-profit seekers,

while not truly advantaged in terms of attending highly resourced schools, neither are they the most economically or socially disadvantaged group as some research suggest.

Another finding that merits special attention is the report of speaking to counselors. Researchers have noted the gatekeeping functions that counselors serve for low income students and students of Color (McDonough, 1997; Walpole et al., 2005) and these results suggest that among the Latina/o populations, counselors might be tracking Latina/o students towards proprietary colleges. While this work could not address whether the quality of for-profits is superior or at least on par with not-for-profits, earlier literature reviews did note the often times negative opinions policy makers and the public sometimes hold of for-profits, thus it might be problematic that students may be being tracked into certain college options over others.

Conclusion and Implications

Results of this work offer a more complete understanding of the college options available to Latina/o students; a group whose growth in this country outpaces other racial/ethnic groups. A better understanding of who these students are (and how they differ within and across sectors) can help frame the discussion of whether for-profits or not-for-profits are suitable options for a prospective college student. This work also expands our knowledge of college choice among Latina/o students as we identified a number of factors that predict for-profit college enrollment.

The descriptive analyses showed relatively strong academic credentials of the Latina/o students relative to their not-for-profit four-year peers. Existing research discusses the competition with two-year community colleges--one contribution of this work suggests that four-year campuses also need to take note of the "new" competition for academically strong Latina/o students. Due to the flexibility of the for-profit sector to adapt to needs and changes in the economy and workforce, these schooling institutions have expanded into a competitive market

where many students seek career-orientated degrees in applied sciences (i.e. pre-engineering, computer science, and nursing) resulting in significant gains for these institutions (Zamani-Gallaher, 2004). This increased competition is expected to continue as many for-profits are now fully accredited (Ruch, 2001).

Future research needs to untangle the selectivity in for-profit campuses to determine if choice changes depending on the selectivity of the campus as there is a diversity of quality available in the for-profit campuses. Future work is needed to examine long term persistence of this group of students as well as college loan debt accrual as for-profit campuses have recently been under attack for post graduation outcomes and high loan default rates among their enrollees.

The relatively few studies that do exist mostly treat FPCUs and their students homogenously (Chung, 2008). The few studies using longitudinal datasets also present a problem because they capture students within a particular point of their educational trajectory, and do not always include a proportion of adult learns who attend proprietary schools throughout their working lives (Chung, 2008). For these reasons, it has been difficult to also compare the FPCU's to other postsecondary sectors. Chung notes that it is not clear from the literature whether it is appropriate to consider for-profit students in the same context applied to non-profit students in community colleges or to high school graduates who have no college training. Further, Grubb (1993) notes that it is also important to differentiate for-profit students by program level and school type. With all of these challenges, research that specifically focuses on Latina/o student access, participation, and outcomes is scarce. Most of these studies mainly draw on similar conclusions identifying that FPCU's serve a high percentage of female, low-income, and minority students (Chung, 2008; Tierney & Hentchke, 2007). The research presented here

expands our understanding of the characteristics of Latino students who enroll in for-profit campuses after high school. Meeting the gaps in the literature, despite the challenges of data availability, remains an important endeavor particularly in examining how these institutions serve Latina/o students and understanding the characteristics of the students who select and enroll in these postsecondary institutions.

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Table 1. College Enrollment Type by Latina/o Subgroup

		Two-year		Four-year		
	No College	For-profit	Not-for-profit	For-profit	Not-for-profit	Total
Mexican, Mexican-American (N=1,387)	75%	73%	73%	47%	60%	70%
Puerto Rican (N=277)	10%	11%	10%	26%	11%	11%
South American (N=157)	3%	1%	7%	4%	10%	6%
Central American (N=148)	6%	4%	6%	18%	7%	6%
Cuban (N=79)	3%	4%	2%	5%	7%	4%
Dominican (N=64)	4%	6%	2%	0%	5%	4%
N	837	98	622	43	512	2,112

Table 2. T-test results for Latinas/os in for profit and not for profit colleges organized by conceptual framework

	Two Year Colleges and Universities					Four Year Colleges and Universities				
Habitus (Layer 1)	For profit		Not for profit			For profit		Not for profit		
Demographics	Mean	SD	Mean	SD	sig.	Mean	SD	Mean	SD	sig.
Gender: Female	1.44	.50	1.56	.50	***	1.50	.50	1.60	.49	***
Immigration generation status										
First generation	.24	.43	.29	.45	***	.34	.47	.27	.44	***
Second generation	.24	.43	.32	.47	***	.32	.47	.33	.47	
Third generation or more	.51	.50	.39	.49	***	.34	.48	.40	.49	***
English language dominant	.52	.50	.45	.50	***	.50	.50	.55	.50	***
Cultural Capital										
US school attendance										
Always in US schools	.87	.33	.84	.37	***	.84	.36	.88	.32	***
Elementary school	.10	.30	.07	.26	***	.04	.20	.07	.25	***
Middle school	.03	.17	.09	.29	***	.12	.32	.05	.22	***
Mother's education level	1.79	1.01	2.23	1.12	***	2.12	.91	2.61	1.15	***
Parent checks homework	2.25	1.00	2.51	.96	***	2.59	.89	2.44	.94	***
Student expectations	2.64	1.00	3.07	.86	***	2.93	.93	3.47	.66	***
Teacher expectations										
College	.62	.49	.68	.47	***	.60	.49	.76	.42	***
Work	.05	.21	.02	.13	***	.05	.22	.03	.17	***
Doesn't care	.34	.47	.30	.46	***	.34	.48	.21	.40	***
Friends value education[f]	2.36	.47	2.45	.47	***	2.47	.43	2.52	.44	***
Social Capital										
Parent school connection[f]	.13	.21	.23	.29	***	.29	.33	.28	.31	***
Spoken to various people about college										
Teachers	.25	.43	.27	.44	***	.50	.50	.36	.48	***
Counselors	.28	.45	.35	.48	***	.39	.49	.50	.50	***
Family/Friends[f]	.20	.28	.32	.31	***	.30	.35	.37	.31	***
Curricular track										
Academic	.42	.49	.42	.49		.30	.46	.62	.49	***
General	.49	.50	.44	.50	***	.50	.50	.31	.46	***
Vocational	.09	.29	.14	.34	***	.20	.40	.07	.26	***

See appendix A for item scaling; [f]See appendix B for factor items, scales, and loadings ; ***p<.001

Table 2. T-test results for Latinas/os in for profit and not for profit colleges organized by conceptual framework (Cont.)

	Two Year Colleges and Universities					Four Year Colleges and Universities				
	For profit		Not for profit			For profit		Not for profit		
Habitus (Cont.)	Mean	SD	Mean	SD	sig.	Mean	SD	Mean	SD	sig.
Demand (Academic Preparation and Achievement)										
10th grade academic GPA	3.41	1.82	4.01	1.67	***	4.02	1.76	5.31	1.51	***
Occupational concentrator curriculum	.11	.32	.16	.37	***	.20	.40	.11	.31	***
Participated in vocational ed skills competition	.07	.26	.04	.20	***	.10	.30	.05	.22	***
Number times changed schools	1.31	1.46	1.35	1.46	***	1.11	1.22	1.23	1.37	***
Supply of Resources (Family Income and Aid)										
SES quartile	1.71	.88	1.87	1.01	***	2.09	1.10	2.29	1.14	***
Family saving for college	.24	.42	.38	.48	***	.53	.50	.48	.50	***
Hours worked per week in 10th grade	3.50	1.50	3.16	1.48	***	2.98	1.46	3.04	1.46	***
Expected Benefits/Costs										
Education is important for job skills development[f]	1.79	.45	1.75	.54	***	1.61	.51	1.69	.50	***
Studies to ensure financial security	2.71	.95	2.79	.97	***	3.00	.89	3.05	.99	***
School and Community Context (Layer 2)										
Parent opinion of (poorly) trained teachers	2.19	.58	2.05	.58	***	2.32	.54	2.01	.61	***
Student opinion of teacher (non) interest[r]	2.33	.59	2.14	.48	***	2.09	.47	2.08	.48	
Counselor opinion of good learning morale[r]	3.45	.74	3.61	.65	***	3.51	.78	3.78	.71	***
Counselor opinion of learning environment[r]	3.32	.50	3.42	.55	***	3.34	.63	3.56	.54	***
Parents have say in school decision making[r]	2.20	.62	2.20	.52		2.18	.51	2.17	.50	***
Number of friends going to two-year colleges	2.03	.67	2.22	.55	***	2.02	.33	2.01	.56	***
Number of friends going to four-year colleges	2.03	.63	2.21	.61	***	2.32	.54	2.58	.56	***
% of 10th grade student body in voc ed program	22.86	23.44	18.33	18.24	***	20.51	17.94	17.89	20.35	***
% of full time teachers who are Hispanic	17.34	17.06	13.88	15.41	***	17.17	14.06	21.14	26.98	***
Higher Education Context (Layer 3)										
Student reason for selecting college										
Low costs and financial aid[r]	2.39	.58	2.56	.51	***	2.40	.50	2.45	.54	***
Reputation for job placement[r]	2.50	.47	2.53	.45	***	2.51	.38	2.61	.40	***
Obtained info about college via college websites	.23	.42	.23	.42		.32	.47	.38	.49	***
Obtained info about college via college reps	.21	.41	.13	.34	***	.17	.38	.17	.38	
Social, Economic, and Policy Context (Layer 4)										
Student goal of helping others[f]	2.09	.53	2.19	.56	***	2.06	.44	2.22	.54	***
Parent opinion of crime in neighborhood	2.87	.34	2.78	.49	***	2.96	.20	2.83	.44	***
Student report of education needed for job at 30	4.84	1.80	5.66	1.74	***	5.72	1.81	6.68	1.56	***

See appendix A for item scaling; [f]See appendix B for factor items, scales, and loadings ; ***p<.001

Table 3. Logistic Regression Results Predicting For Profit Two and Four-Year Enrollment

	Two Year For Profit (Versus Not for Profit)				Four Year For Profit (Versus Not for Profit)			
Habitus (Layer 1)								
Demographics	b	S.E.	Odds Ratio	Sig.	b	S.E.	Odds Ratio	Sig.
Gender: Female	-0.198	0.019	0.821	***	0.831	0.041	2.297	***
Generation status (Third generation plus vs all else)	0.212	0.022	1.236	***	-0.757	0.044	0.469	***
English language dominant	0.393	0.022	1.481	***	-0.016	0.047	0.984	
Cultural Capital								
US school attendance (always in US schools=reference)								
Elementary school	0.527	0.031	1.694	***	-0.755	0.085	0.470	***
Middle school	-0.708	0.046	0.493	***	2.953	0.082	19.169	***
Mother's education level	-0.507	0.012	0.602	***	-0.627	0.024	0.534	***
Parent checks homework	-0.095	0.009	0.909	***	0.976	0.026	2.655	***
Student expectations	-0.357	0.010	0.700	***	-0.920	0.027	0.399	***
Teacher expectations (College=reference)								
Work	0.456	0.053	1.578	***	-0.654	0.109	0.520	***
Doesn't care	0.177	0.019	1.193	***	1.442	0.041	4.230	***
Friends value education	-0.149	0.019	0.862	***	-0.395	0.044	0.674	***
Social Capital								
Vocational curriculum track (versus general/academic)	-1.105	0.032	0.331	***	1.716	0.048	5.560	***
Parent school connection	-1.718	0.041	0.179	***	0.187	0.063	1.206	**
Spoken to people about college								
Teachers	0.279	0.025	0.997		1.975	0.043	0.531	***
Counselor	-0.003	0.024	1.321	***	-0.633	0.040	7.208	***
Family/Friends	-1.937	0.039	0.144	***	-0.829	0.062	0.436	***
Demand (Academic Preparation and Achievement)								
10th grade academic GPA	-0.089	0.005	0.915	***	-0.625	0.012	0.535	***
Occupational concentrator curriculum	-0.865	0.027	0.421	***	1.876	0.050	6.529	***
Participated in vocational ed skills competition	-0.138	0.039	0.871	***	0.894	0.068	2.445	***
Number times changed schools	0.079	0.006	1.082	***	0.107	0.014	1.113	***
Supply of Resources (Family Income and Aid)								
SES quartile	0.238	0.013	1.269	***	0.515	0.024	1.673	***
Family saving for college	-0.353	0.020	0.703	***	-0.014	0.039	0.986	
Hours worked per week	0.065	0.006	1.067	***	0.242	0.012	1.273	***

Table 3. Logistic Regression Results Predicting For Profit Two and Four-Year Enrollment (Cont.)

	Two Year For Profit (Versus Not for Profit)				Four Year For Profit (Versus Not for Profit)			
Habitus (Cont.)								
Expected Benefits/Costs	b	S.E.	Odds Ratio	Sig.	b	S.E.	Odds Ratio	Sig.
Education is important for job skills development	-0.377	0.020	0.686	***	-0.818	0.040	0.441	***
Studies to ensure financial security	0.087	0.010	1.091	***	0.242	0.022	1.274	***
School and Community Context (Layer 2)								
Parent opinion of (poorly) trained teachers	0.346	0.016	1.414	***	1.709	0.040	5.524	***
Student opinion of teacher (non)interest in students	0.389	0.019	1.475	***	-1.396	0.044	0.248	***
Counselor opinion of good learning morale	-0.165	0.014	0.847	***	-0.847	0.027	0.429	***
Counselor opinion of (non) problematic learning environment	-0.170	0.016	0.844	***	-0.202	0.035	0.817	***
Parents (do not) have say in school decision making	-0.204	0.017	0.816	***	-1.209	0.047	0.299	***
Number of friends going to two-year colleges	-0.536	0.016	0.585	***			-	
Number of friends going to four-year colleges			-		-0.595	0.034	0.551	***
% of 10th grade student body in voc ed program	0.022	0.000	1.023	***	0.016	0.001	1.016	***
% of full time teachers who are Hispanic	0.018	0.001	1.018	***	-0.022	0.001	0.978	***
Higher Education Context (Layer 3)								
Student reason for selecting college								
Low costs and financial aid	-0.520	0.016	0.595	***	0.530	0.038	1.699	***
Reputation for job placement	0.088	0.020	1.092	***	-0.806	0.047	0.447	***
Information about college via college websites	0.236	0.025	1.266	***	1.576	0.045	4.834	***
Information about college via college representatives	1.524	0.026	4.593	***	-0.252	0.047	0.777	***
Social, Economic, and Policy Context (Layer 4)								
Student goal of helping others[f]	-0.028	0.018	0.972		-1.562	0.041	0.210	***
Parent opinion of (low) level of crime in neighborhood	0.325	0.022	1.384	***	2.720	0.069	15.187	***
Student report of education needed for job at 30	-0.296	0.005	0.744	***	0.046	0.012	1.047	***
Constant			37.940	***			2.650	**
Total N			720				555	
2 log likelihood			100514.26				33130.83	
Cox & Snell R^2			0.178				0.196	
Nagelkerke R^2			0.331				0.487	
P.C.P.			87.7				94.9	
$\chi 2$			2417.742				11909.59	

Appendix A. Variables in Analyses, Scaling, and Descriptives (N=2,112)

Variable	Scaling	Mean	SD
Habitus (Layer 1)			
Demographics			
Gender: Female	2=yes; 1=no	1.51	.50
Immigration generation status			
First generation	1=yes; 0=no	.30	.46
Second generation	1=yes; 0=no	.29	.45
Third generation or more	1=yes; 0=no	.41	.49
English language dominant	1=yes; 0=no	.48	.50
Cultural Capital			
US school attendance			
Always in US schools	1=yes; 0=no	.84	.37
Elementary school	1=yes; 0=no	.08	.27
Middle school	1=yes; 0=no	.08	.27
Mother's education	1=less than high school to 5=graduate degree	2.17	1.10
Parent checks homework	1=never to 4=always	2.43	.97
Student expectations	1=high school grad to 4=graduate school	2.91	.99
Teacher expectations			
College	1=yes; 0=no	.66	.47
Work	1=yes; 0=no	.05	.21
Doesn't care	1=yes; 0=no	.29	.45
Friends value education[f]	1=not important to 3=very important	2.43	.48
Social Capital			
Parent school connection[f]	1=yes; 0=no	.24	.28
Spoken to various people about college			
Teachers	1=yes; 0=no	.27	.44
Counselors	1=yes; 0=no	.32	.47
Family/Friends[f]	1=yes; 0=no	.28	.31
Curricular track			
Academic	1=yes; 0=no	.44	.50
General	1=yes; 0=no	.44	.50
Vocational	1=yes; 0=no	.12	.33

[f] See appendix B for factor items, loadings, and alphas

Appendix A. Variables in Analyses, Scaling, and Descriptives (Cont.)

Variable	Scaling	Mean	SD
Habitus (cont.)			
Demand (Academic Preparation and Achievement)			
10th grade academic GPA	1=less than .50 to 7=3.51-4.00	3.95	1.76
Occupational concentrator curriculum	1=yes; 0=no	.13	.34
Participated in vocational education skills competition	1=yes; 0=no	.06	.25
Number times changed schools for non-promotion reasons	0=never to 5=5 or more times	1.36	1.47
Supply of Resources (Family Income and Aid)			
SES quartile	1=lowest quartile to 4=highest quartile	1.86	1.01
Family saving for college asked of parents in 10th grade	1=yes; 0=no	.35	.48
Hours worked per week in 10th grade asked of student	1=less than 5 hrs to 5= greater than 20 hrs	3.27	1.49
Expected Benefits/Costs			
Student opinion that education is important for job skills development[f]	1=strongly agree to 4=strongly disagree	1.77	.55
Student studies to ensure financial security	1=almost never to 4=almost always	2.77	.96
School and Community Context (Layer 2)			
Parent opinion of well trained teachers	1=strongly agree to 4=strongly disagree	2.08	.58
Student opinion of teacher interest in students[f]	1=strongly agree to 4=strongly disagree	2.17	.53
Counselor opinion of good learning morale[f]	1=not accurate to 5=very accurate	3.60	.71
Counselor opinion of problematic learning environment[f]	1=happens daily to 5=never happens	3.42	.55
Parents have say in school decision making[f]	1=strongly agree to 4=strongly disagree	2.20	.52
Number of friends going to two-year colleges	1=none to 3=most or all of them	2.13	.59
Number of friends going to four-year colleges	1=none to 3=most or all of them	2.22	.64
Percent of 10th grade student body in vocational education program	Continuous, 0-100	19.20	20.12
Percent of full time teachers who are Hispanic	Continuous, 0-100	15.90	19.17
Higher Education Context (Layer 3)			
Student reason for selecting college			
Low costs and financial aid[f]	1=not important to 3=very important	2.47	.56
Reputation for job placement[f]	1=not important to 3=very important	2.50	.46
Obtained information about college via college websites	1=yes; 0=no	.22	.41
Obtained information about college via college representatives	1=yes; 0=no	.13	.33
Social, Economic, and Policy Context (Layer 4)			
Student goal of helping others[f]	1=not important to 3=very important	2.18	.55
Parent opinion of level of crime in neighborhood	1=high to 3=low	2.82	.45
Student report of education needed for job at 30	1=some HS to 8=Ph.D./Professional degree	5.60	1.92

[f] See appendix B for factor items, loadings, and alphas

Appendix B. Factor Items, Loadings, and Alphas

Factor: Friends value education asked in 10th grade (Alpha=.84)

Items	Loadings
Important to friends to get good grades	.795
Important to friends to continue education past high school	.759
Important to friends to attend classes regularly	.715
Important to friends to study	.701
Important to friends to finish high school	.621

Factor: Parent report of school connection asked in 10th grade year (Alpha=.65)

Items	Loadings
Take part in parent-teach organization activities	.824
Belong to parent-teacher organization	.539
Act as a volunteer at the school	.480
Attend parent-teacher organization meetings	.470

Factor: Who students has gone to for college entrance information in 10th grade: Family/Friends (Alpha=.65)

Items	Loadings
Has gone to friend for college entrance information	.692
Has gone to parent for college entrance information	.663
Has gone to other relative for college entrance information	.534
Has gone to sibling for college entrance information	.470

Factor: Student opinion that education is important for job skills development asked in 10th grade (Alpha=.67)

Items	Loadings
Learns skills for job in school	.738
Education is important to get a job later	.689
Satisfied by doing what expected in class	.518

Factor: Student opinion that teachers are interested in student asked in 10th grade (Alpha=.73)

Items	Loadings
Teachers are interested in students	.784
The teaching is good	.674
Teachers praise effort	.578
Students get along well with teachers	.526

Factor: Counselor opinion of good learning morale asked in 10th grade (Alpha=.83)

Items	Loadings
Teachers press students to achieve	.910
Counselor says teachers morale is high in 10th grade	.767
Counselor thinks students prioritize learning in 10th grade	.761
Counselor says students morale is high in 10th grade	.541

Appendix B. Factor Items, Loadings, and Alphas (Cont.)

Factor: Parent opinion that parent has say in school policy asked in 10th grade (Alpha=.79)

Items	Loadings
School preparing students adequately for college	.741
Parent says school preps well for jobs	.708
Parents work together to support school policy	.685
Parents have adequate say in school policy	.656

Factor: Counselor opinion of problematic learning environment asked in 10th grade (Alpha=.77)

Items	Loadings
How often physical conflicts a problem at school	.686
How often vandalism a problem at school	.711
How often gang activity a problem at school	.668
How often robbery/theft a problem at school	.633
How often class cutting a problem at school	.514
How often possession of weapons a problem at school	.461

Factor: 12th grade student report that low costs and financial aid is a reason for selecting college (Alpha=.73)

Items	Loadings
Postsecondary school's low expenses important to students	.683
Availability of postsecondary school's financial aid available	.683

Factor: 12th grade student report that reputation for job placement is a reason for selecting college (Alpha=.76)

Items	Loadings
School's job placement record important to respondent	.751
School's grad school placement important to respondent	.636
School's academic reputation important to respondent	.619
School has degree in chosen field important to respondent	.598
School's courses/curriculum important to respondent	.500

Factor: Student importance of working to help others asked in 10th grade (Alpha=.58)

Items	Loadings
Importance of working to correct inequalities	.641
Importance of helping others in community	.641