

**Being from Home Where English was not the Primary Language as
Social Capital and its Impact on First-Year Persistence of 4-Year
College Students: Preliminary Findings**

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Abstract

This study discusses the influence of social capital factors on the first-year persistence of beginning first and second-generation, four-year college students. First generation students were students neither of whose parents had attended college. Second-generation students had at least one parent who attended college. A case was made considering being from a family where English was not the primary language to be a form of social capital. Data for the study were from the National Center for Education Statistics (NCES) Beginning Postsecondary Students 96/98 survey. Findings from the chi-squared analyses indicated that first generation students differed from second-generation students terms of a range of demographic, socio-economic, high school, social capital, academic and social integration, and college performance factors. Findings from sequential logistic regressions indicated that being a student from a non-native English speaking family, after controlling for all other factors in the study, was a statistically significant predictor of persistence. In addition, findings indicated that first generation status, after controlling for all other factors in the study, had a statistically significant, but minor, negative effect on persistence.

Introduction

Although college choice, persistence, and degree attainment may pose many challenges to most students, the children of parents who never attended college, known as first-generation college students, often face greater difficulties in each of these processes than students whose parents attended college. First-generation students are less likely to apply for admission to colleges and are less likely to enroll than children whose parents attended college (second-generation students) (McDonough, 1997).

If they enroll in a college or university, first-generation students face additional impediments in their efforts to persist and succeed in college. Some of their difficulties in both college choice and college persistence may be related to their levels of social capital. Social capital consists of the formal and informal networks of people and information that can be used to improve one's socioeconomic status.

Social capital has been described as "social relationships from which an individual is potentially able to derive institutional support, particularly support that includes the delivery of knowledge-based resources, for example, guidance for college admission" (Stanton-Salazar & Dornbusch, 1995, p.115). Stanton-Salazar and Dornbusch observed that working class youth have substantially lower levels of social capital than middle class youths do. This study examines the impact of one type of social capital, being from a family where English was not the primary language, on the first-year persistence of first and second-generation college students attending four-year institutions.

First-generation college students are the main focus of this study for several reasons. First, although first-generation college students represent a substantial percentage of all college students, they have been relatively overlooked in the persistence literature. Second, first-generation college students are less likely to graduate from college than are other students. To assist these students in their efforts to persist in postsecondary education as a first step towards attaining the credentials they need for success in the labor market and to inform leaders of the types of policy and institutional changes that are indicated, researchers, faculty and administrators need to discover the factors that are most influential in first-year persistence.

First-generation College Students

First-generation college students account for a substantial portion of beginning college students. According to a recent report from the National Center for Education Statistics (NCES), first-generation students made up 47% of the new students enrolling in higher education institutions in the 1995-96 school year (Kojaku, Nunez, & Malizio, 1998). This rate was up from the 43% reported for the 1989-90 school year (Nunez & Cuccaro-Alamin, 1998).

There are substantial differences in persistence and attainment rates between first-generation and other students (See Table 1). For the 1989/90 first-time, first-year students in the NCES Beginning Postsecondary Student Survey (BPS) who enrolled in four-year institutions, second-generation students were more likely to have attained a degree within five years than were first-generation students.

Table 1
Persistence & Graduation Rates of 1989/90 BPS Students by
First-generation Status (5 years after initial enrollment)

	Still Enrolled or Attained Degree	Not Enrolled/ No Degree
4 year Public Institutions		
First-generation	37%	63%
Second-generation	54%	46%
4 year Private Institutions		
First-generation	61%	39%
Second-generation	72%	28%

Source: Nunez & Cuccaro-Alamin, 1998.

The importance of attaining a bachelor’s degree to a student’s lifetime earning potential should not be underestimated. Bowen and Bok wrote there is “a commonsense understanding of the advantages associated with being a college graduate” (Bowen & Bok, 1998, p.55). They noted that even low-achieving college graduates gain economic benefits from their degree through the “sheepskin effect.” A college degree can serve as the basic credential needed for entry into the professional labor market. According to this theory, a person with a college degree (i.e. a sheepskin), no matter which college it was from and regardless of the person’s college grades, will accumulate more economic and social benefits in their lifetime than an individual who attended college but never attained a degree. Mortenson (2000) found that the lifetime income of male college graduates would be \$1,160,000 more than that of high school graduates. Female college graduates will earn \$600,000 more than female high school graduates will.

Since a college degree is a basic requirement for admission to graduate or professional schools, first-generation students need to attain that degree so they can take advantage of graduate programs that offer additional opportunities for socioeconomic advancement.

Social Capital

If we can identify the factors that influence these differences, we will be better able to understand the college experiences of first-generation students. Some of the differences may stem from lower levels of capital on the part of first-generation students.

In its broadest sense, capital includes anything that can increase productivity for individuals or communities. There are four types of capital that can influence a student’s educational attainment: financial capital, human capital, cultural capital, and social capital. Financial capital is typically described as a family’s assets or income. Human capital can be measured by level of education and training. Cultural capital is a form of “symbolic wealth” held by the middle and upper social classes who use it as a means of insuring that their children obtain better educational and employment opportunities than those with lesser amounts of this type of capital (Paulsen & St. John, 2002).

Social capital, according to Portes (1998, p .6) “stands for the ability of actors to secure benefits by virtue of membership in social networks or other social structures.”

Coleman (1988) and Teachman, Paasch, and Carver (1997) found that parental human capital and financial capital are a necessary but not sufficient condition for the development of human capital in children. They noted that social capital levels provide the environment in which parental stocks of human and financial capital can be transformed into educational attainment by children. Coleman (1988, p.S110) noted, “if the human capital possessed by parents is not complemented by social capital embodied in family relations, it is irrelevant to the child’s educational growth that the parent has a great deal, or a small amount of human capital.” Teachman and Paasch (1997, p.1344) wrote, “Social capital represents a filter through which the financial and human capital of parents is transmitted to and used by [their] children.”

The parents of first-generation college students may be at a disadvantage in their ability to advise their children about college processes because they have less social capital than the parents of second-generation college students. Parents of first-generation students, because they never attended college, have no experiences regarding college-going processes that they could share with their children. On the other hand, the parents of second-generation students, since they successfully went through the college application and decision making processes, have social capital in the form of knowledge and experiences that they can pass onto their children. This social capital assists the second-generation students in the processes related to getting in to college. Perna (2000, p.119) wrote, “Social capital may take the form of information-sharing channels and networking as well as social norms, values, and expected behaviors.”

Putnam (2000) categorized social capital into two broad types, bonding and bridging social capital. “Bonding social capital is for undergirding specific reciprocity and mobilizing solidarity... Bridging networks, by contrast, are better for linkage to external assets and information diffusion” (p.22). Putnam wrote that bonding capital was for “getting by” while bridging capital was for “getting ahead” (p.23). Putnam noted that the bridging and bonding categories were not “either or” categories, but rather “more or less” categories. So, social capital can exhibit both bonding and bridging characteristics. Because bridging and bonding aspects of social capital may help explain differences in persistence between first and second-generation students, they are one of the focuses of this study.

It may be that certain types of social capital are more influential at different points in a student’s life. For instance, social capital in the form of information regarding colleges admissions accumulated during high school may be most influential during the college search process and of little utility later in a student’s life. Similarly, social capital as measured by the type of high school attended, high school curriculum studied or where the high school was located may be more influential while students are still in high school and in the process of deciding whether to attend college.

Researchers have found that social capital can influence many different outcomes. Teachman and Paasch (1996) found that low levels of social capital due to being raised in a one parent family, having moved to new cities several times, and having low parental involvement with the student’s education were related to propensity to dropout of high school. Furstenberg and Hughes (1995) reported that social capital appeared to influence the likelihood that at-risk students would improve their socioeconomic status. Jordan and Plank (1998) found that academically prepared students’ lack of social capital in the forms of parental involvement in school activities and in parental encouragement for

taking the SATs was related to their not entering higher education. Ellwood and Kane (1998), Flint (1993), Freeman (1999), Kahne and Bailey (1999), Perna and Titus (2001), Qian and Blair (2000), Smith-Maddox (1999), and Teachman and Paasch (1998) found that social capital was related to the educational aspirations that parents had for their children. Qian and Blair (2000) and Stanton-Salazar and Dornbusch (1995) reported that high levels of social capital could lead to high aspirations for educational and social status attainment even when stocks of human and financial capital are low. Kahne and Bailey (1999) noted that high academic expectation by students, their peers, families, and teachers were a form a social capital.

Social Capital, Being from a Family where English was not the Primary Language, and Persistence

Studies have indicated that students from families where English was not the primary language may have higher levels of social capital than native English speaking students. Caplan, Choy, and Whitmore (1992), Giorgias (2000), Portes and Zhou (1993), Putnam (2000), and Qian and Blair (2000) found that non-native English speaking students from some ethnic communities benefited from family-based and community-based social capital that supported the students' aspirations for educational attainment.

While there has been little research conducted that explicitly examined the relationship between social capital found in families where English was not the primary spoken language and persistence in postsecondary education, studies have shown there may be a positive relationship between being from such a home and persisting in college. Much of the research has focused on community college students rather than students in four-year institutions. In a pilot study of two California community colleges, Thomas-Spiegel, Pathey-Chavez, and Dillon (1999) found that English as second-language (ESL) students were more successful than other students and that their success was independent of their native language. In another report on California community colleges, the Peralta Community College District (2000) reported that at three of the four colleges that encompass the district, the spring 1999 to fall 2000 persistence rates for students whose primary language was not English were an average of ten percentage points higher than the rates for native English speakers. At the fourth college, the persistence rates for the two groups of students were equivalent.

In a study using the National Educational Longitudinal Study (NELS: 88), Somers, Cofer, and Vanderputten (1999) found that students who spoke a foreign language at home were 3.3% more likely to attend a four-year college or university than were native English speakers. In another study using NELS: 88, Qian and Blair (2000) found that White students and Asian-American students who were non-native English speakers had higher educational aspirations than native English speakers in these two ethnic groups. The studies that specifically examined social capital in non-native English speaking families showed positive connections between social capital and educational aspirations and attainment. Giorgas (2000), Portes and Zhou (1993), and Putnam (2000) noted that established immigrant communities create formal and informal organizations that offer economic opportunities and social resources in the form of social capital to new immigrants. Portes and Zhou found that ethnic communities could pass on to new

immigrants beliefs about the importance of educational attainment to increasing one's socioeconomic position.

Caplan, Choy, and Whitmore (1992) examined factors influencing the educational attainment of Indochinese immigrants to the United States. They found that social capital was important to the academic success of Indochinese children. Their results showed that parents reading aloud to their children, parents and siblings helping students with homework, and expectations that the students would do well academically were positively related to academic achievement. They also found that bonding social capital in the form of adherence to traditional ethnic beliefs that valued hard work, educational attainment, and the family was positively related to academic success.

Qian and Blair (2000) studied racial and ethnic differences in the educational aspirations of high school seniors. They found that Asian Americans believed that educational attainment was the only way to move up the socioeconomic ladder. They also reported that "Hispanic immigrants tend to possess parental social capital because they, with bilingual skills, not only have acquired sufficient mainstream cultural capital to share in the resources enjoyed by dominant group members but also have retained sufficient support from their own culture"(Qian & Blair, p. 608).

Stanton-Salazar and Dornbusch (1995, p. 131) noted that "our findings suggest that highly bilingual students may have an advantage over working class, English-dominant students in gaining access to adult social capital. One explanation ... is that bilinguals represent a sector of the Mexican- origin student population that receives special consideration for institutional sponsorship." Stanton-Salazar and Dornbusch claimed that the bilingual students had acquired sufficient cultural capital to share the resources enjoyed by dominant group members and, at the same time, maintained connections to their traditional culture.

While none of these studies explicitly discuss why students from families where English is not the primary language are more likely to persist than other students, it is possible to theorize some of the reasons. First, there are some parents, such as Asian Americans cited by Qian and Blair, who understand the importance of higher education to increased socioeconomic status but have not themselves attended college. They inculcate the belief that their children will attend college into their children from an early age. As a result, their children grow up expecting to go to college. Second, ethnic communities can "provide crucial social and psychological support for less fortunate members of the community" (Putnam, 2000, p.22). The social capital offered by these communities can include both bonding social capital that reinforces traditional ethnic values such as the importance of hard work, respect for elders, and educational attainment as well as bridging social capital that provides immigrant families with information and connections to the United States educational systems and expected economic returns to educational attainment that encourage postsecondary education enrollment and degree attainment. The social capital from the ethnic community can work in conjunction with that of the family or the individual student to support educational persistence and attainment. Some theorists have treated these traditional values and aspirations for higher education as measures of cultural capital. These theorists claim that cultural capital would help the individuals in their efforts to attain a degree. Third, some of these individuals, such as bilingual students, may have acquired enough cultural capital so that they are more readily incorporated into the college

community and find it easier to persist than other students with lower levels of cultural capital. In this study, being from a family where English was not the primary language is treated as a measure of social capital.

METHODS

Research Question:

Does social capital influence the first-year persistence of first-generation college students in four-year institutions, controlling for the effects of background, external factors, academic and social integration, financial attitudes, and academic performance?

Research Hypothesis 1

Based on social capital theory, family based social capital will have a positive influence on the first-year persistence of college students. Family based social capital will be measured by the family's primary language. Being from a family where English was not the primary language will have a positive effect on persistence.

As was discussed in the literature review, children from families where English was not the primary language are likely to have higher educational aspirations and have parents who are involved in and supportive of their children's educational activities than are native English speaking students. This is a form of bridging social capital. In addition, students from families where English was not the primary language can often draw on social capital from their community to assist in their educational attainment.

Definitions:

- ?? A student, who started as a first time beginning student in 1995, will have persisted to her second year if she is enrolled in postsecondary education as of October 1996.
- ?? A college student is defined in this study as being a second-generation student if either of his parents has attended college.
- ?? A college student is defined in this study as being a first-generation student if neither of his parents has attended college.

Data: Beginning Postsecondary Students (BPS) 96/98 Database

The BPS 96/98 data were collected by the U. S. Department of Education's National Center for Education Statistics. The BPS is a longitudinal study that will follow first time students who were included in the 1995 National Postsecondary Student Aid Study from their first enrollment through their attainment or withdrawal from higher education.

The institution universe consisted of postsecondary institutions in the United States including Puerto Rico that offered more than a correspondence course, offered at least one academic or vocational program of study at least three months in duration, and was open to the public. The student universe consisted of first-time beginning students who enrolled in an eligible institution between May 1, 1995 and April 30, 1996, who were enrolled in either an academic or vocational program, who were not concurrently enrolled in high school, and were not enrolled just for a GED or high school degree completion.

This nationally representative survey had a two stage sampling design. Eligible institutions were chosen in the first stage and eligible students within selected institutions were chosen in the second stage (Wine, Whitmore, Heuer, Biber, & Pratt, 2000).

The data for this study were a subset created from the full BPS data set. Two types of BPS weights were utilized. The first, B98AWT is the full-sample analysis weight. Fifty-one balanced repeated replicate weights were also utilized in this analysis. The full BPS data contained students enrolled in both two and four-year postsecondary institutions. This study included only those students who enrolled as first time, beginning students in four-year institutions.

Table 2 Variables in the Model by Steps

Variable Name	Coding	Reference Criterion	Variable Type
Step 1-Background Factors:			
First-generation (parental ed level)	0=2 nd generation 1=1 st generation	Compares 2 nd gen. to 1 st gen.	social capital
Age	0=age 21 or less 1=aged 22+	Compares to aged 22+	demographic
Male	0=male 1=female	Compares to females	demographic
Family size	0=2 1=3-4 2=5-6 3=7+	Compares to families of 7+	social capital
Race	0=Black 1=Asian 2=Hispanic 3=Other & Native American 4=White	Compares to White	demographic
Siblings in college	0=none 1=1-2 2=2-3	Compares to 3+ siblings ever in college	social capital
English primary language at home	0=no 1=yes	Compares to those with English as primary language	social capital
Family income (percentile)	0=1-31 1=32-53 2=54-72 3=73+	Compares to 73+	financial

Step 2-High School Factors:

Attended private high school	0=no 1=yes	Compares public to private	social capital
High school Curriculum ¹	0=did not meet New Basic Curriculum 1=Met New Basic/ Slightly Rigorous 2=Rigorous	Compares to Rigorous	social capital
High school GPA	0=A's 1=B's 2=C's	Compares to C's	high school
High school location	0=urban 1=suburban 2=rural	Compares to rural	social capital
SAT scores	0=400-790 1=800-930 2=940-1090 3=1100+	Compares to scores of 1100 or more	high school

Step 3-College Entry Factors :

Attend part-time	0=no 1=yes	Compares to those attending part-time	social capital
Delayed entry into college	0=no 1=yes	Compares to those who did not delay entry	social capital
Attended public Institution	0=no 1=yes	Compares to private institution.	college entry

Step 4-Financial Related Factors:

Satisfied with college cost	0=no 1=yes	Compares to "yes"	financial
Goal-to be financially successful	0=no 1=yes	Compares to "yes"	financial

Financial aid	0=Aided, no loans 1=Loans & other aid 2=Loans only 3=no aid	Compares to no aid	financial
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Worked	0=no 1=1-10 hrs 2=11-20 hrs 3=21-30 hrs 4=31+ hours	Compares to worked 31+ hours	financial
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Step 5-Social Integration Factors:

Distance from home to college	0=1-15 1=16-50 2= 51-150 3=150+	Compares to 150+	social integration
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College Resident	0=non-resident 1=in campus housing	Compares to resident	social integration
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Friends/spouse attend same college	0=no 1=yes	Compares to “yes”	social capital
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Email account	0=no 1=yes	Compares to “yes”	social capital
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Satisfied with campus climate	0=no 1=yes	Compares to “yes”	social integration
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Go places with friends	0=never 1=sometimes 2=often	Compares to “often”	social integration
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Step 6-Academic Integration Factors:

Satisfied with intellectual development	0=no 1=yes	Compares to “yes”	academic integration
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Satisfied with college's prestige	0=no 1=yes	Compares to “yes”	academic integration
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Satisfied with instructor's ability to teach	0=no 1=yes	Compares to “yes”	academic integration
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Participation in fine arts activities	0=never 1=sometimes 2=often	Compares to “often”	academic integration
Meet with advisor about plans	0=never 1=sometimes 2=often	Compares to “often”	social capital
Go to lectures with friends	0=never 1=sometimes 2=often	Compares to “often”	social capital
Social contact with faculty	0=never 1=sometimes 2=often	Compares to “often”	academic integration
Took one or more remedial course	0=no 1=yes	Compares to those taking 1+ remedial courses	academic integration
Participate in study groups	0=never 1=sometimes 2=often	Compares to “often”	academic integration
College major	0=undecided 1=declared major	Compares to have declared major	academic integration
Talk with faculty outside class	0=never 1=sometimes 2=often	Compares to “often”	academic integration
Step 7-College Performance:			
College GPA	0=mostly A's 1=A's & B's 2=Mostly B's 3=B's & C's 4=Mostly C's 5=C's & D's 6=Mostly D's	Compares to “mostly D's”	academic integration
Step 8-Persistence	0=no 1=yes		Dependent variable

Methods of Analysis

Cross-tabulations and Chi-Squares

In order to compare first-generation and non-first-generation students, cross-tabulations were conducted using first-generation status as the independent variable and first-year persistence as the dependent variable. Cross-tabulations are a method for exploring differences between groups. Cross-tabulations were conducted to compare first-generation students and others in terms of the other independent variables and the dependent variable, first-year persistence. The Chi-square statistic was used to determine if there are statistically, significant differences between groups

Persistence was a dichotomous variable coded as “1” if the student is enrolled in her second year of college and “0” for a student no longer enrolled.

Sequential Binary Logistic Regression

Binary logistic regression analysis was conducted using WESVAR 4.0 with persistence as the dependent variable. The WESVAR software can correct for design effects due to the complex sampling design of the BPS survey, which includes stratification and clustering of cases. In this study, a sequential approach to logistic regression was utilized (Table 2 provides a visual model of the sequence of variables). As St. John, Paulsen, and Starkey (1996, p.197) noted “Sequential logistic regression (stepping-in sets of variables related to the factors included in the logistic model) has been used previously to examine the interactions between factors that influence enrollment and persistence.”

Two separate sequential logistic regression analyses were conducted. The first regression was the full sample model that included all students, both first and second-generation. The second regression was the first-generation student model that included only first-generation students. For the full sample model, eight blocks of variables were entered (or stepped in) “in a way that permits a meaningful examination of the direct effects of variables on persistence, as well as their interactions with the variables entered in successive steps” (ibid., p.194). These eight blocks represent the seven dimensions leading to persistence in Table 2, with parental education as the eighth step.

Table 2 shows each of the eight blocks or steps of factors (social capital factors are in bold type). The first four blocks were entered sequentially in the order they would occur in a student’s life. Parental education level was the first block entered. The second set, background factors included family based social capital measures such as family size, the number of siblings in college, and being from a non-native English speaking family. The third block, high school factors, included social capital measured by type of curriculum taken, high school location, and type of high school. The fourth step, college entry factors, included social capital as measured by delayed entry into college. The next three blocks, college cost factors, social integration variables, and academic integration variables, were entered in that order. This entry of the last four blocks was an arbitrary one since each student would have different experiences with these factors at slightly different times during their first year. The fifth step, college cost and financial related factors did not include any measures of social capital. The sixth step, social integration factors, included social capital as measured by having an email account, going places with friends, and having friends at the same college. The seventh step, academic

integration, included social capital as measured by meeting with an advisor, participating in study groups, and talking with faculty. First year grades were the final step in the logistic regressions.

The second sequential logistic regression was conducted using only first-generation students as the population. This model had seven steps, since the first one, level of parental education (first-generation status), was eliminated because only first-generation students were included in the second regression. The second regression using only first-generation students was conducted to determine the effects of social capital and the other factors in the model on the first year persistence of first-generation students. Given the prior literature on first-generation students, it was expected that there would be differences between regression results for the full sample model and for the first-generation only model. It would also have been possible to conduct other tests. One option would have been to compare regression results for first and second-generation students. From a policy perspective, it is important to know if there are factors that affect the persistence of first-generation students but not second-generation students.

Goodness of Fit Indicators to be Utilized in Logistic Regression

The goodness of fit for the logistic regression model, which measures how effectively the model predicts the dependent variable, is reported using the negative log-likelihood statistic, the Cox-Snell likelihood ratio, and the Estrella likelihood ratio. Changes in R-square and F-statistics are reported for each step.

The effects of the independent variables are reported using beta coefficients, standard errors, t-statistics, statistical significance, and the odds ratio. The delta-p statistic was calculated for variables with $p < .10$ using a methodology described by Petersen (1985) and Carbrera (1994).

Results

Summary

Being from a home where a language other than English was the primary language, a form of bridging social capital, had a positive effect on persistence. These students had a probability of persisting that was 7% greater than native English speaking students.

Cross-tabulations

Fourteen percent of first-generation students were from families that spoke another language at home compared to 6% of second-generation students.

Table 3 – Comparison of Background Factors by First-generation Status

	Second-generation	First-generation
English not primary language*		
No	94%	86%
Yes	6%	14%

Parental Education Level, Selected Factors and Persistence

The table in this section provides an additional level of analysis by showing how persistence varies for first and second-generation students by whether English was the primary language. The results of this table indicate that being from a family where English was not the primary language had a more profound effect on the persistence of first-generation students than on second-generation students.

Table 4 - English language not primary

	English secondary	Did not persist	Persisted
Second-generation*	yes	4%	96%
	No	10%	90%
First-generation*	yes	13%	87%
	no	21%	79%

*p<.001

Sequential Logistic Regression Results

In this section, the logistic regression results are presented sequentially so that changes that occur between steps can be examined. Table 5 provides a breakdown by each step or block of variables for the full sample model and the first-generation sample model, respectively. Then, overall summaries of the logistic regression results are presented. Table 6 shows the final step delta-p's for significant factors in the full sample (first and second-generation students) model and the first-generation sample model.

Full Model Result

Being from a home where a language other than English was the primary language, a form of bridging social capital, had a positive effect on persistence. These students had a probability of persisting that was 7% greater than native English speaking students

First-generation Sample Model

Based on the expectation that logistic regression effects would differ for first-generation students compared to a general population of students, this sequential logistic regression used only first-generation college students for its sample. For the first-generation regression, variables were entered in seven sequential blocks of data.

Being from a family where English was not the primary language had a positive and statistically significant effect through each step (p<.10). Its delta p fluctuated slightly from the first step (9.7%) through the final step (10.3%).

Table 5: Logistic Regression Results for Full Sample and First Generation Sample

Variables	Full-model				First Generation			
	Parameter Estimate	Std Error of Est.	Signif.	Odds Ratio	Parameter Estimate	Std Error of Est.	Signif.	Odds Ratio
Intercept	-0.3	0.92	0.745		1.5	1.39	0.282	
Second Generation Student	0.32	0.13	0.017	1.79				
age- 21 or less	1.01	0.474	0.035	7.08	1.24	0.77	0.114	3.45
male	0.151	0.158	0.341	1.16	0.247	0.221	0.267	1.28
family size -two	0.135	0.43	0.755	2.7	0.045	0.769	0.53	1.04
family size- 3 -4	0.002	0.31	0.99	1.9	0.488	0.493	0.325	1.63
family size 5-6	0.068	0.309	0.825	2	0.194	0.615	0.754	1.21
Black	0.437	0.231	0.062	1.55	0.302	0.353	0.394	1.35
Asian	-0.139	0.511	0.79	0.87	0.817	0.833	0.33	2.26
Hispanic	0.134	0.38	0.725	1.14	-0.108	0.511	0.833	0.9
siblings in college -no	0.152	0.307	0.622	1.16	-0.045	0.551	0.935	0.96
siblings in college 1-2	0.231	0.27	0.396	1.26	0.232	0.677	0.733	1.26
Took one or more remedial course	-0.187	0.2	0.353	0.83	-0.409	0.292	0.165	0.66
Attend part-time	-0.213	0.251	0.397	0.81	-0.346	0.47	0.464	0.71
Did not delay entry into college	0.833	0.209	0.000	2.3	0.89	0.331	0.008	2.44
English not primary language at home	0.85	0.355	0.019	2.34	0.809	0.47	0.086	2.45
attended public hs	0.265	0.158	0.158	1.3	0.208	0.413	0.615	1.23
HS Curriculum - did not meet New Basic	-0.15	0.37	0.686	0.86	-0.631	0.664	0.345	0.53
Met new basic - slightly rigorous	-0.24	0.38	0.528	0.79	-0.621	0.715	0.388	0.53
hs gpa - A's	0.201	0.235	0.394	1.22	-0.093	0.507	0.855	0.91
hs gpa2 - B's	-0.229	0.193	0.238	0.78	-0.252	0.501	0.619	0.77
hs location -urban	0.137	0.181	0.45	1.15	0.022	0.301	0.942	1.02
hs location- suburban	0.367	0.3	0.224	1.44	0.028	0.404	0.946	1.03
SAT scores 400-790	-0.256	0.29	0.381	0.77	-0.823	0.658	0.214	0.44
SAT scores 800-930	-0.112	0.237	0.638	0.89	-0.583	0.549	0.291	0.56
SAT scores 940-1090	0.072	0.272	0.793	1.07	-0.74	0.754	0.329	0.48
Aided, no loans	0.195	0.236	0.411	1.22	0.598	0.395	0.134	1.82
Loans & other aid	0.062	0.167	0.714	1.06	0.808	0.374	0.034	2.24
Loans only	0.142	0.186	0.446	1.15	0.588	0.613	0.34	1.8
worked - no	0.533	0.283	0.063	1.7	1.06	0.49	0.033	2.88
1-10 hrs	0.579	0.32	0.074	1.78	0.882	0.575	0.129	2.41
11-20 hrs	0.47	0.251	0.063	1.6	0.543	0.394	0.172	1.72
21-30 hrs	-0.004	0.259	0.987	1	-0.243	0.343	0.481	0.78

Table 5: Logistic Regression Results for Full Sample and First Generation Sample

Variables	Full-model				First Generation			
	Parameter Estimate	Std Error of Est.	Signif.	Odds Ratio	Parameter Estimate	Std Error of Est.	Signif.	Odds Ratio
family income (percentile)1-31	-0.619	0.283	0.032	0.54	-0.715	0.545	0.193	0.49
family income (percentile)32-53	-0.442	0.243	0.073	0.64	-0.458	0.483	0.346	0.63
family income (percentile)54-72	-0.539	0.211	0.012	0.58	-0.653	0.515	0.209	0.52
Distance from home to college 1-15	0.206	0.23	0.372	1.23	0.135	0.378	0.723	1.14
Distance from home to college 16-50	0.029	0.197	0.882	1.03	-0.427	0.31	0.173	0.65
Distance from home to college 51-150	-0.053	0.205	0.796	0.95	-0.98	0.311	0.002	0.38
not goal-to be financially successful	0.292	0.204	0.156	1.34	0.119	0.322	0.713	1.13
Did not live in campus housing	-0.081	0.238	0.734	0.92	0.15	0.322	0.642	1.16
friends attend same college	-0.01	0.39	0.979	0.99	-0.215	0.411	0.602	0.81
No email account	-0.88	0.2	0.000	0.42	-0.904	0.385	0.021	0.41
Attended public institution	-0.088	0.156	0.573	1.25	0.119	0.211	0.575	1.13
Not Satisfied with college cost	-0.362	0.142	0.013	0.7	-0.285	0.259	0.274	0.75
Not Satisfied with campus climate	-0.113	0.237	0.636	0.89	0.262	0.472	0.58	1.3
Not Satisfied with intellectual development	-0.363	0.258	0.163	0.7	-0.273	0.528	0.607	0.76
Not Satisfied with college's prestige	-0.049	0.207	0.814	0.95	0.187	0.374	0.618	1.21
Not Satisfied with instructor's ability to teach	-0.237	0.235	0.316	0.79	-0.047	0.389	0.904	0.68
not involved with fine arts activities	-0.095	0.215	0.66	0.91	-0.8	0.339	0.021	0.45
sometimes involved with fine arts activities	0.06	0.259	0.818	1.06	-0.502	0.508	0.326	0.61
Did not meet with advisor about plans	-0.83	0.234	0.001	0.44	-1.09	0.45	0.017	0.34
sometimes meet with advisor about plans	-0.42	0.191	0.029	0.65	-0.153	0.303	0.615	0.86
Did not go places with friends	0.524	0.31	0.089	1.69	1.28	0.621	0.043	3.59
Sometimes go places with friends	0.191	0.165	0.251	1.21	0.061	0.257	0.813	1.06
Did not go to lectures with friends	0.09	0.257	0.728	0.7	-0.118	0.516	0.82	0.89
Sometimes go to lectures with friends	0.269	0.236	0.259	1.31	-0.016	0.49	0.974	0.98
Did not have social contact with faculty	0.347	0.277	0.214	1.41	0.173	0.474	0.716	1.19
Sometimes have social contact with faculty	0.116	0.259	0.655	1.12	0.364	0.403	0.369	1.44
Was not in Study groups	-0.42	0.211	0.05	0.66	-0.151	0.348	0.666	0.86
Sometimes in Study groups	-0.275	0.211	0.196	0.76	-0.171	0.295	0.563	0.84
Did not talk with faculty outside class	-0.327	0.267	0.225	0.72	-0.775	0.519	0.139	0.46
Sometimes talk with faculty outside class	-0.02	0.218	0.928	0.98	-0.389	0.471	0.411	0.68

Table 5: Logistic Regression Results for Full Sample and First Generation Sample

Variables	Full-model				First Generation			
	Parameter Estimate	Std Error of Est.	Signif.	Odds Ratio	Parameter Estimate	Std Error of Est.	Signif.	Odds Ratio
College GPA- mostly A's	2.25	0.327	0.000	9.48	2.29	0.792	0.005	9.27
College GPA- A's & B's	2	0.332	0.000	7.37	1.62	0.565	0.005	10.3
College GPA- Mostly B's	1.92	0.334	0.000	6.79	1.77	0.6	0.004	8.45
College GPA- B's & C's	1.59	0.31	0.000	4.93	1.6	0.598	0.009	5.56
College GPA- mostly C's	1.01	0.255	0.000	2.77	0.907	0.543	0.099	3.41
College GPA- C's & D's	0.51	0.253	0.049	1.65	-0.063	0.401	0.876	1.93
Undecided as to college major cases (unweighted)	-0.009	0.188	0.961	0.99	-0.277	0.267	0.302	1.16
cases (weighted)	6291				1843			
	1006429				309365			
-2 log likelihood for full sample	550413				208113			
-2 log likelihood for model with intercept only	744787				302506			
negative log-likelihood	0.261				0.312			
likelihood ratio (Cox-Snell)	0.176	maximum possible value=.526			0.263	max value=.62		
likelihood ratio (Estrella)	0.201				0.306			

Table 6 - Statistically Significant Delta-p's for Full Sample Model and First Generation Model

Variables	Full Sample		First Generation	
	Delta p	Sig	Delta p	Sig
Second Generation Student	3.2%	0.017		
age- 21 or less	7.8%	0.035		
Black	4.2%	0.06		
English not primary language at home	7.0%	0.019	10.3%	0.019
family income (percentile)1-31	-8.7%	0.032		
family income (percentile)32-53	-5.9%	0.073		
family income (percentile)54-72	-7.4%	0.012		
Did not delay entry into college	6.9%	0.000	10.7%	0
Not Satisfied with college cost	-4.7%	0.013		
worked - no	4.9%	0.067	12.0%	0.033
1-10 hrs	5.3%	0.074		
11-20 hrs	4.5%	0.063		
No email account	-13.5%	0.000	10.8%	0.021
Not Satisfied with campus climate	4.9%	0.089		
Did not go places with friends			13.5%	0.043
Distance from home to college 51-150			-20.0%	0.002
not involved with fine arts activities			-15.7%	0.021
Was not in Study groups	-5.5%	0.05		
Did not meet with advisor about plans	-12.5%	0.001	-22.6%	0.017
sometimes meet with advisor about plans	-5.6%	0.029		
College GPA- mostly A's	11.4%	0.000	17.5%	0.005
College GPA- A's & B's	11.0%	0.000	15.3%	0.005
College GPA- Mostly B's	10.9%	0.000	15.9%	0.004
College GPA- B's & C's	10.1%	0.000	15.2%	0.009
College GPA- mostly C's	7.9%	0.000	10.8%	0.099
College GPA- C's & D's	4.7%	0.028		

Full sample (First and Second-Generation Students)

Based on the logistic regression results, parental education level has a minor statistically significant, positive influence on the persistence of college students. Controlling for other factors in the model, the probability of second-generation students persisting to their second year is 3.2% greater than for first-generation students. Several background factors, including age, being from a family where English was not the primary language, and family income, were statistically significant predictors of persistence ($p < .05$).

First-generation Students

For first-generation students, only one background factor was a significant predictor of persistence. Being from a family where English was not the primary language had a positive influence on persistence. First-generation students from families where English was not the primary language had probabilities of persistence that were 10.3% greater than native English speaking students. In comparison, for the full sample model, students from families where English was not the dominant language had probabilities of persisting that were 7% greater than those of native English speakers.

Research Hypothesis 1

Based on social capital theory, family based social capital will have a positive influence on the first-year persistence of college students. Family based social capital will be measured using the variable; family's primary language.

This study supported the hypothesis that family based social capital in the form of being from a family where English was not the primary language has a positive influence on first year persistence. Based on research, it appears that students from these families have greater amounts of bridging social capital in the forms of more involvement with the student's homework by parents and siblings, higher expectations for the student's educational and economic attainment, as well as supportive social networks within ethnic/racial communities. As was discussed in the literature review, some groups of immigrants have internalized the belief that educational attainment is a necessary requirement for socioeconomic status improvement. These immigrants work closely with their children, their children's school, and with community organizations to ensure that their children get the opportunity of going to college and obtaining the higher education credentials that are seen as fundamental to economic success.

Being from a Family where English was not the Primary Language as Social Capital

The evidence from this study indicates that students from families where English was the not the primary language have probabilities of persisting that are greater than those of native English students. This study has theorized that students from these families have high levels of bridging social capital in the form of parental and familial expectations that the children in the family will attend college. Other researchers (Portes & Zhou, 1993; Putnam, 2000; Qian & Blair, 2000) have found that some immigrant communities are able to provide bridging social capital that enables students to attain higher levels of education than they would otherwise be able to attain. It was also

suggested that the children of immigrants to this country might be more highly motivated to improve their social status than some domestic students. There has been research that indicates that bilingual students or students enrolled in bilingual programs may accumulate sufficient levels of cultural capital so they can share the benefits enjoyed by the middle and upper socio-economic classes (Stanton-Salazar & Dornbusch, 1995; Qian & Blair, 2000). Unfortunately, this study was neither designed nor able to test these theories. There seems to be a gap in the persistence literature regarding these students and their experiences attending four-year institutions.

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