

**2008 AIR RESEARCH GRANT PROPOSAL**

Predicting Latino Students’ College Participation:  
State, School, and Individual Effects

Data set of interest: Educational Longitudinal Study (ELS: 02/06)  
& Integrated Public Use Microdata Samples (IPUMS)

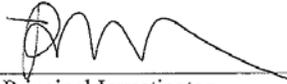
Grant Amount Requested: \$40,000

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## **2. Project Summary**

Latinos have emerged as the largest non-White, youngest, and fastest growing population in this country (U.S. Census Bureau, 2007; Perna, 2006). Recent projections indicate that in the U.S., the population of 18- to 24-year olds is increasing, and that half of the population boom in traditional college-age students, which is expected to reach four million by 2015, will consist of Latino students (Martinez, 2002). Yet research well documents that even controlling for critical factors like academic ability and financial characteristics, Latino students have among the lowest college-going rates and are less likely to attend four-year institutions (and more likely to attend two-year institutions) than their non-Latino counterparts with similar academic abilities (Fry, 2002; Schneider, Martinez, & Owens, 2006; Swail, Cabrera, Lee, & Williams, 2005).

College participation – that is, whether and where students enroll in college – critically affects Latino and other students’ educational attainment. In this case, Latino high school graduates’ tendency to begin enrollment in two-year rather than four-year institutions can compromise their capacity to complete college degrees in the longer term (Arbona & Nora, 2007). Understanding the influences on whether and where Latino students enroll in college is critical for developing research projects, policies, and practices that best suit this emergent population. The recently released Educational Longitudinal Study: 2002/2006 data provide the ideal opportunity to utilize the most current information possible to examine factors that affect Latino students’ college participation. It has tracked high school students at three time points: when they were sophomores (2002), seniors (2004), and two years after expected high school graduation date (2006). ELS: 2002 contains a nationally representative sample of schools, an oversampling of Latino students (thus ensuring adequate sample sizes for analysis), a variety of measures related to preparation for college from the student and school levels, and important demographic measures particularly relevant to Latinos (like ethnicity and immigration status).

The purpose of this study is to utilize the ELS data set to examine predictors of whether or not Latino students enroll in college, and, among those who do enroll, whether they enroll in a two- or four-year institution. The nationally representative sample of high school sophomores in ELS permits an examination of college participation of the full range of students who do not go to college as well as those who do. Hardly any research is available about the influences on college access for students who do not go to college, as well as those who do not attend four-year elite institutions (both of whom comprise the majority of the Latino high school graduate population) (Kirst & Bracco, 2004; Perna, 2006). This study addresses this gap in the research by examining the

following questions: (a) What are the individual-, high school-, and state-level characteristics that affect whether or not Latino students enroll in college? and (b) What are the individual-, high school-, and state-level characteristics that affect whether or not Latino students who do pursue higher education enroll in a two-year or four-year college?

Drawing on the timeliness of the most recent wave of ELS data collection, the proposed study also provides the first test of a multidimensional framework of college participation that integrates decades of classic and contemporary literature on college access (Perna, 2006). This model stresses the multidimensional and complex nature of college participation and acknowledges that students, to some degree, determine their own college-going behavior, but that this level of individual agency is also embedded in micro-, meso-, and macro-level structural contexts. The proposed study tests a model that identifies the distinct effects of three levels of characteristics on college participation: individual-, school-, and state-level. In this particular study, ELS data at the individual -and school-levels will be supplemented with state-level data on each state's socio-economic and educational environment, which will be drawn from various sources, including the NCES Digest of Education Statistics and the Integrated Public Use Microdata Samples (IPUMS) published by the University of Minnesota Population Center.

While some studies have used national data sets to address the individual- and school-, or individual- and state-level influences, on college participation (e.g., Perna & Titus, 2004, 2005), none have *simultaneously* addressed the effects of school and state-level influences. This study exhibits innovative methodological techniques to address this gap in the research. It utilizes three-level Hierarchical Generalized Linear Modeling (HGLM) in order to test the effects of individual-, school-, and state-level factors on the two outcomes: (a) whether Latino students go to college and (b) whether Latinos who enroll in college attend a two-year or four-year institution. The use of HGLM will provide information about the distinct effects of the levels themselves, and characteristics within the three levels, on college participation. As such, this study can inform which research, policy, and programmatic areas from these different levels can serve as leverage points to improve future studies about college access and promote college participation among Latino students.

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#### 4. Project Description

##### a. Statement of the Problem

As of 2006, Latinos comprise 15 percent of the United States population and are the largest non-White, youngest, and fastest growing population in this country (U.S. Census Bureau, 2007; Perna, 2006). Projection data by Martinez (2002) also indicate that the population of 18- to 24-year olds is increasing and half of the population boom in traditional college-age students, which is expected to reach four million by 2015, will consist of Latino students. Therefore, the coming years will see an increasing demand for higher education, particularly from the Latino populations, who remain among the least educated populations in U.S. (Fry, 2002; Schneider, Martinez, & Owens, 2006). In this current context, there is much concern as to whether Latinos will be able to increase their participation rates in higher education, while equalizing past disparities in their levels of enrollment compared with members of majority groups (Martinez, 2002; St. John, 2003).

The proportion of American students enrolling in college directly after high school has increased markedly in the past decades (Kirst, Venezia, & Antonio, 2004). However, the distribution of this enrollment among racial/ethnic group has not been equitable, with enrollment rates of minority groups like Latinos and African Americans remaining flat or even declining (St. John, 2003). Latino high school graduates, along with African Americans, continue to have among the lowest educational attainment and college-going rates (Fry, 2002; Swail, Cabrera, & Lee, 2004a, 2004b; Schneider, Martinez, & Owens, 2006; Swail, Cabrera, Lee, & Williams, 2005). Recent analyses using data from the Educational Longitudinal Study 2002 (ELS: 2002) have found that two years after their expected high school graduation date, 42 percent of Latino high school students who were sophomores in 2002 had not yet enrolled in *any* postsecondary education, compared with 18 percent of Asian American students, 25 percent of White students, and 38 percent of African American students (Bozick & Lauff, 2007).

The issue of access is complex and includes not only whether students go to college, but also which institution types they choose to attend. Yet, Latinos who do enroll in higher education have traditionally been underrepresented in the four-year sector and overrepresented in the two-year sector (Llagas & Snyder, 2003; Schneider, Martinez, & Owens, 2006). The ELS: 2002 data indicate that only about one-fifth (22 percent) of Latino high school students who were sophomores in 2002 had enrolled in a four-year public or private institution within two years of when they were supposed to finish high school. Strikingly, this figure was less than half of the four-year institution enrollment rates for Asian Americans (54 percent) and Whites (46 percent) and sizably less than the

enrollment rate for African American students (33 percent) (Bozick & Lauff, 2007). Indeed, research well documents that even controlling for critical factors like academic ability and financial characteristics, Latino students are less likely to attend four-year institutions (and more likely to attend two-year institutions) than their non-Latino counterparts with similar academic abilities (Fry, 2002; Schneider, Martinez, & Owens, 2006; Swail, Cabrera, Lee, & Williams, 2005).

College participation – that is, whether and where students enroll in college – critically affects Latino and other students’ longer-term educational attainment, including bachelor’s degree completion or graduate school attendance. In light of Latinos’ low college participation rates, examining the factors that predict whether or not Latino high school students enroll in college can provide important insights as to how to promote college enrollment. Given the overrepresentation of Latinos in two-year colleges compared with four-year colleges, it is also critical to examine the influences shaping whether Latinos enroll in two-year or four-year colleges.

The factors that predict the college participation of high school students are multidimensional and incorporate economic, social, and political contextual factors, as well as individual-, school- and community-level factors (McDonough, 1997; McDonough & Gildersleeve, 2005; Perna, 2006). The first line of research on college access has been from an econometric and human capital perspective that emphasizes the impact of financial factors on individual’s college participation (Perna, 2006). The econometric models of college choice assume that an individual student rationally chooses a particular college based on assessing that the perceived benefits of attending college outweigh those of not attending college altogether (in terms of access) or the perceived benefits of attending one institution outweigh those of attending another institution (in terms of choice) (Kim, 2003; McDonough, 1997; Perna, 2006). However, this research has been unable to explain fully why students from different racial/ethnic or socioeconomic groups attended college, or different types of colleges, at different rates. Thus, more recent research has incorporated sociological perspectives that have introduced the importance of social, cultural, and structural factors in the college participation process. Such factors include access to social and cultural capital, as well as school, community, higher education, and social, political, and historical contextual factors (Perna, 2006). Including these variables in analyses of college access has added significant predictive power to models of college participation. The proposed study draws on these insights and utilizes a multilevel statistical framework to examine multidimensional effects - individual, high school, and state-level - on Latino students’ college participation.

### **b. Objectives of the Study**

The purpose of this study is to examine predictors of whether or not Latino high school students enroll in college and, among those who pursue postsecondary education, whether they enroll in a two-year or four-year institution. This study includes the full range of students who do not go to college as well as those who enter two- or four-year institutions. Research on college access rarely addresses the factors that affect the postsecondary transitions of high school students who do not attend college and those who do not attend four-year elite institutions (both of whom comprise the majority of Latino high school graduates) (Kirst & Bracco, 2004; Perna, 2006). This study addresses this gap in the research by examining the following questions:

- (1) What are the individual-, high school-, and state-level characteristics that affect whether or not Latino students enroll in college?
- (2) What are the individual-, high school-, and state-level characteristics that affect whether or not Latino students who do pursue higher education enroll in a two-year or a four-year college?

### **c. Conceptual Framework and Literature Review**

Departing from the research that considers college participation as an individual's sole decision, researchers recognize the multilayered process of college participation decision that is influenced not only by individual characteristics but also by the high school experiences that the individuals have and the community environment that the individuals live (Hossler, Schmidt, & Vesper, 1998; McDonough, 1997). In particular, Perna (2006) developed a conceptual model of college access that integrates several levels of influence on students' college trajectories. Perna's theoretical model stresses the complexity of college choice and acknowledges that students, to some degree, determine their own college-going behavior, but that this level of individual agency is also embedded in micro-, meso-, and macro-level structural contexts. Such contexts include schools, neighborhoods, local and state conditions concerning higher education, and the broader social, economic, and policy context at a given time.

Perna's model incorporates economic and sociological perspectives and draws from classical and current research on college access to identify four layers of college access: 1) individual habitus, 2) school and community level, 3) higher education context, and 4) social, historical and political context. Each layer is embedded within the subsequent layer, and together these layers are presumed to condition college access. First, the concept of individual

habitus, based originally on the work of Bourdieu (1977) and elaborated by others (Berger, 2000; McDonough, 1997; McDonough & Nuñez, 2007), recognizes the role of an individual’s perceptions of their opportunity structure in conditioning how they orient themselves toward pursuing higher education. Factors that condition an individual’s habitus include an individual student’s demographic characteristics, academic preparation, access to cultural and social capital (knowledge about and moral support toward pursuing postsecondary education), supply of resources for attending higher education, and an assessment of the costs and benefits of higher education (Perna, 2006). Second, school/community context also affects college choice. This level involves the capacities that school and community characteristics offer students to prepare for college. School/community context factors include availability and types of resources that the school has to offer or neighborhood qualities that facilitate or impede enhancing students’ preparation for college (Perna, 2006). The third level, the higher education context, includes the quality of the local higher education environment – such as the types of institutions and the efforts these institutions make toward recruiting students. Finally, the fourth level, the larger social, economic and political context, shapes how students orient themselves toward the pursuit of postsecondary education (Perna, 2006).

The proposed study will utilize Perna’s theoretical framework to understand Latino students’ college participation, with particular emphasis on the structural impact of the high school and the state. Literature suggests that students from different racial/ethnic groups navigate college trajectories in distinct ways (Hurtado, Inkelas, Briggs, and Rhee, 1997; Kim, 2004; Perna, 2000). Thus it is imperative to disaggregate the process of college access by race/ethnicity, in order to yield insights on the complexity of college choice (McDonough & Gildersleeve, 2006; Perna, 2006). This study will clarify if Perna’s theoretical model is confirmed by the most recent data of Latino high school graduates from ELS: 2002, with the future intent of testing this model on other racial/ethnic groups to examine to what extent the model accounts for variation in the college participation of racial/ethnic groups.

**Level 1: Individual characteristics**

Latino students tend to be poorer than others, and thus are constrained with respect to the capacity to pay for college. Indeed, income and the amount of financial aid a student receives appear to be strong determinants of whether a Latino student attends a two-year or four-year college (Kim, 2003). Latino students also are often misinformed about the costs and benefits of college, and tend to overestimate the cost of college and underestimate the longer-term benefits of a college education (Perna, 2006; Post, 1990; Zarate & Pachon, 2006). Even controlling

for financial background, they also tend to be more resistant to taking out loans to pay for college than members of any other student population (Kim, 2004). This combination of material constraints and lack of information about how to finance a college education limit opportunities for even the brightest Latino students to access a wider array of postsecondary options. The condition of academic preparation has also limited Latino students’ college access. There is strong evidence that taking a rigorous academic curriculum in high school, particularly higher level mathematics, substantially increases enrollment in a more selective college (Adelman, 1999, 2006; Horn & Nuñez, 2000). Yet, even controlling for academic achievement, Latino students (many of whom come from families where neither parent went to college) tend to take lower level academic courses than other students from majority backgrounds because they are often classified into lower academic tracks early on in their K-12 educations (e.g., Horn & Nuñez, 2000; Oakes, 1985, 1990; Oakes, et al., 2002; Oakes, et al., 2006).

**Level 2: High school characteristics**

Schools that Latino students attend tend to be more racially segregated, with higher proportions of other Latino and African American students, in geographic areas that are less well resourced to sustain public schools (Orfield, 1992; Orfield & Paul, 1993). These schools, more often than not, offer a limited number of higher level and Advanced Placement coursework (Oakes et al., 2002; Oakes, et al., 2006; Orfield, 1992; Orfield & Paul, 1993). Oakes, Mendoza, & Silver (2006) identify seven schooling conditions that promote college-going including (1) safe and adequate school facilities, (2) a college-going school culture, (3) a rigorous academic curriculum, (4) qualified teachers, (5) intensive academic and social supports, (6) opportunities to develop a multicultural college-going identity, and (7) family-neighborhood-school connections around college going. Safe and adequate school facilities are clean, provide a pleasant environment and enough space for all students, and are free from violence. A college-going school culture involves key stakeholders (e.g., teachers, administrators, parents, students) who expect students to go to college and provide the experiences and caring relationships to support that end. A rigorous academic curriculum involves having adequate access to college preparatory courses such as advanced math and AP classes. Qualified teachers have been certified in their subject material and teach effectively. Intensive academic and social supports provide students with access to resources like tutors, extra funding, counseling about college applications and financial aid, summer bridge programs, and test prep courses. Opportunities to develop a multicultural college-going identity afford students of color culturally relevant guidance regarding the college preparation and application process and the chance to view college as an expected and appropriate option for themselves. Family-neighborhood-

school connections around college-going include strong communication between families and schools, the involvement of parents in school practices, and linkages between school and community resources to support families and students.

Access to cultural and social capitals has also been found to predict the college enrollment trajectories of Latino students (Perna, 2000). Cultural capital includes access to information about the college application process (Berger, 2000; McDonough, 1997). Some of this information is provided by high school counselors, although access to counselors varies by school control (public or private) (McDonough, 1997, 2002), whether the student is in an honors track or not (Lee & Ekstrom, 1997), and the amount of time counselors have for college counseling. Access to information about college appears to have more of an impact on Latino students’ college enrollment than for students from other racial/ethnic backgrounds (Oakes, Mendoza, & Silver, 2006). Social capital is defined as the capacity of the members of social networks to share encouragement or provide useful information about the college preparation and application process (Coleman, 1998; Stanton-Salazar, 1997, 2001, 2004). It has been documented that “institutional agents,” like teachers and counselors, can have a profound influence on the college access of Latino students, for example with respect to the decision to attend a four-year or community college (Gonzalez, Stoner, & Jovel, 2003; Stanton-Salazar, 1997; Oakes, et al., 2006). Peers can be another important influence on college-going; having peers with expectations of going to college can increase at-risk students’ likelihood of graduating from high school and presumably, of enrolling in college (Horn, 1997). The effect of peers on Latino students’ college choice appears strong; in fact, Latino students apparently are the only racial/ethnic group for whom peers represent an important influence in college choice processes (Kim, 2004; Núñez, McDonough, Ceja, & Solorzano, In press), although the reasons for this are less clear.

**Level 3: State characteristics**

Perna’s third (higher education context) and fourth (social, historical, and political context) levels are combined to represent state-level characteristics, since a state’s social, economic, and educational characteristics and policy regarding higher education significantly affect the higher education context and the quality of the local higher education environment. Factors composing state level characteristics are categorized into two groups: state context (a state’s political, economic, historical, and social background) and state policy (a state’s organization and legislation regarding higher education) (Martinez, 2002). Indicators of state context include elements of state history, culture, political makeup, demographic characteristics (percentage of state population with a ba degree,

racial/ethnic composition), economic conditions (state poverty rate, unemployment rate), and region (Martinez, 2002; Perna, 2006). State policy indicators include the level of state funding for state postsecondary institutions, average tuition at public four-year school, financial aid provided to students in the state, and capability of preparing K-12 students for college (Perna & Titus, 2004). As such, related indicators of state policy include: the proportion of two- or four-year public and private colleges in the state, college access rates (proportion of 18-24 year olds enrolled in higher education divided by total population of 18-24 year olds), the amount of financial aid available for 18-24 year olds in the state, and funding provided to state institutions for financial aid (Martinez, 2002; Perna, 2006; Perna & Titus, 2004).

Perna (2006), Kirst, Venezia, & Antonio (2004), and Oakes, Mendoza, & Silver (2006) argue that studies of state-level influences on college access are limited, thus restricting understanding of how state policies affect college access for Latinos. Most studies address how state public higher education admissions or financial aid policies affect access, or are focused on describing the policy at hand, rather than their effects on school contexts and their relationships with student outcomes.

#### **d. Proposal of Work**

The proposed study will use a multilevel statistical framework to understand how individuals’ college going decision is structured not only by individual’s own backgrounds and circumstances but also by the high schools that they attended and the states that they resided in. Given the scarcity of research that incorporates various school- and state-level factors that condition individual’s college access process (McDonough, 1997; Perna, 2006), this study promises an added understanding on the enduring problem of Latino college access. This type of analysis needs multiple sources of data that are appropriate to each layer of the statistical levels – individual, high school and state -- in this study.

##### *d.1. Data*

Individual-level data will be drawn from the ELS: 2002 data, which provide nationally representative information about 2002 high school sophomore cohort. ELS: 2002 provides critical opportunities for assessing the pre-college factors that affect the college trajectories of Latino students given that the data track students from high school to college, include a nationally representative sample of schools, oversample Latino students (thus ensuring adequate sample sizes for analysis), contain a variety of measures relating to preparation for college, and include important demographic measures particularly relevant to Latinos (like ethnicity and immigration status).

ELS:2002 contains three time periods of data collection – the base year was in 2002, when students were sophomores in high schools, the first follow-up was two years later in 2004, and the second follow-up was in 2004, when most of the high school sophomores in 2002 graduated from high school or earned a general education development certificate (92 percent of the total sampled students in 2002). Of those, 60 percent enrolled in college immediately after their completion of high school (Bozick & Lauff, 2007). The base year and first follow-up data provide information about individual students’ social, cultural and academic backgrounds and experiences while in high schools. The second follow-up data provide information about student transition from high school to the next level -- whether students continued their education by enrolling in college, and if so, where they enrolled. Not all high school graduates are academically qualified to enroll in college. To answer the first research question that focuses on the choice of whether to attend college, only students who have achieved eligibility for college by earning a high school diploma or GED will be selected and included in this study. For the second research question that focuses on the choice of where to attend college, only those who enrolled in college will be selected, regardless of the type or control of the higher education institutions. ELS:2002 data also include information from the parent survey that includes families’ social, cultural and economic environment. As such, parental responses will also be incorporated into the individual students’ information.

High school-level variables will be derived from the ELS:2002 high school administrators and teachers’ survey components. NCES conducted separate surveys for the high school administrators and teachers, in addition to the high school students in the base year of 2002, thus providing a perfect opportunity to clarify the school effects, in terms of high school’s physical facilities, educational/social environment, and teachers’ quality. The third level of data -- namely state-level – that represents the state’s socio-economic and educational environment and philosophy toward education will be collected from various sources, including the Digest of Education Statistics published by NCES, and the Integrated Public Use Microdata Samples (IPUMS) published by the University of Minnesota Population Center.

#### *d.2. Variables*

The first dependent variable will be whether the student attended college. The second dependent variable will be drawn only from the students who went to college and will measure whether the student attended a two-year or 4-year institution. The independent variables will follow an adapted version of Perna’s conceptual framework, including (1) individual background and habitus; (2) high school; and (3) state variables, and the same set of

independent variables will be used in the two separate statistical analyses for two research questions of whether to attend and where to attend.

Individual-level variables include demographic characteristics such as gender, family income, parent’s highest level of education, intact household (single or dual parent), academic preparation characteristics include highest level of math taken (for predicting college-going behaviors), 10<sup>th</sup> grade math proficiency, 10<sup>th</sup> grade reading/English proficiency, SAT scores, or number of AP courses taken. In operationalizing variables from ELS:2002, this study will make the distinction between social capital that is cultivated within the family and outside of the family (Conchas, 2006). Familial social capital will be classified as part of individual characteristics, and non-familial social capital that is accessed with school personnel, for example, will be classified as part of the high school-level characteristics. This distinction recognizes the roles of the individual, their family, and the school in terms of capital accumulation and development necessary to prepare for and enroll in college. The category of familial cultural capital at the student-level includes whether parents attended programs about financial aid availability, students’ reported educational expectations in 10<sup>th</sup> grade, and parents’ reported educational expectations while the student was in 10<sup>th</sup> grade. Student-level familial social capital variables include students’ reported frequency of discussing their high school academic program with their mother, father, relatives, and friends; students’ reported frequency of discussing preparation for the SAT/ACT with parents in 10<sup>th</sup> grade; and students’ reported frequency of discussing academic preparation for college with parents in 10<sup>th</sup> grade.

High school-level variables will include responses from the high school administrators that can be categorized into structural characteristics, student composition characteristics, and teaching staff characteristics. Structural characteristics of the high school include school type (public, Catholic, private non-Catholic), size (total number of enrolled students), crime level in the neighborhood in which students live, and urbanicity. Student composition characteristics that represent the peer group effect of the high school (Bryk and Thum, 1989; Rumberger, 1995) include the percentage of students receiving free/reduced price lunch, percentage of 10<sup>th</sup> graders who drop out of high school, racial/ethnic distribution of the students at the high school, percentage of that high school’s graduates who enroll in a four-year college, the average level of math coursework completed by students, and the percentage of students enrolled in academic (college-preparatory) track within the high school. Teaching staff characteristics include the percentage of full-time teachers in the schools, percentage of full-time teachers who

are certified, average student rating of teacher quality, average salary of a teacher at the school, and the racial/ethnic composition of these full-time regular teachers.

Another set of high school-level variables that represent college-going resources related to school personnel and peers within the high school (Bryk and Thum, 1989; Rumberger, 1995) include non-familial cultural capital and non-familial social capital. Following Rumberger (1995)’s example, these variables will be developed from the student survey by aggregating individual values of students’ responses to the high school level. Although the high school-level data in the study are unbalanced (i.e., the number of survey respondents varied at each school, and thus does not represent the responses of all of the students at a particular high school), a multilevel statistical framework considers the number of cases within schools when weights are applied at the high school-level analysis and is, therefore, an appropriate technique for unbalanced data analysis (Raudenbush & Bryk, 2002). Non-familial cultural capital variables include: (a) the mean level of students reporting that they had received help from the school in completing a college application form, (b) the mean level of the extent to which students reported they discussed plans for their high school academic program with a counselor, and (c) the percentage of students in the school who report that they plan to go to college (Oakes, Mendoza, & Silver, 2006). Non-familial social capital variables include the average extent to which students at a given school reported: (a) that they participated in extracurricular activities, (b) that their friends plan to go to college, (c) that their friends care about studying, and (d) that their teachers care about their achievement (Conchas, 2006).

State-level variables that represent the social, economic, and policy context include: (a) unemployment rates, (b) state poverty rates, (c) percentage of business that is in the manufacturing sector, (d) percentage of the state population that holds at least a bachelor’s degree, (e) percentage of Latinos in the total state population, (f) number of 18-24 year olds from a state who are enrolled in higher education divided by the total number of 18-24 year olds in that state, and (g) whether the state is permitted to use affirmative action admissions policies in its institutions (Martinez, 2002; Perna, 2006). Geographic region has been known to influence substantial differences in high school graduation rates and college enrollment as shaped by various traditions and philosophies toward education (Kim & Rury, 2007). Based on previous research (Kim & Rury, 2007), this variable will also be included in the analysis and coded as North, South, Plains, Southwest, Mountain, and Pacific.<sup>1</sup>

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<sup>1</sup> Although we have the full intention to utilize as many important variables to include in the statistical analysis, the results from the preliminary statistical analysis may change the number of variables and the types of variables in the final statistical model.

*d.3. Empirical Methodology*

While studies have used HLM to examine school-level effects on college participation (e.g., Perna & Titus, 2005) and state-level effects on this outcome (e.g., Perna & Titus, 2004), no studies have examined the influence of school-level and state-level effects simultaneously on college participation. Yet high schools are nested within states, and there is significant variation among states with respect to legislative policies, the availability of different types of higher education, and social, political, and economic contexts relating to higher education access (Martinez, 2002). The proposed study will utilize three-level HLM to address *state-level* as well as *school-level* sources of variation affecting college participation, while taking into account *individual-level* characteristics as well. In particular, the proposed study will test an adapted conceptual framework based on Perna (2006) that integrates contemporary and classic college access literature and identifies multiple contextual layers that affect individual’s college access.

In HLM analysis, the estimated parameters of the intercept and the independent variables from the student-level, within-high school model (level 1) are used as dependent variables in the high school-level, between-high school model (level 2). The parameters for the intercept and independent variables from the between-high school model generate their own equation in the between-state model (level 3). Each parameter for the intercept and the independent variables from the within-high school model, between-high school model, and within-state model creates its own equation in the between-high school model and between-state model and can have either fixed or random effects.

In the proposed study, the two dependent variables are binary. Thus, the need for hierarchical generalized linear modeling (HGLM) emerges. HGLM is an extension of the generalized linear model (GLM) and generates estimates of how various factors predict the probability of outcome measures.

The first step in the HGLM analysis is to construct a null model (a one-way ANOVA model with random effects) in which no predictors enter into the statistical model. This null model provides an estimated grand mean of outcome measure and information about the variance in the outcome that is attributable to between-high school and between-state differences (Raudenbush & Bryk, 2002).

$$Y_{ijk} | \varphi_{ijk} = B(m_{ijk} = 1, \varphi_{ijk}) \quad (\text{i=individual student, j=school, k=state}) \quad (1)$$

$$\eta_{ijk} = \log(\varphi_{ijk} / (1 - \varphi_{ijk})) \quad (2)$$

In equation 1,  $Y_{ijk}$  is the outcome variable, indicating whether students attended college (or whether students attended four-year institutions), and  $\varphi_{ijk}$  is an individual’s probability of attending a college (or attending a four-year institution). Equation 1 denotes that  $Y_{ijk}$  has a Bernoulli distribution with a single trial ( $m_{ijk}=1$ ), a special case of binomial distribution,  $B(m_{ijk}, \varphi_{ijk})$  with  $m_{ijk}$  trials. In equation 2,  $\eta_{ijk}$  is the log-odds of attending college. We use  $\eta_{ijk}$  as an outcome variable based on the common logistic regression assumption that the relationship of a binary outcome to the predictor variables is linear in the log-odds (Raudenbush & Bryk, 2002). Equation 2 can be rewritten for probability  $\varphi_{ijk}$  as in equation 3.

$$\varphi_{ijk} = \frac{1}{1 + \exp[-\eta_{ijk}]} \quad (3)$$

The next step is constructing a model in which a series of student-level (level 1) variables is specified, but which is unconditional in the high school-level (level 2). This model, shown in equation 4, estimated differences in the outcome variable attributable to differences in student-level characteristics.

$$\eta_{ijk} = \beta_{0jk} + \beta_{1jk}(\text{individual background characteristics})_{ij} + \beta_{2jk}(\text{academic preparation})_{ij} + \beta_{3jk}(\text{familial cultural capital})_{ij} + \beta_{4jk}(\text{non-familial social capital})_{ij} \quad (4)$$

A high school-level conditional model is specified, as shown in equation 5. This model uses high school-level variables to explain the variance in college participation that is attributable to differences among high schools:

$$\beta_{0jk} = \gamma_{00jk} + \gamma_{01jk}(\text{structural characteristics})_{jk} + \gamma_{02jk}(\text{student characteristics})_{jk} + \gamma_{03jk}(\text{teaching staff characteristics})_{jk} + \gamma_{04jk}(\text{peer group characteristics})_{jk} + \mu_{0jk} \quad (5)$$

A between state-level conditional model is shown in equation 6. This model includes state-level variables to explain the remaining variance in college participation that is attributable to differences among states:

$$\gamma_{00jk} = \pi_{000} + \pi_{001k}(\text{state economic characteristics})_k + \pi_{002k}(\text{state demographic characteristics})_k + \pi_{003k}(\text{state higher education characteristics})_k + \pi_{004k}(\text{regional variables})_k + \mu_{00k} \quad (6)$$

Using HGLM to predict college participation will take into account the fact that the observations of students within high schools and within states are *not* independent. As such, the use of this method will provide

more accurate estimates of the distinct effects of school- and state-level variables on the student-level outcomes being measured (Raudenbush & Bryk, 2002).

#### **e. Dissemination Plan**

The Principal Investigator and Co-Principal Investigator plan to present the findings at key national conferences, including the Association for Institutional Research (AIR), the Association for the Study of Higher Education (ASHE) and the American Educational Research Association (AERA). Attending these conferences will afford opportunities to engage in national conversations about issues of college access and to obtain feedback on the manuscripts. Manuscripts addressing predictors of the different dependent variables will be submitted to journals including *Research in Higher Education*, the *Journal of Higher Education*, and the *Journal of Hispanic Higher Education*. The Principal Investigator will also present results to members of her university and to researchers, policymakers, and practitioners in Texas in order to inform policy efforts to increase the participation of Latinos in higher education, which is a key initiative of the Texas legislature (Texas Higher Education Coordinating Board, 2007).

#### **f. Policy Relevance**

This study will provide timely information about the influences of various individual and contextual factors on Latino students’ college participation. The use of Hierarchical Generalized Linear Modeling to examine individual-, high school- and state-level effects on Latino college participation will inform educational researchers, policymakers, and personnel from both the K-12 and higher education arenas ideas on how to improve research approaches, policies, and programs that serve this population. Since Latinos do not attend four-year institutions at the same rates as others (particularly, white or Asian students), even when controlling for their academic preparation and financial condition (Perna, 2000; Santiago, 2007), this study will provide significant and up-to-date insights on why the influences on Latino college participation may not align with some of the predominant econometric and rational models of college choice (Kim, 2003; Perna, 2006; Santiago, 2007). Understanding why this is the case using the most recent available national data sets can inform the development of federal, state, and local policies and programs that involve students, families, teachers, and personnel from both K-12 and higher education.

#### **g. Innovative Aspects of the Project**

This study will inform efforts to promote P-20 (pre-kindergarten to graduate school) collaboration and data collection to better serve students’ school to university transition needs (Kirst, Venezia, & Antonio, 2004;

McLendon, Heller, & Young, 2005). The movement toward P-20 partnerships encourages strong connections between lower and higher sectors of education, along with closer working partnerships between educators and involved stakeholders at the two levels. Information from ELS: 2002, which links students’ high school background and experiences with their postsecondary participation, is ideal for informing such efforts on a national level. The use of Hierarchical Generalized Linear Modeling (HGLM) to isolate distinct individual-, school-, and state-level effects will provide insights as to which policy and programmatic areas from these different levels can serve as leverage points for interventions to promote college participation. Moreover, to build data decisionmaking in P-20 education, several states have moved to build data driven decisionmaking at the state level. Since state capacities for data collection tracking students from high school to college have historically been limited, federal grants were initiated in 2005 through the State Longitudinal Data Systems Grant Program to support states in building P-20 data collection systems (CALDER, 2007). The proposed study will provide stakeholders in these efforts with useful information about which data elements and levels of analysis (i.e., individual, school, or state) are particularly salient for data collection purposes.

#### **h. Audience**

By addressing the relationship between individual-level, high school-level, state-level factors and college participation, this study will provide important insights for educational researchers, policymakers, and practitioners involved in any aspect of college access. Stakeholders in the P-20 field will find the results of particular interest with respect to building more comprehensive models of understanding Latino college participation, developing data collection efforts, or developing P-20 collaborations.

## 5. References Cited

- Adelman, C. (1999). *Answers in the toolbox: Academic intensity, attendance patterns, and bachelor's degree attainment*. Washington, DC: U.S. Department of Education, Office of Educational Research and Improvement.
- Adelman, C. (2006). *The Toolbox Revisited: Paths to Degree Completion From High School Through College*. Washington, D.C.: U.S. Department of Education.
- Arbona, C., & Nora, A. (2007). The Influence of Academic and Environmental Factors on Hispanic College Degree Attainment. *The Review of Higher Education*, 30(3), 247-270.
- Berger, J. B. (2000). Optimizing capital, social reproduction, and undergraduate persistence: A sociological perspective. In J. M. Braxton (Ed.), *Reworking the Student Departure Puzzle* (pp. 95-126). Nashville: Vanderbilt University Press.
- Bourdieu, P. (1977). Cultural Reproduction and Social Reproduction. In J. Karabel & A.H. Halsey (eds.), *Power and Ideology in Education* (pp. 487-511). New York: Oxford University Press.
- Bozick, R., & Lauff, E. (2007). *Educational Longitudinal Study of 2002 (ELS: 2002): A First Look at the Initial Postsecondary Experiences of the High School Sophomore Cohort of 2002*. Washington, DC: National Center for Education Statistics.
- Bryk, A. S. & Thum, Y. M. (1989). The effects of high school organization on dropping out: An exploratory investigation. *American Educational Research Journal*, 26, 353-383.
- CALDER. (2007). State Data Collection. Retrieved from <http://www.caldercenter.org/research/statedata.cfm>, October 26, 2007.
- Conchas, G. (2006). *The color of success*. New York: Teachers College Press.
- Fry, R. (2002). *Latinos in higher education: Many enroll, too few graduate*. Los Angeles: Pew Hispanic Center.
- Horn, L. (1997). *Confronting the odds: Students at risk and the pipeline to higher education* (No. NCES 098-094). Washington, DC: U.S. Department of Education, National Center for Education Statistics.
- Horn, L., & Núñez, A.-M. (2000). *Mapping the road to college: First-generation students' Math track, planning strategies, and context of support*. Washington, DC: U.S. Department of Education, National Center for Education Statistics.

- Hossler, D., Schmidt, J., & Vesper, N. (1998). *Going to college: How social, economic, and educational factors influence the decisions students make*. Baltimore: Johns Hopkins University Press.
- Hurtado, S., Inkelas, K., Briggs, C., & Rhee, B. (1997). Differences in college access and choice among racial/ethnic groups: Identifying continuing barriers. *Research in Higher Education*, 38(1), 43-75.
- Kim, D. (2003). *The impact of financial aid on the college destinations of students from different racial groups: 2-year vs. 4-year institutions*. A paper presented at the Annual Meeting of the Association for the Study of Higher Education, Portland, OR.
- Kim, D. (2004). The effect of financial aid on students' college choice: Differences by racial groups. *Research in Higher Education*, 45(1).
- Kim, D. & Rury, J. (2007). The Changing Profile of College Access: Enrollment patterns in the Postwar Era. *History of Education Quarterly*. 47:3, pp.302-327.
- Kirst, M., & Bracco, K. (2004). From high school to college: Improving opportunities for success in postsecondary education. In M. W. Kirst & A. Venezia (Eds.), *Bridging the great divide* (pp. 1-30). San Francisco, CA: Jossey-Bass.
- Kirst, M., Venezia, A., & Antonio, A. (2004). What have we learned, and where do we go next? . In M. W. Kirst & A. Venezia (Eds.), *Bridging the great divide* (pp. 285-319). San Francisco, CA: Jossey-Bass.
- Lee, V. E., & Ekstrom, R. B. (1987). Student access to guidance counseling in high school. *American Educational Research Journal*, 24, 287-310.
- Llagas, C., & Snyder, T. D. (2003). *Status and trends in the education of Hispanics*. Washington, D.C.: National Center for Education Statistics.
- Martinez, M.C. (2002). *Postsecondary participation and state policy: meeting the future demand*. Sterling, VA: Stylus.
- McDonough, P.M. (1997). *Choosing colleges: How schools and social class structure opportunity*. Albany, NY: State University of New York Press.
- McDonough, P.M., & Gildersleeve, R. (2005). All Else is Never Equal: Opportunity Lost and Found on the P-16 Path to College Access. In C. Conrad & R. Serlin (Eds). *The Sage Handbook for Research in Education* (pp. 59-78). Thousand Oaks: Sage.
- McDonough, P.M., & Núñez, A.-M. (2007). Bourdieu's Sociology of Education: Identifying Persistent Inequality,

- Unmasking Domination, and Fighting Social Reproduction. In C.A. Torres & A. Teodoro (Eds.), *Critique and Utopia: New Developments in the Sociology of Education*. New York: Rowman & Littlefield.
- McLendon, M. K., Heller, D. E., & Young, S. P. (2005). State postsecondary policy innovation: politics, competition, and the interstate migration of policy Ideas. *The Journal of Higher Education* 76(4), 363-400.
- Nora, A. (2004). The Role of Habitus and Cultural Capital in Choosing a College, Transitioning from High School to Higher Education, and Persisting in College Among Minority and Nonminority Students. *Journal of Hispanic Higher Education*, 3(2), 180-208.
- Nuñez, A-M. (2005). *An Education Research Perspective on College Transition*. Technical Report to The Social Sciences Research Council (SSRC).
- Nuñez, A-M. (Under review). Latino Students’ College Transitions: The Influence of Diversity Experiences and Social Capital.
- Nuñez, A.-M., McDonough, P., Ceja, M., & Solorzano, D. (In press). Diversity Within: Latino College Choice and Ethnic Comparisons. *New Directions in Race Scholarship* (Edited by C.Gallagher). New York: Routledge.
- Oakes, J. (1985). *Keeping Track: How schools structure inequality*. New Haven: Yale University Press.
- Oakes, J. (1990). *Lost talent: The underparticipation of women, minorities, and disabled Persons in Science*. Santa Monica, CA: RAND Corporation.
- Oakes, J., Mendoza, J., & Silver, D. (2002). California opportunity indicators: Informing and monitoring progress California’s Progress Toward Equitable College Access. In P. Gandara & G. Orfield (Eds.), *Expanding opportunity in higher education: leveraging promise* (pp. 19-52). Albany: State University of New York Press.
- Oakes, J., Rogers, J., Lipton, M., & Morrell, E. (2002). The social construction of college access. In W. G. Tierney & L. S. Hagedorn (Eds.), *Increasing access to college* (pp. 105-121). Albany: State University of New York Press.
- Oakes, J., Rogers, J., Silver, D., Valladares, S., Terriquez, V., McDonough, P., et al. (2006). *Removing the roadblocks: Fair college opportunities for all California students*. Los Angeles, CA: UC All Campus Consortium for Research on Diversity and UCLA Institute for Democracy, Education, and Access.
- Orfield, G. (1992). Money, equity, and college access. *Harvard Educational Review*, 62(3), 337-372.

- Orfield, G., & Paul, F. (1993). *High hopes, long odds: A major report on Hoosier teens and the American dream*. Indianapolis: Indianapolis Youth Institute.
- Perna, L. (2000). Differences in the decision to attend college among African Americans, Hispanics, and Whites. *Journal of Higher Education, 71*(2), 117-141.
- Perna, L. (2006). Studying college access and choice: a proposed conceptual model. In J. Smart (Ed.), *Higher Education: Handbook of Theory and Research* (Vol. XXI, pp. 99-157). Cambridge, MA: Springer.
- Perna, L. W., & Titus, M. A. (2005). The relationship between parental involvement as social capital and college enrollment: An examination of racial/ethnic group differences. *Journal of Higher Education, 76*(5), 486-518.
- Perna, L. W., & Titus, M. A. (2004). Understanding differences in the choice of college attended: the role of state public policies. *Review of Higher Education, 27*(4), 501-526.
- Raudenbush, S., & Bryk, A. (2002). *Hierarchical linear models: Applications and data analysis methods (2nd edition)*. Thousand Oaks, CA: Sage.
- Rumberger, R. W. (1995). Dropping out of middle school: A multilevel analysis of students and schools. *American Education Research Journal, 32*: 562-583.
- Santiago, D. (2007). *Choosing Hispanic-Serving Institutions (HSIs): A closer look at Latino students' college choices*. Washington, DC: Excelencia in Education.
- Schneider, B., Martinez, S., & Owens, A. (2006). Barriers to Educational Opportunities for Hispanics. In M. Tienda & F. Mitchell (Eds.) *Hispanics and the Future of America* (pp. 179 -227). Washington, DC: The National Academies Press.
- Stanton-Salazar, R. D. (1997). A Social Capital Framework for Understanding the Socialization of Racial Minority Children and Youth. *Harvard Education Review, 67*, 1-39.
- Stanton-Salazar, R. D. (2001). *Manufacturing hope and despair : The School and Kin Support Networks of U.S.- Mexican Youth*. New York, N.Y.: Teachers College Press.
- Stanton-Salazar, R.D. (2004). Social Capital among Working-Class Minority Students. In M.A. Gibson, P.C. Gandara, & J.P. Koyama (Eds.) *School Connections: U.S. Mexican Youth, Peers, and School Achievement* (pp. 18-38). New York: Teachers College Press.

- St. John, E.P. (2003). *Refinancing the college dream: access, equal opportunity, and justice for taxpayers*. Baltimore: Johns Hopkins University Press.
- Swail, W. S., Cabrera, A. F., & Lee, C. (2004a). *Latino youth and the pathway to college*. Washington, DC: Educational Policy Institute, Inc.
- Swail, W. S., Cabrera, A. F., Lee, C., & Williams, A. (2004b). *From middle school to the workforce: Latino students in the educational pipeline*. Washington, DC: Educational Policy Institution.
- Swail, W. S., Cabrera, A. F., Lee, C., & Williams, A. (2005). *Pathways to the Bachelor's Degree for Latino Students*. Washington, DC: Educational Policy Institute.
- Teranishi, R., Ceja, M., Antonio, A. L., Allen, W. R., & McDonough, P. (2004). The College Choice Process for Asian Pacific Americans: Ethnicity and Socioeconomic class in Context. *Review of Higher Education*, 27(4), 527-551.
- Texas Higher Education Coordinating Board. (2007). *Closing the Gaps by 2015: 2007 Progress report*. Retrieved October 19, 2007 from <http://www.thecb.state.tx.us/reports/PDF/1377.PDF>
- U.S. Census Bureau (2007). *National population estimates, 5*. Washington, DC: Author.
- Zarate, M. E., & Pachon, H. P. (2006). *Perceptions of college financial aid among California Latino youth*. Los Angeles, CA: Tomas Rivera Policy Institute.

## 6. Biographical Sketches

### a. Anne-Marie Nuñez

Anne-Marie Nuñez (PI) is an assistant professor of Educational Leadership and Policy Studies at the University of Texas at San Antonio. She earned an A.B. in Social Studies from Harvard University, an M.A. in Policy Analysis, Administration, and Evaluation from Stanford University, and a Ph.D. in Higher Education and Organizational Change from UCLA. She conducts research on college access, equity, and diversity issues. Her research experience includes over a decade of work with universities, private research organizations, and local partnerships addressing college preparation, transition, and retention for diverse students, including Latino and first-generation students.

She previously served as a research associate working on at MPR Associates, the organization which manages the public use Data Analysis System (DAS) for the ELS and related NCES data sets. In that role, she co-authored six National Center for Education Statistics (NCES) reports analyzing data from longitudinal datasets including the National Educational Longitudinal Study (NELS) (Horn & Nuñez, 2000), Beginning Postsecondary Student Study (BPS) (Kojaku & Nuñez; Nuñez & Cuccaro-Alamin, 1998; Warburton, Bugarin, & Nuñez, 2001), and Baccalaureate and Beyond Study (B&B) (Clune, Nuñez, & Choy, 2001; McCormick, Nuñez, Shah, & Choy, 1999). The proposed study builds on earlier work that analyzed the mathematics track and college enrollment patterns of first-generation students (Horn & Nuñez, 2000). It will incorporate a distinct conceptual framework, new insights from more recent research, and employ different methodologies in accordance with the research questions.

Besides NCES data, she has analyzed other national datasets to address Latino students’ college access , including the Cooperative Institutional Research Program (CIRP) and Diverse Democracy data sets. This exposure has offered her insights on the strengths and weaknesses of various datasets with respect to analyzing various aspects of college access. These experiences have also convinced her of the potential strengths of analyzing ELS data to contribute to a nationally representative understanding of current Latino students’ college access.

Her research has been funded by several agencies, including the Spencer Foundation, the University of California Office of the President, the UC Berkeley Center for the Study of Higher Education, and the University of Texas at San Antonio. She has participated in professional development opportunities about Hierarchical Linear Modeling (HLM) and Structural Equation Modeling (SEM) that have been sponsored by the American Educational Research Association (AERA) and Scientific Software International (SSI) company.

The proposed project complements her current research in several ways. First, it provides a national context for research she is conducting about the postsecondary pathways of high school students in a Texas school district that is largely low-SES and Latino. This particular research draws on a state-level database tracking Texas students’ pathways from K-12 to postsecondary education and employs qualitative approaches to further understand influences on various post-high school outcomes. Like the proposed study based on ELS: 2002, this study addresses individual-, school-, and state-level influences on Latino high school students’ college participation. The opportunity to use the national ELS data to explore a similar topic would enhance the capacity to generalize from the findings based on this more local level project.

Second, the proposed project informs her work on current interventions that support Latino students’ college access, specifically on partnerships involving K-12 and higher education (P-20 partnerships). This line of work includes a working paper examining the impact of participation in a university-sponsored summer program targeting high school migrant students on these students’ postsecondary enrollment outcomes. To this end, she is also currently co-editing a special issue of the *Journal of Hispanic Higher Education* about such partnerships. This volume will advance a framework for understanding these partnerships and examine the conditions that support successful partnerships.

Third, the proposed project complements the Principal Investigator’s research on the early college experiences of underrepresented students. This line of research includes papers examining the first-year and second-year college experiences of underrepresented students from first-generation and Latino backgrounds; it addresses the pre-college and college factors that contribute to successful academic and social transitions of these students to postsecondary education. The proposed project would provide an enhanced understanding of the pre-college background characteristics and experiences that shape the college trajectories of Latino students. This project would also lay a foundation for further comparative work on pre-college factors that affect college participation of other racial/ethnic

groups and for comparative work with studies conducted on previous cohorts such as High School and Beyond (HS&B) and the National Educational Longitudinal Study (NELS).

### SELECTED PUBLICATIONS

Núñez, A.-M., McDonough, P., Ceja, M., & Solorzano, D. (in press). Diversity Within: Latino College Choice and Ethnic Comparisons. In C. Gallagher (Ed.) *New Directions in Race Scholarship*. New York: Routledge.

Núñez, A.-M. (in press). Examining the impact of organizational characteristics on first-year students’ academic outcomes at a new public research university. *Journal of College Student Retention*.

McDonough, P., & Núñez, A.-M. (2007). Bourdieu’s Sociology of Education: Identifying Persistent Inequality, Unmasking Domination, and Fighting Social Reproduction. In C.A. Torres & A. Teodoro (Eds.), *Critique and Utopia: New Developments in the Sociology of Education*. New York: Rowman & Littlefield.

Núñez, A.-M. (2005). Negotiating Ties: A Qualitative Study of First-Generation Female Students’ Transitions to College. *Journal of the First-Year Experience and Students in Transition*, 17(2), 87-118.

Clune, M., Núñez, A.-M., and Choy, S. (2001). *Competing Choices: Men’s and Women’s Paths After Earning A Bachelor’s Degree*. Washington, DC: U.S. Department of Education, National Center for Education Statistics.

Warburton, T., Bugarin, R., and Núñez, A.-M. (2001). *Bridging the Gap: Academic Preparation and Postsecondary Success of First-Generation Students*. Washington, DC: U.S. Department of Education, National Center for Education Statistics.

Choy, S., Horn, L., Núñez, A.-M., and Chen, X. (2000). “Transition to College: What Helps At-Risk Students and Students Whose Parents Did Not Attend College.” In A. Cabrera and S. La Nasa (Eds.), *Understanding the College Choice of Disadvantaged Students: New Directions for Institutional Research*. San Francisco: Jossey-Bass.

Horn, L. and Núñez, A.-M. (2000). *Mapping the Road to College: First-Generation Students’ Math Track, Planning Strategies, and Context of Support*. Washington, DC: U.S. Department of Education, National Center for Education Statistics.

McCormick, A., Núñez, A.-M., Shah, V., and Choy, S. (1999). *Life After College: A Descriptive Summary of 1992-93 Bachelor’s Degree Recipients in 1997*. Washington, DC: U.S. Department of Education, National Center for Education Statistics.

Kojaku, L. and Núñez, A.-M. (1998). *Descriptive Summary of 1995-96 Beginning Postsecondary Students*. Washington, DC: U.S. Department of Education, National Center for Education Statistics.

Núñez, A.-M. and Cuccaro-Alamin, S. (1998). *First-Generation Students: Undergraduates Whose Parents Never Enrolled in Postsecondary Education*. Washington, DC: U.S. Department of Education, National Center for Education Statistics.

**b. Dongbin Kim**

Dr. Dongbin Kim is an assistant professor in the Department of Educational Leadership and Policy Studies at the University of Kansas. She previously served as a policy analyst for the National Association of Independent Colleges and Universities (NAICU). She received her Ph.D. from UCLA in Higher Education and Organizational Change from UCLA, her M.Ed. from Seoul National University in Educational Administration, and her B.A. from Korea University in French and education. Her research interests center around financial aid policy, equity, educational impact of racial/ethnic diversity, and comparative/international higher education policy. In her scholarly work, Dr. Kim has examined the impact of loans on students’ degree attainment, the impact of financial aid on students’ college departure pattern: drop out or transfer out, the effects of undergraduate loans on plans to attend graduate attendance: Prior to and after the Higher Education Amendment of 1992. In her scholarly work, Dr. Kim has been extensively utilizing large national data sets from the National Center for Education Statistics (e.g., BPS, NPSAS, IPEDS, and NELS) and the Higher Education Research Institute at UCLA. Dr. Kim has been utilizing numerous statistical methods which are appropriate to the research questions she has been addressing. She is proficient in SPSS, Stata, HLM, and EQS. Dr. Kim has published (or has been accepted for publication) in prestigious peer reviewed journals in the field of higher education, including *Harvard Educational Review*, *Research in Higher Education*, *Journal of Student Financial Aid*, and *Journal of Higher Education Policy and Management*. This project represents a significant expansion of Dr. Kim’s work examining the multiple levels impacting college access of diverse students.

In the future, Dr. Kim plans to extend the proposed study to test the conceptual model on students from all racial/ethnic groups and to conduct trend analyses with previous data sets, including NELS and HS&B.

**SELECTED PUBLICATIONS**

- Kim, D. (in press). Increasing higher education global competitiveness: A case study of UC Berkeley. Korea Research Institute for Career Development. Korean government sponsored research project.
- Kim, D., Twombly, S., & Wolf Wendel, L. J. (2008). Factors predicting community college faculty satisfaction with instructional autonomy. Community College Review, Vol.35, No.3
- Kim, D. & Rury, J. (2007). The Changing Profile of College Access: Enrollment patterns in the Postwar Era. History of Education Quarterly. 47:3, pp.302-327.
- Kim, D. (2007). Multilevel analysis of the effect of loans on students' degree attainment: Differences by student and institutional characteristics. Harvard Educational Review. Vol.177, No.1
- Kim, D., & Eyermann, T. (2006). Undergraduate borrowing and its effects on plans to attend graduate school: Prior to and after the Higher Education Amendments of 1992. Journal of Student Financial Aid (36). 1.
- Anderson, E. & Kim, D. (2006). The unfinished agenda: Increasing the success of minority students in the STEM fields. Washington, DC: American Council on Education.
- Kim, D. (2004). The effects of financial aid on college choice: Differences by Racial Groups. Research in Higher Education (45) 1.
- Chang, M. J., Astin, A. W., & Kim, D. (2004) Undergraduate cross-racial interaction: Its educational relevance and the institutional factors that influence it. Research in Higher Education, (45) 5.
- Kim, D. (2003). Does parental income determine the effect of loans on students’ persistence? Journal of Student Financial Aid (33). 2

- Kim, D. (2002). What high school students and their parents expect from higher education? A case study of South Korea. Journal of Higher Education Policy and Management (24) 2.

#### **WORKING PAPERS**

- Kim, D. & Wolf-Wendel, L. E. (under review). Initially undecided, changed major or persisted in major: A close look at the impact of major status on student degree completion across racial/ethnic groups.
- Kim, D. (under review). The impact of financial aid on the college destinations of students from different racial groups: Two-year versus four-year institutions.
- Kim, D & Rury, J. (under review). The rise of the commuter students: College enrollment among high school graduates living at home, 1960-1980.
- Kim, D. (invited for resubmission). Drop out or Transfer out: Unraveling the impact of financial aid on students’ college departure pattern. Journal of Student Financial Aid.

**7. Budget**

**a. Itemized Budget**

| <b>Personnel</b>   | <b>AIR Proposal</b>  |
|--|----------------------|
| UTSA Principal Investigator:<br>Dr. Nunez: .1667 FTE 9 academic months<br>Dr. Nunez: .45 FTE 1 summer month  | \$12,788             |
| UK Co-PI:<br>Dr. Kim 1 FTE 2 summer months<br>UK Graduate Student<br>Dr. Kim’s Graduate Research Assistant<br>.25 FTE 4.5 academic months                | \$11,652<br>\$ 2,925 |
| <b>Total Salaries and Wages</b>  | <b>\$27,365</b>      |
| <b>Fringe Benefits</b>   |                      |
| UTSA Principal Investigator:<br>Fringe benefits are requested at the approved institutional rate of 20% plus premium contribution for full time faculty. | \$3,277              |
| UK Co-PI and Graduate Student:<br>Fringe benefits are requested at the approved institutional rate of 32% for full time faculty, and 4% for students.    | \$3,846              |
| <b>Travel</b>  |                      |
| UTSA Principal Investigator:<br>AIR Forum, AERA Conference, & trip to University of Kansas)  | \$3,046              |
| UK Co-PI:<br>2008 AIR Forum  | \$ 466               |
| <b>Total Benefits and Travel</b>   | <b>\$10,635</b>      |
| <b>Other Direct Costs</b>  |                      |
| UK Co-PI Graduate Student Tuition:<br>Graduate Research Assistant  | \$ 2,000             |
| <b>Total Other Direct Costs</b>  | <b>\$ 2,000</b>      |
| <b>Total Amount of Award</b>   | <b>\$40,000</b>      |

**b. Budget Justification**

Total estimated award amount requested is \$40,000 for the 12-month project period beginning of June 1, 2008 and ending May 31, 2009. The award includes salary and wages for the Principle Investigator, Co-Principle Investigator, and Graduate student; travel to professional conferences and to Co-Principle Investigator’s Institution; tuition support for Graduate student; and editing of reports and other publications.

*Personnel:*

Anne-Marie Nuñez, Ph.D. (PI) will be responsible for the overall guidance of the project. She will analyze the results produced by the Co-PI's research team. Along with the Co-PI, she will write manuscripts and journal articles, submit proposals for participation in professional conferences, and develop presentations of the research projects. Dongbin Kim, Ph.D. (Co-PI) will also be responsible for the overall project and will guide her graduate research assistant in carrying out the proposed research and in the collection and assessment of the data. Dr. Kim will provide administrative and managerial oversight to the project to ensure that the goals and objectives of the project are met at University of Kansas.

*Travel and other costs:*

Funds are requested for Dr. Nuñez to travel to the AERA Conference as well as to the Co-PI's institution. Funds are also being requested for Drs. Nuñez and Kim to travel to the 2008 AIR forum in Seattle, Washington to report findings from this study.

Per University of Kansas policy, tuition for the doctoral student is requested. The rate is calculated in accordance with the University tuition and fee schedule.

## **8. Current and Pending Support**

There is no current or pending support for this study.

## **9. Facilities, Equipment, and other Resources**

The Principal Investigator’s and co-Principal Investigator’s institutions provide the necessary equipment and support to conduct the study. The PI and co-PI have dedicated access to desktop computers, printers, photocopiers, Internet services, telephones, faxes, videoconferencing capacities, and the HLM software which is necessary to conduct the project. Both the PI and the co-PI have secure data rooms where confidential data are stored. The PI is in the process of applying for a restricted data license from NCES. The Co-PI already has the NCES data license, and is in the process of adding ELS data to her license.