# Intergenerational Transfer of Human Capital: Ethnic Differences in College Destinations

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## Abstract

In this paper, we marshal evidence from multiple data sources to understand the widening inequalities between the educational attainments of Hispanics in the United States and of other racial and ethnic groups. Using data from two national, longitudinal studies, as well as a more recent, longitudinal study of Texas high school seniors, we track high school graduates' enrollment patterns in two-year colleges, noncompetitive 4-year colleges, competitive colleges, and more competitive colleges. Hispanic students are consistently less likely to enroll in college than their white peers, and this disadvantage is particularly pronounced among entrants to competitive and more competitive colleges. Family socioeconomic background explains only a portion of Hispanic's disadvantage in postsecondary schooling. Even among students whose parents have a BA degree or higher, Hispanics' college enrollments lag far behind those of whites.

## Introduction and Motivation

Recent trends in college enrollment show a puzzle: while rates of college enrollment are up for all groups, including Hispanics, ethnic differentials in college attainment *widened* over time. For example, between 1970 and 2000 the percent of Hispanics ages 25 and above with a bachelor's degree doubled (from 5 to 10) while it almost tripled for whites (from 11 to 27 percent) and increased even more for blacks (from 4 to 14 percent) (U.S. Bureau of the Census, 2003). Ongoing immigration from Mexico and elsewhere in Latin America is doubtless an important factor underlying these widening gaps. While Hispanic immigrants are slightly better educated than their peers in the home countries, on average, their levels of educational attainment are lower than those of native-born Hispanics (Feliciano 2005; Tienda and Mitchell, 2005).

However, the enduring low level of educational attainment among second and third generation Hispanics suggest that other processes may be responsible for the widening ethnic gap (Schmid, 2001). One plausible explanation for these widening gaps is discontinuity in the intergenerational transmission of educational opportunity. On one hand, it is possible that there is more educational upward mobility among non-Hispanic children whose parents have no college exposure compared with Hispanic children. One the other, it is conceivable that Hispanic parents with college degrees confront difficulties not faced by other college-educated parents in passing their educational advantages on to the next generation.

In this paper we examine whether the intergenerational transfer of parental education is uniform across demographic groups, which has direct implications for the time required to close the growing Hispanic-white gap in higher education. Although

most studies of Hispanics' slow educational progress focus on their parents' low average attainment levels, because they impose a ceiling for their offspring, we are particularly interested in the ability of highly educated parents to transmit their educational advantages to their children. Stated as a question, are the children of highly educated Hispanic parents as likely to attend a four-year college as the offspring of comparably educated white parents? Therefore our focus is on whether and how much the "returns" to parents' human capital contribute to the perpetuation of Hispanic under-representation in higher education.

**Background**

The Hispanic population approached 40 million in 2003, surpassing African Americans as the largest U.S. minority group (U.S. Bureau of the Census, 2003). Despite continued temporal and intergenerational gains in educational attainment, Hispanics lag well behind both whites and blacks in years of school completed and college degrees earned. In 2000, Hispanics comprised 11 percent of the population ages 25 and above, but only 4 percent of college degree holders. Conversely, whites were 72 percent of the population in this age bracket, but 82 percent of the population of college graduates (U.S. Bureau of the Census, 2000). Hispanics' low levels of human capital jeopardize their labor market prospects, as reflected in their relatively low employment rates, occupational standing, and earnings. Hispanic workers with less than a high school education are relegated to unstable, low-paying jobs that offer few or no social benefits and undesirable working conditions (Tienda and Mitchell, 2006). Thus, the importance of college education for Hispanics' economic success, social integration and political

participation can not be overstated. The benefits of education are crucial for Hispanic youths, but important as well for the nation because the burgeoning Hispanic second generation is the fastest growing segment of the U.S. population; the youthfulness of the population can help counter the challenges of an aging society; and because human capital investment is vital to maintain competitiveness in an increasingly globalized economy.

Gaps in access to college are more socially significant today than in the past because of harsher wage inequality between skilled and unskilled workers since 1973 (Katz and Murphy, 1992). Moreover, recent studies show that the type and selectivity of college attended—vocational vs. academic; 2-year vs. 4-year; non selective vs. selective—influences long-term life chances because these tracks result in different probabilities of graduation and labor market prospects (NCES, 2000; Alon and Tienda, 2005; Arum and Hout, 1998; Bowen and Bok, 1998; Monk-Turner, 1990; Persell et al., 1992; Rumberger and Thomas, 1993). Yet, most of the growth in postsecondary enrollment from 1970 to 2000 occurred in 2-year institutions. Enrollment at 4-year public universities grew slowly over the same period and stagnated at 4-year private schools (Digest of Education Statistics, 2003). The modest expansion of 4-year institutions and the relatively fixed number of slots at the most competitive universities created a college squeeze that is most intense at the highly selective institutions (Alon and Tienda, 2006; Tienda, 2006).

Although the number of Hispanic high school graduates attending college has risen, Hispanic enrollment in four-year postsecondary institutions has failed to keep pace with their growing share of the college-age population. In part this reflects their over-

representation in two-year colleges and their lower transfer rates from 2-to 4-year institutions compared with whites (Fry, 2004). Despite the aggressive recruitment of black and Hispanic students by admissions officers from selective colleges and universities, their shares of the entering cohort rose only slightly during the 1980s (Alon and Tienda, 2005). Yet, attending a selective or highly selective college increases the likelihood of timely graduation, net of initial differences, especially for Hispanic and black students (Alon and Tienda, 2005). As a result of trends in attendance patterns, Hispanics are less likely to earn a bachelor's degree and are more likely to earn associate degrees than any other racial group (Schneider et al., 2006).

One of the most frequently cited reasons for Hispanic-white disparities in college enrollment and attendance patterns is ethnic variation in parental educational attainment (Schneider et al., 2006; Tienda and Mitchell, 2006; Fry, 2004). On the one hand, minority youth, but Hispanics in particular, are less likely than whites to have college-educated parents. On the other hand, for students whose parents are not college-educated, college opportunities are substantially diminished. In 1994, 59 percent of high school graduates with parents who are not college educated enrolled in postsecondary education compared to 93 percent of students with college-educated parents (Choy, 2001; see also Nanuz and Cuccaro-Alamin, 1998). These differences are even more striking according to type of college attended. Only 27 percent of high school graduates whose parents lack college training attended a 4-year institution, but over 70 percent of their schoolmates with college-educated parents did so.

The role of parental education in helping and directing young adults to postsecondary education is profound. College educated parents' involvement with their

child's education begins early and continues throughout their school career. The higher earnings capacity of college-educated parents and lower risk of family disruptions enable them to provide greater social and economic resources to their children (Attewell, Lavin, Domina, and Levey 2006). Compared with parents lacking baccalaureate degrees, they are more likely to read to their children and to provide intellectual stimulation within the home; they better understand the process of schooling; and they are less deferential to teachers and school authorities, often taking an active role in monitoring how their children are taught (Lareau, 2000; Lareau and Hovart, 1999; Farkas, 2003; Schneider, et al., 2006).

As such, college-educated parents better prepare their offspring for higher education by conveying post-secondary expectations and sharing their own experiences. Importantly, they provide advice about high school course selection around a college-oriented curriculum and support their preparation for college-entrance exams (Choy, 2001; Schneider et al., 2006; Frost, 2006). In addition they assist in the college application process, participating in various planning activities, seeking information about financial aid and accompanying the child on college visits. Youth whose parents lack college exposure are at a decisive disadvantage, even after controlling for academic ability and educational history (Choy, 2001).

The important role that parental education plays in influencing their children's college destinations suggests an appealing picture of social mobility, whereby increased attainment in one generation translates into smaller gaps in the following generation. This scenario implies that increases in the share of Hispanics with a college education will eventually equalize ethnic differences in educational attainment. Recent trends in college

attendance patterns challenge this picture, by showing that the Hispanic-white gap in higher education is growing over time. In this paper, we examine whether and how much the "returns" to parents' human capital contribute to the perpetuation of Hispanic under-representation in higher education

By focusing on intergenerational continuities and discontinuities in college enrollment, our investigation underscores a critical issue ignored by prior studies. Ample research on Hispanic educational outcomes focuses on immigrant generational status (see for review Schmid, 2001; Schneider, 2006). There is, of course, overlap between generational statuses based on immigration and college attendance, but focusing on generational status in terms of educational attainment allows us to underscore the process of intergenerational transfer of human capital, and hence permits a different perspective of the factors that undermines the intergenerational transfer of class advantages for Hispanic youth. In addition, by examining the full spectrum of college destinations of high school graduates in recent decades, our study complements the extensive literature about Hispanics' educational disadvantage, which disproportionately focuses on failure to complete high school, and to a lesser extent, constraints on college-going (Driscoll, 1999).

This study makes several important contributions to the understanding of the intergenerational reproduction of educational attainment. First, we extend the traditional focus on intergenerational transfer of educational disadvantage by examining discontinuities in the transfer of educational advantage and noting the ways these processes vary by ethnicity. Second, our analysis of three datasets offers longitudinal evidence to show temporal changes in the ability of parents transmit their class

advantage. Such a longitudinal perspective is essential for our focus on ethnic differences because of the transforming contours of the U.S. population as a result of massive immigration waves, mostly from Latin America. Third, we provide a more nuanced view of children's educational outcomes, illustrating variation in college destinations rather than simply modeling college enrollment. This allows us to uncover additional layers of stratification that shape the nexus between ethnicity and parental educational attainment. Taken together, we ask whether ethnic variation in students' college destinations can be accounted for by their parents' educational attainment and whether the returns/penalties associated with parents' educational resources differ for whites and Hispanics.

Finally, because questions about ethnic variation in college destinations are particularly important in states like Texas and California that have experienced high levels of immigration (U.S. Bureau of the Census, 2003),[1] we supplement our discussion of national trends in the college destinations Hispanic youth based on two nationally representative cohorts of seniors who graduated from high school in 1982 and 1992 with an analysis of the college-going behavior of a recent Texas high school graduation cohort. The demographic shifts in these rapid growth states pose formidable challenges for educational systems. Our investigation is especially pertinent to these states because the vast majority of recent arrivals have very low education levels. Not only does Texas fall behind the national average of the population share with college degrees (23 and 27 percent in 2000, respectively), but there are also pronounced differences among demographic groups. Especially relevant for our current interest, Hispanic youth are

[1] In 2000, 14 percent of Texas's population was foreign born, compared with 9 percent in 1990 and 7 percent in 1980 (U.S. Bureau of the Census, 1950-2000). Consequently, in 2000, 32 percent of Texas's population was of Hispanic origin, compared with 26 percent in 1990 and 21 percent in 1980 (U.S. Bureau of the Census, 1950-2000).

disproportionately represented among those whose parents lack college education, especially if they are children of recent immigrants. In 2005, 35 percent of white Texans held college degrees, while less than 9 percent of the state's Hispanics did so. Even as the number of Hispanic degree-holders in Texas rises, the percentage of Hispanics receiving associate degrees and certificates awarded by 2-year colleges has grown two times faster than the percentage of enrollees earning Bachelor's degrees at 4-year institutions (Texas Higher Education Coordinating Board, 2005).

After an overview of the datasets, operational measures and estimation techniques, we present the empirical results. We find that Hispanic students are consistently less likely to enroll in college than their white peers, and this disadvantage is particularly pronounced among entrants to competitive and more competitive colleges. Family socioeconomic background explains only a portion of Hispanics' disadvantage in postsecondary schooling. But even among students with college-educated parents, our findings suggest that Hispanic students are less likely to enroll in higher education than whites from similar class backgrounds. The concluding section presents several plausible explanations for these persistent educational disadvantages.

## Data and Methods

We use four datasets to track changes in the post-secondary outcomes of young adults that have occurred over the last two decades. Data from three national longitudinal studies conducted by the National Center for Education Statistics provide historical perspective on the changing racial, ethnic and educational composition and postsecondary trajectories of students who graduated high school in 1982, 1992, and

2002.[2] A representative survey of Texas public high school graduates in 2002 provides an in-depth perspective on the challenges faced by high immigrant-receiving states.

● The High School & Beyond (HS&B) surveyed a nationally-representative sample of high school sophomores in 1980. The study followed up with these students in 1982, when most were high school seniors. Additional follow-ups were administered in 1984, 1986, and finally 1992, when the students were nearly 10 years out of high school.[3]

● The National Education Longitudinal Study of 1988 (NELS) drew a representative sample of 8th graders in 1988, and resurveyed them in 1990, 1992 (their senior year), 1994, and 2000.[4]

● Finally, the ongoing Education Longitudinal Study of 2002 (ELS) began with a representative sample of 10th graders. The most recent data in the study comes from a 2004 follow-up survey, collected when the majority of the participating students were high school seniors. Data on the postsecondary destinations of ELS respondents are not yet available. Although this survey is of limited value in our discussion of the changing trajectories of high school graduates, it does provide data on the racial/ethnic and parental background of contemporary high school graduates nationwide.[5]

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[2] All three national studies are based on two-stage, stratified sampling designs, which in the first stage draw representative samples of U.S. high schools, and in the second stage, select a random sample of students within sampled schools. Our multivariate analyses use the Stata "cluster" subcommand to correct the standard errors generated for the stratified sampling design employed by each of the studies used here.

[3] Restricted HS&B transcript data are utilized here. These data allow us to verify students' high school records and provides a college code for the postsecondary institutions in which they first matriculated. The HS&B descriptive tables are weighted using "FU2WT", excluding students who did not participate in the 1986 follow survey round, and therefore do not have data regarding their postsecondary destination. These students are also excluded from the multivariate analyses, but no weights are used in these models.

[4] Restricted NELS transcript data are utilized. Descriptive tables using NELS data are weighted using "F3QWT," excluding students who did not participate in the 1994 follow-up who also lack information about postsecondary destinations. These students are also excluded from the multivariate analyses, but no weights are used in these models.

[5] Descriptive tables using ELS data are weighted using "BYSTUWT".

Because the ELS data do not yet provide post-secondary enrollment information for the most recent student cohort, we supplement these national studies with data drawn from the Texas Higher Education Opportunities Project (THEOP).[6] Surveys were administered to all seniors and sophomores, yielding a sample of 13,803 students. In the summer of 2003, the project conducted a follow-up survey with a random sample of the high school senior cohort. This paper uses data collected from students in the senior cohort who participated in both the base-year study and in the 2003 follow-up.

The THEOP study provides a more in-depth investigation of the ways in which ethnicity and parental educational attainment interact to shape children's educational trajectories. The Texas data add an important layer to the trends based on the national datasets by illustrating the pipeline from high school educational aspirations to actual college destinations. Texas is also unique because of the implementation of top ten percent law in 1998 that guarantees admission to any public university to all high school students who graduated in the top decile of their class. Institutions could not consider the student's race for admission purposes.

*Key variables*:

Student ethnicity, parental educational attainment, and student post-secondary enrollment are at the core of the analyses reported here, therefore respondents who are missing data on any of these three items are excluded from the analysis. [7] In addition, students who failed to earn a high school diploma or a GED (and thus were ineligible to

[6] Like the national surveys, the THEOP data are based on a school-level sampling scheme. Based on a scheme that classified Texas public high schools as of 2000 based on region, urbanicity, and school racial/ethnic composition, 108 Texas public high schools were randomly selected.

[7] To prevent unnecessary loss of cases we used Amelia multiple imputation to fill missing values on the control variables (King, Honaker, Joseph, and Scheve 2001).

enter college) were excluded from the analysis. We use students' self-reported race and ethnicity to define four demographic groups: whites, blacks, Hispanics, and Asians.[8] Because our interest is on Hispanic educational outcomes, the results reported below present data for Hispanics (relative to non-Hispanic whites). African-Americans and Asians are included in these analyses, and the multivariate analyses include controls for these racial/ethnic groups, as well as interactions modeling the effect of parental education for these groups. To simplify the presentation, these coefficients are omitted from the tables.[9]

We coded parental educational attainment into three categories representing the highest degree attained by either the respondents' mother or father. Students whose parents dropped out of high school or completed a high school diploma but never enrolled in post-secondary education are designated "No college parents." If at least one parent had entered college, but did not earn at least a Bachelor's degree, the student is coded as having "Some college parents." Finally, students who had at least one parent that completed a BA degree (including those whose parents went on to complete a graduate degree) are coded as "BA or higher parents." The latter serve as the reference category in the multivariate analysis.

Finally we portray postsecondary destinations using a more detailed approach than is commonly utilized in the literature. Most studies of college attendance consider simply whether or not students matriculated, and fail to address the stratification that exists among postsecondary destinations. For Hispanics this is important because their rising college participation involves disproportionate representation in 2-year institutions.

[8] Native Americans and students who reported another race or ethnicity are excluded from these analyses.
[9] Full tables are available upon request.

Furthermore, analyses of college destinations that fail to take into account of the selection regime governing enrollment produce biased estimates of race and ethnic differences because of underlying differences in propensity to attend college. Therefore, we use a multiple response category with five outcomes based on a modified scheme that draws on Barron's Profiles of American Colleges (1992) for selectivity categories:[10] (1) no postsecondary education; (2) 2-year colleges (those offering programs requiring 2 or less years to complete, including community colleges); (3) 4-year noncompetitive colleges; (4) 4-year competitive colleges (median SAT 900-1050); and (5) 4-year more competitive colleges (median SAT above 1050).

*Control variables*:

Because of the rising importance of standardized test scores both in classifying post-secondary institutions and in admissions decisions, the analysis of student college destinations also considers student test scores and class rank (Alon and Tienda, 2006). For the analyses based on HS&B and NELS, the test scores are taken from the 12th grade cognitive assessments administered to all respondents in these two studies. Both scores are the mean of students' math and reading comprehension scores on these tests. For the Texas data, these universal test scores are not available. In their place, we use students' scores on either the SAT or ACT college admissions exams, which were self-reported by the students and then verified by their high schools in the THEOP transcript study.[11] In

[10] The Barron's selectivity measure is determined by several factors that include: the median SAT or median composite ACT entrance exam score; student' high school class rank; student's average grade point average (GPA) of enrolled students and the percentage of applicants accepted. Each school receives a Barron's exclusive academic rating, which indicates relative academic competitiveness—from "Noncompetitive" to "Most Competitive." For more details see Barron's, 1992.

[11] This test score variable is constructed as follows: First, both the SAT and the ACT scores are transformed into z-scores. For students who have a non-missing value on the standardized SAT score, the

all three studies, class rank is provided by the students' schools, and is coded as a percentile score. Finally, we also control for students' household income. Unfortunately, no direct measure of family household income is available in the THEOP data, so this variable is omitted for the 2002 Texas seniors. Descriptive statistics for all variables included in the analyses are reported in Appendix A.

**Estimation Strategy**

Using a discrete choice model we evaluate the ethnic variation in the returns, in terms of college destinations to parental education.

$$\Pr(Y_{t=k} = m \mid P = p_i, H = h_i, \underline{X} = x_i) = \frac{\exp\left(\alpha_m P_i + \beta_m \underline{H_i + \phi_m P_i H_i + \delta_m X_i}\right)}{\sum_{j=1}^{5} \exp\left(\alpha_m P_i + \beta_m \underline{H_i + \phi_m P_i H_i + \delta_m X_i}\right)} \quad (1)$$

Let Y be a stratified array of *j* college destinations arranged according to selectivity tier, where *j=1* indexes "no college attended" and *j=5* denotes the most selective destination; m is a college destination. We observe Y at *t* points in time T ranging from 1 to k. P represents parental education status of the $i^{th}$ individual; and H is a dummy variable indicating Hispanic status. Since we are interested in assessing group differences the model includes product terms between these two variables. $\underline{X}$ is a vector of observed attributes that influence college destinations that is added to some specifications.

test score variable is set to equal the standardized SAT score. For students who are missing the SAT, but have a none-missing value on ACT, the test score variable is set to equal the standardized ACT score.

**Results**

Table 1 reveals substantial change in the college destinations of the 1982 and 1992 cohorts of high school graduates. In 1992, about 29 percent of all high school graduates did not pursue any type of postsecondary education as compared with 36 percent of the 1982 cohort. That more students chose the 2-year option in 1992 reflects the rapid expansion of community colleges during this period. At the other end of the college spectrum, the share of students enrolled in more competitive institutions rose. For both national cohorts, Hispanic high school graduates were less likely than whites to pursue some form of post-secondary education. Moreover, white and Hispanic youth did not participate uniformly in the expanding post-secondary education system. Hispanics benefited from the expansion of 2-year colleges, where nearly half enrolled in 1992—up from about 28 percent in 1982—but whites were more likely than Hispanics to enroll at any 4-year institution. Thus, whites' sizeable advantage (of about 20 percentage points) in access to 4-year institutions was relatively unchanged over time.

[Table 1 About Here]

Although Texas differs from the nation in many important respects, including the relative size of its Hispanic population, it appears that Texas represents a logical continuation of the national trends from 1982 to 1992. About 22 percent of high school seniors in 2002 did not pursue any type of higher education but Hispanics were almost twice as likely as whites to end their formal schooling at high school. About one in three white high school graduates attended a 2-year institution, and a slightly higher share of Hispanics did so. At the other side of the college destination spectrum, Hispanics are clearly underrepresented at the more competitive institutions. About 8 percent of Texas

2002 high school graduates attended a more competitive institution compared to a quarter of the white graduates. Similar to the 1992 national data a 20 percentage point gap favors white enrollment at 4-year institutions. Overall, ethnic polarization in college destination is more extreme in Texas in 2002 than nationally as of 1992.

Table 2 classifies white and Hispanic high school graduates based on parental education status. For a longer and more current national perspective, we also use the ELS data for 2004. In all four datasets Hispanics are appreciably more likely to have parents who lack college experience. Moreover, the ethnic gap widened from 1982 to 2002 because the decline in the share of white students with parents lacking college was steeper than it was for Hispanics. For whites this share fell from 44 percent in 1982 to 22 percent in 2002, while for Hispanics the share of students whose parents never attended college dropped from 59 percent in 1982 to 45 percent in 1992 and remained unchanged for the next decade. This partly reflects growth in the number of Latin American immigrants with low levels of formal education (Tienda and Mitchell, 2006). In sum, between 1982 and 2002 the white/Hispanic ratio among students with parents lacking college declined from 0.73 to 0.47. The mirror image is the group share with college educated parents. Whites made substantial educational gains since 1980 so that by 2002 almost one in two high school graduates had at least one parent with college credentials (up from 27 percent in 1982), while the share of Hispanic students with college educated parents rose much more slowly, from 15 percent in 1982 to 21 percent in 2002. The white/Hispanic ratio among students with college educated parents rose from 1.79 to 2.03. As a result of these trends, the social class divide along ethnic lines reached its highest level since in over two decades.

[Table 2 About Here]

The Texas data show a similar pattern, except that the class divide along ethnic lines is wider still. In 2002 16 percent of white high school grads had parents with no college experience compared to half of Hispanic students(W/H ratio of 0.32). Almost 60 percent of whites had college educated parents and only 22 percent of Hispanics (W/H ratio of 2.62). Notably, in all four datasets, the group shares with parents who completed some college are similar. Taken together Tables 1 and 2 indicate that Hispanic students benefited from the growth of 2-year colleges, but had more limited success in accessing 4-year institutions. The multivariate analysis is design to examine whether and how much the rising class divide along ethnic lines is responsible for the truncated college destinations of Hispanic students.

**Multivariate Results**

To examine whether the intergenerational transfer of parental education is uniform across demographic groups, we run several multinomial logit models of the polytomous college destination outcome (No PSE is the comparison group) for the three datasets. Model 1 of Table 3 reports multinomial logit coefficients for Hispanic group membership. Model 2 adds parental education and Model 3 includes the product terms between Hispanic and parent education levels which indicate whether the association between parental education and offspring's post-secondary destination are equal for

Hispanics and whites.[12]. We start with the two nationally representative datasets and subsequently compose the Texas data with the national trends.

[Table 3 About Here]

Results from Model 1 indicate that in both 1982 and 1992 Hispanic high school graduates were less likely than whites to enroll in any type of postsecondary institution; as likely as whites to enroll in 2-year colleges in 1992; but less likely to attend 4-year institutions relative to not pursuing post-secondary education. Furthermore, Hispanics' chances of attending college decline relative to whites as college selectivity increases. Model 2 confirms that parental education is largely responsible for these gaps, but does not eliminate them. That is, even after statistically standardizing parental education for Hispanic and white high school graduates, the former are less likely to enroll in college and their enrollment disadvantage is especially pronounced at the most selective institutions.

Comparison of the results based on HS&B with NELS indicates that the college destination disadvantage of youth whose parents lacked a college degree increased over time (Model 2). The rise in the returns to parent education could reflect the increased worth of college credentials for labor market success during the 1980's and the higher ability of better educated parents to finance the ever-rising cost of college education. Also, as college access became more competitive and complicated, highly educated parents are better equipped to help their offspring navigate the admissions process.

Results of Model 3, which adds product terms for parents' education to the two main effects, reveal considerable ethnic variation in the intergenerational transfer of

[12] While only the Hispanic*parental education interaction terms are reported in the tables, black*parental education and Asian*parental education interaction terms are also included in the model. The reference category in these models is non-Hispanic white students whose parents completed BA or higher.

human capital. In both national datasets, Hispanics whose parents had college degrees were less likely that whites with college-educated parents to enroll in college, and this disadvantage varied according to college selectivity (main effect of Hispanic in Model 3). White students whose parents lack any college credentials, were also disadvantaged in their college destinations compared to whites with college educated parents, and their disadvantage intensified during the 1980s (see main effect of parents' education dummies). By comparison, the penalty Hispanic youth pay for their parents' low education level is smaller than that experienced by whites. Adding controls for test scores and high school class rank (model 4) and parental income (model 5) attenuates the point estimates, but the basic patterns remain in tact.

An odds ratio plot helps visualize the ethnic and class stratification patterns based on the complex multiplicative multinomial logit model (Long, 1997). In the interest of parsimony we perform this exercise only for the point estimates produced for the more competitive destination and subsequently for 2-year colleges. Panel A of Figure 1 presents odds ratios derived from Model 3 for the more competitive destination (without controls). Panel B shows the odds ratios based on Model 4 (with controls for test scores and class rank), and panel C does so for Model 5 (which adds parental income to student academic achievement controls). The graphs depict the group standing relative to whites whose parents graduated from college, represented by the crossing line at 1.0.

(Figure 1 about Here)

Several findings are noteworthy. First, all plotted odds ratios fall below the crossing line signify significantly lower odds of attending a more competitive institution relative to white students with college-educated parents for all ethnic-education groups.

Second, class- and ethnic-based polarization in the likelihood of attending a more competitive institution appears to intensify over time. After controlling for student achievement (Panel B), the odds of attending a more competitive institution (relative to not attending any college) in 1982 for whites and Hispanics whose parents lack any training are 0.15 and 0.29, respectively. A decade later the respective odds ratios fell to 0.03 for both groups. What is more, in 1992 the respective odds ratios of youth whose parents completed some college are below 0.10 as well. Finally, controlling for test scores and class rank attenuated the gross gaps quite substantially in 1982, but no comparable attenuation occurred in 1992. Substantively this indicates that stratification of 1982 college choices derived, to some extent, from group differences in college preparedness, but this was not the case in 1992. Moreover, adding parental income as control (Panel C) does not alter the basic contours of post-secondary destinations of Hispanic and white high school graduates, although the enrollment levels are raised slightly.

Turning to the 2002 Texas high school cohort, the findings reported in Figure 1 suggest higher resemblance to the 1992 cohort than the 1982 national cohort, based on the magnitude of the ethno-class gaps. That is, in 2002 the Texas ethnic-education groups fall well below the white crossing line. One difference between the national and Texas pattern stands out. The 1992 national stratification regime reveals a well-defined triparte segmentation: at the top are whites with college graduated parents, way below are Hispanics with college educated parents, and all other groups are cluttered at the bottom. This implies that ethnicity compounds unequal access to the nation's more competitive

institutions among parents with college credentials but the ethnic stratification is not as manifested among the other education groups.

In Texas the educational stratification is less segmented, although not more equal. Whites whose parents graduated from college lead other ethno-class strata by a considerable margin, followed by Hispanics whose parents have college degrees, with all other groups hierarchically sorted first by parental education and then by ethnicity. That is, within each education stratum, whites are more likely than Hispanics to attend a more competitive college. In Texas, where Hispanics comprised one third of high school graduate in 2002, the lowest stratum is disentangled, suggesting greater ethnic and class stratification as youth with some college parents are able to differentiate themselves from their counterparts whose parents lack this critical class resource.

The patterns we find for the likelihood of attending a more competitive institution, also obtain for less selective destinations, but the gaps are smaller as institutional selectivity falls, partly because the college squeeze is less acute. To illustrate, we generated a similar odds ratio plot for the likelihood of attending a 2-year institution, which generally have open admissions. Figure 2 shows that there is greater equality in the likelihood of attending an institution in the lowest tier of institutional rank by ethnic and class strata, yet most groups lag behind white students whose parents are college graduates, especially in 1992. Confirming the stratification system depicted Figure 1, in undergirding the likelihood of attending a 2-year institution in 1992 is a process of heightened class and ethnic polarization. At this end of the post-secondary hierarchy the disadvantaged position of whites whose parents had no college becomes more salient, even compared to Hispanics with similarly low parental human capital.

(Figure 2 About Here)

Paralleling the pattern observed for more competitive schools, the gross patterns for Texas resemble the 1992 national cohort more than the 1982 cohort. Even at the least selective post-secondary institution we find that the Texas educational stratification is more continuous, although not necessarily more equal. After controlling for test scores and class rank, whites whose parents completed some college are as likely as their counterparts with college-educated parents to attend a community college. However, youth whose parents had no exposure to college have significantly lower chances of attending a 2-year institution, which are not much higher than their odds of attending a 4-year more competitive college. In other words, for youth with no college educated parents, postsecondary education is just not a realistic pathway. This is a disconcerting finding for both whites and Hispanic groups, but especially the latter because half of all Hispanic high school seniors have parents lacking any college training. More than any other attribute, this limits their ability to close the educational gap with whites. Even more worrisome is the evidence that Hispanics with college educated parents are at a marked disadvantage compared to whites of similar class background in their likelihood to attend even a 2-year college.

**Discussion**

Our analyses suggest that Hispanic high school graduates face a double disadvantage in their transition to the highly a stratified post-secondary educational system. First, Hispanic students are less likely to go to college than their white counterparts in large part because they are considerably more likely to be first generation

college goers. That family income only slightly attenuated Hispanic youth's lower access to college suggests the importance of parental nonpercuniary roles in helping their offspring navigate the college pipeline, starting from help in choosing a college preparatory curriculum through the college application process. Our results also suggest that Hispanic students' lower access to college is only partly explained by students' test scores and class rank. This places greater responsibility for enabling social mobility on the school system. Unfortunately, there is little reason to be optimistic that schools can execute this responsibility. Recent research suggests that counselors disproportionately direct their educational advice to students whose parents are highly educated and are highly educationally engaged (Frost 2006).

But even among students with college-educated parents, our findings suggest that Hispanic students are less likely to enroll in higher education than whites from similar class backgrounds. This gap is particularly pronounced for the competitive colleges, suggesting that the intergenerational educational attainment associated with parental college education is truncated for Hispanic students. This more limited ability of Hispanic parents to transmit their class advantage to their children may explain why gaps between Hispanics and whites in educational attainment have widened at the postsecondary level, even as college opportunities have expanded over recent decades.

To further examine the ethnic variation in college attendance of youth with college educated parents, we used the Texas data to track the 2002 cohort through the college pipeline to confirm that Hispanic college educated parents are less successful translating their class advantages to their offspring compared with white parents. By the end of their senior year in high school, Hispanics with college graduate parents were less

likely to aspire to complete a bachelor's degree; less likely to know about the college admission regime (i.e. Texas top ten percent law); and less likely to take calculus, compared to whites whose parents were college graduates.

What explains the persistent educational disadvantages that we observe among Hispanic students whose parents completed college degrees? Additional comparisons using all three datasets show that Hispanics whose parents graduated from college were more likely than whites to be foreign born. If college-educated Hispanic parents acquired their college degree abroad, they may be less familiar with US postsecondary system than comparably educated white parents. Differences in the quality of parents' college education may also explain some of the ethnic gap in the intergenerational transfer of human capital. That Hispanic students are more likely than whites to attend large, urban schools, may also accentuate the ethnic gap in college-going. Another plausible factor is unmeasured group differences in accumulated wealth, which is a strong predictor of college attendance (Oliver and Shapiro 1997; Conley 1999). Our data do not permit direct examination of these plausible explanations, but they are worthy of further investigation in order to devise strategies to boost the intergenerational transfer of class advantages for Hispanic youth.

Finally, our study underscores the educational stratification in Texas, a state that faces an enormous challenge of equalizing educational opportunity for its large, mostly low-skilled, Hispanic population. Because of the sheer number of Hispanics in Texas, mobilizing existing resources to improve the intergenerational transfer of human capital can carry substantial benefits. The demographic contours of Texas, and other high immigration states like California, make it critical to extend college access to youth

whose parents never attended college as well as to Hispanics who are less successful than whites translating their parental human capital to their own offspring.

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**Table 1: College Destinations of 1982-2002 White and Hispanic High School Graduates**

| College Destinations | Total[a] | White | Hispanic |
|---|---|---|---|
| **1982** | | | |
| Not enrolled | 36.17 | 35.03 | 52.35 |
| 2 Yr. Open Door | 27.56 | 27.71 | 28.49 |
| 4 Yr. Noncompetitive | 10.61 | 10.43 | 5.43 |
| 4 Yr. Competitive | 19.43 | 20.39 | 11.01 |
| 4 Yr. More competitive | 6.24 | 6.44 | 2.72 |
| N | 11,731 | 7,581 | 1,935 |
| **1992** | | | |
| Not enrolled | 28.85 | 27.15 | 35.18 |
| 2 Yr. Open Door | 35.13 | 34.27 | 43.15 |
| 4 Yr. Noncompetitive | 9.41 | 8.80 | 5.76 |
| 4 Yr. Competitive | 15.11 | 17.13 | 9.51 |
| 4 Yr. More competitive | 11.51 | 12.65 | 6.40 |
| N | 12,405 | 8,627 | 1,565 |
| **2002 (Texas)** | | | |
| Not Enrolled | 21.40 | 16.37 | 30.66 |
| 2 Yr. Open Door | 31.81 | 31.00 | 34.99 |
| 4 Yr. Noncompetitive | 5.14 | 2.65 | 6.15 |
| 4 Yr. Competitive | 22.43 | 24.25 | 20.44 |
| 4 Yr. More Competitive | 19.22 | 25.73 | 7.76 |
| N | 4,406 | 1,829 | 1,459 |

Sources: High School and Beyond (HS&B) sophomore cohort HS graduates or GED recipients only, weight=fu2wt; National Education Longitudinal Survey (NELS) HS graduates or GED recipients only, weight= f3qwt; Texas Higher Education Opportunity Project (THEOP) senior cohort, weight=w2_weight.

[a] Includes black and Asians

**Table 2: Parental education of 1982-2002 Hispanic and White High School Graduates**

| College Destinations | No college parents | Some college parents | BA or higher parents |
|---|---|---|---|
| **1982** | | | |
| White | 43.50 | 29.75 | 26.76 |
| Hispanic | 59.39 | 25.67 | 14.94 |
| Ratio, White-to-Hispanic | .732 | 1.159 | 1.791 |
| **1992** | | | |
| White | 23.26 | 39.67 | 37.07 |
| Hispanic | 44.74 | 36.95 | 18.31 |
| Ratio, White-to-Hispanic | .520 | 1.074 | 2.025 |
| **2004 (national)[a]** | | | |
| White | 21.79 | 34.73 | 43.47 |
| Hispanic | 46.27 | 32.33 | 21.40 |
| Ratio, White-to-Hispanic | .471 | 1.074 | 2.031 |
| **2002 (Texas)** | | | |
| White | 16.44 | 25.73 | 57.83 |
| Hispanic | 50.79 | 27.16 | 22.05 |
| Ratio, White-to-Hispanic | .324 | .947 | 2.623 |

Sources: High School and Beyond (HS&B) sophomore cohort HS graduates or GED recipients only, weight=fu2wt; National Education Longitudinal Survey (NELS) HS graduates or GED recipients only, weight=f3qwt; Education Longitudinal Survey (ELS), Texas Higher Education Opportunity Project (THEOP) senior cohort, weight=w2_weight.

[a] Figures are derived from the ELS sample of high school seniors, and may include students who do not complete a high school diploma.

**Table 3: Determinants of College Destinations: Multinomial Logistic Coefficients, 1982-2002[a]**

Base category=No PSE

| | 1982 HSB | | | | 1992 NELS | | | | 2002 Texas THEOP | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2-year | Non-competitive | Competitive | More Competitive | 2-year | Non-competitive | Competitive | More Competitive | 2-year | Non-competitive | Competitive | More Competitive |
| **Model 1** | | | | | | | | | | | | |
| Hispanic | -.123* | -.581*** | -.546*** | -.852*** | .074 | -.509*** | -.809*** | -.908*** | -.514** | .139 | -.796*** | -1.829*** |
| **Model 2** | | | | | | | | | | | | |
| Hispanic | -.077 | -.501*** | -.438*** | -.728*** | .249*** | -.215 | -.453*** | -.359** | -.190 | .610* | -.184 | -1.042*** |
| No college parents | -.408*** | -.968*** | -1.440*** | -1.810*** | -1.198*** | -1.927*** | -2.281*** | -3.318*** | -1.044*** | -1.503*** | -2.046*** | -2.625*** |
| Some college parents | .121 | -.224** | -.523*** | -.891*** | -.637*** | -1.160*** | -1.352*** | -2.216*** | -.280 | -.912*** | -.715*** | -1.259*** |
| **Model 3** | | | | | | | | | | | | |
| Hispanic | -.323* | -1.019*** | -1.116*** | -1.716*** | -.286 | -1.309*** | -1.020*** | -1.199*** | -.333 | .317 | -.707** | -1.340*** |
| No college parents | -.599*** | -1.366*** | -1.825*** | -2.238*** | -1.360*** | -2.159*** | -2.577*** | -3.744*** | -1.151*** | -1.684** | -2.360*** | -2.886*** |
| Some College parents | .071 | -.385*** | .798*** | -1.171*** | -.717*** | -1.229*** | -1.502*** | -2.463*** | -.363 | -1.321** | -1.067*** | -1.493*** |
| Hispanic*no college | .395* | .838*** | 1.041*** | 1.549*** | .738** | 1.599*** | .818** | 1.522*** | .184 | .197 | .680 | .322 |
| Hispanic*some | .084 | .410 | .800*** | 1.409*** | .354 | .868* | .423 | .854** | .007 | .583 | .275 | .280 |
| **Model 4** **(With controls for test scores and class rank)** | | | | | | | | | | | | |
| Hispanic | -.015 | -.491* | -.427** | -.845** | -.269 | -1.283*** | -.974*** | -1.108*** | -.361 | .627* | -.315 | -.976** |
| No college parents | -.516*** | -1.226*** | -1.606*** | -1.918*** | -1.363*** | -2.147*** | -2.530*** | -3.608*** | -.866*** | -1.234** | -1.990 | -2.333*** |
| Some College parents | .057 | .396*** | -.777*** | -1.087*** | -.728*** | -1.234*** | -1.481*** | -2.367*** | -.259 | -.827* | -.917*** | -1.400*** |
| Hispanic*no college | .315 | .711* | .924*** | 1.515*** | .738** | 1.598*** | .800* | 1.452*** | .015 | -.288 | .170 | -.001 |
| Hispanic*some | .011 | .306 | .715** | 1.462*** | .386 | .927* | .472 | .856* | .124 | .677 | .356 | .522 |
| **Model 5** **(With controls for test scores, class rank, and HH income)** | | | | | | | | | | | | |
| Hispanic | .075 | -.351 | -.251 | -.654* | -.096 | -1.089** | -.724** | -.817** | | | | |
| No college parents | -.455*** | -1.109*** | -1.430*** | -1.684*** | -1.219*** | 1.973*** | -2.249*** | -3.196*** | | | | |
| Some College parents | .073 | -.349** | -.690*** | -.958*** | -.676*** | -1.167*** | -1.353*** | -2.153*** | | | | |
| Hispanic*no college | .299 | .691** | .906*** | 1.502*** | .717** | 1.586*** | .830** | 1.562*** | | | | |
| Hispanic*some | -.038 | .222 | .604 | 1.337** | .315 | .852* | .394 | .790* | | | | |

* p<.05 **p<.01 ***p<.001

[a] The race/ethnicity reference category is non-Hispanic whites. Full models, available upon request, include controls for African-Americans and Asians, as well as black*parental education and Asian*parental education interactions.

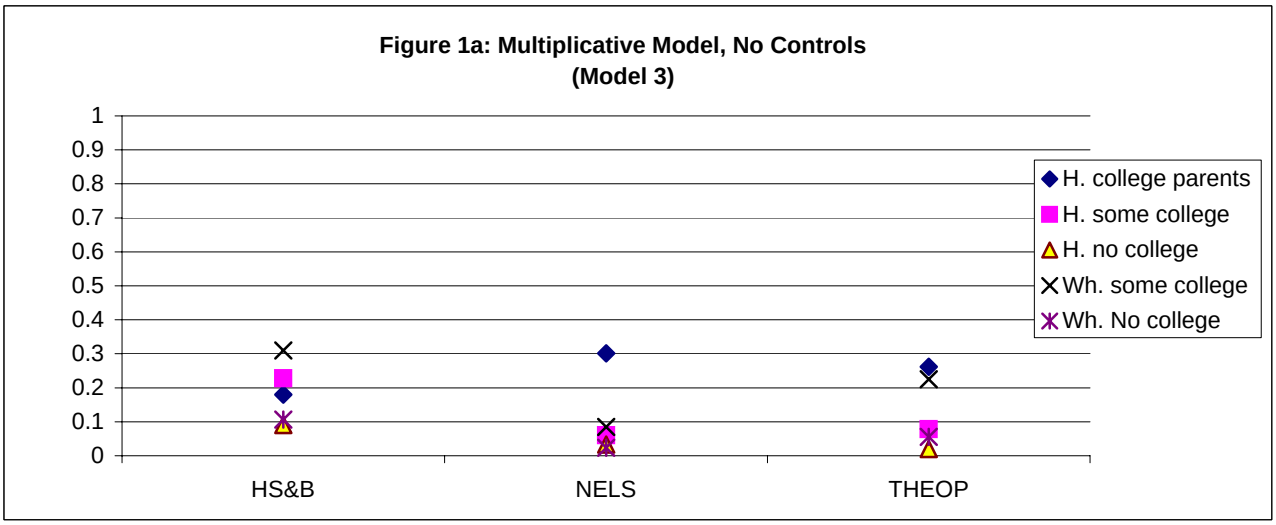
**Appendix A: Descriptive Statistics of HS&B, NELS:88, and THEOP Samples**

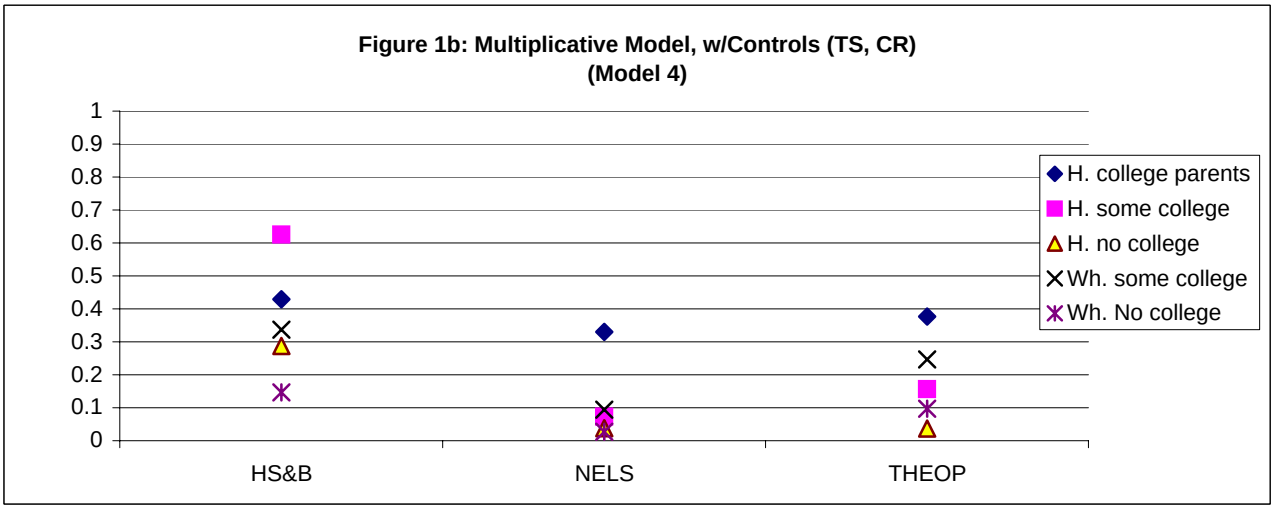
| | HS&B | | NELS | | THEOP | |
|---|---|---|---|---|---|---|
| | 1982 | | 1992 | | 2002 | |
| Variable | Mean | (SD) | Mean | (SD) | Mean | (SD) |
| % enrolled in no postsecondary education | .364 | | .289 | | .214 | |
| % enrolled in 2-year college | .278 | | .351 | | .318 | |
| % enrolled in noncompetitive 4-year college | .105 | | .094 | | .051 | |
| % enrolled in competitive 4-year college | .192 | | .151 | | .224 | |
| % enrolled in more competitive 4-year college | .617 | | .115 | | .192 | |
| | | | | | | |
| % Hispanic | .072 | | .097 | | .325 | |
| % no college parents | .460 | | .259 | | .282 | |
| % some college parents | .296 | | .395 | | .266 | |
| Test scores (12th Grade) | 51.56 | (27.80) | 63.74 | (21.91) | -- | -- |
| SAT/ACT scores | -.094 | (.926) | -.047 | (.970) | .031 | (.953) |
| High school class rank | 47.12 | (28.07) | 44.86 | (27.98) | 39.39 | (27.28) |
| Family income[a] | 2.85 | (2.11) | 9.71 | (3.18) | -- | |
| N | 11,713 | | 12,405 | | 4,406 | |

Sources: High School and Beyond (HS&B) sophomore cohort HS graduates or GED recipients only, weight=fu2wt; National Education Longitudinal Survey (NELS) HS graduates or GED recipients only, weight=f3qwt; Texas Higher Education Opportunity Project (THEOP) senior cohort, weight=w2_weight.

[a] Valid family income values in the HS&B data range from 0 to 6; valid values in the NELS range from 1 to 15.

**Figure 1: Odds Ratios of Attending ba More Competitive Institution, HS&B, NELS and THEOP Senior Cohort (relative to Whites w/college graduate parents)**



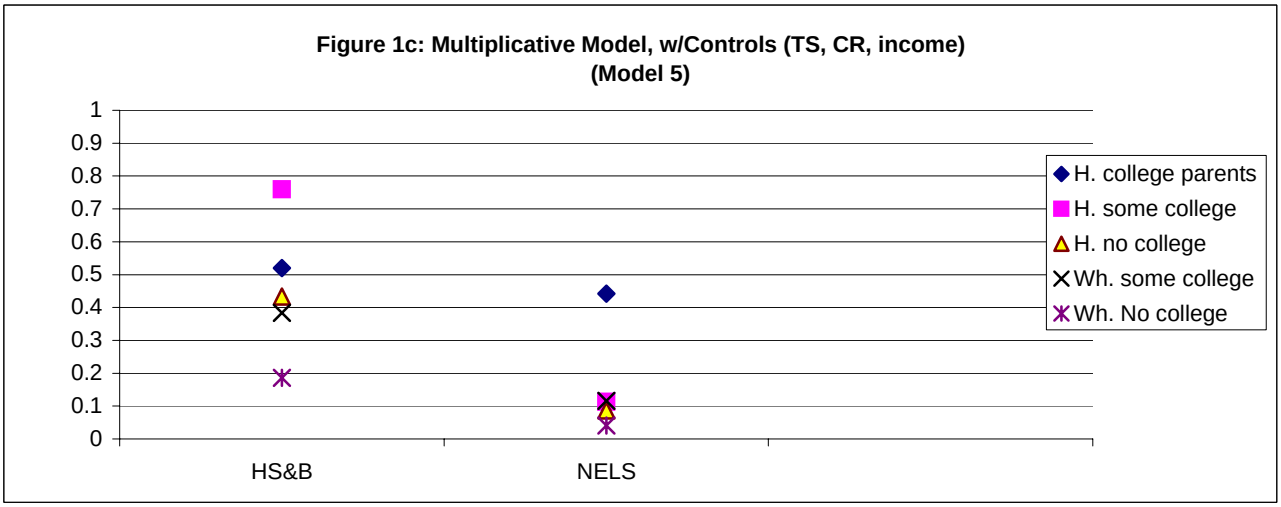



**Figure 2: Odds Ratios of Attending a 2-Year Institution, HSB, NELS and THEOP Senior Cohort (relative to Whites w/college graduate parents)**