

The Tomás Rivera
POLICY INSTITUTE

Policy Brief

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College Choices Among Latinos: Issues of Leaving Home

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Introduction and Background

Among most Latinos, whether policy stakeholders or laypersons, issues of educational achievement and attainment are among the highest in priority – and for good reason. For example, we know that Latinos are faced with:

- Higher dropout rates of students from K-12
- Lower levels of achievement among students enrolled in K-12, as measured by standardized tests and other indicators
- Lower rates of college matriculation directly from high school
- Lower probabilities of graduating from college and longer time periods to degree attainment
- Lower levels of participation in high skill occupations (e.g., information technology), the professions that demand more specialized and extensive education

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The implications of these trends and others like them are quite discouraging. While in recent years there has been a remarkable movement of millions of Latinos into middle class incomes and jobs², that journey is gated by educational attainment. To the extent that Latinos can acquire first-rate degrees and credentials,

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² Bean, F.D., Trejo, S.J., Capps, R., and Tyler, M. (2001). *The Latino Middle Class: Myth, Reality, and Potential*. Claremont, CA: Tomás Rivera Policy Institute.

the future is reasonably bright. Despite the recent downturns in certain high technology industries, the long-term trends in the economy point to healthy growth in jobs that demand some level of college training. This is particularly so in "knowledge" industries with their emphasis on science and engineering degree-holders.

This project focuses on the college experiences of Latinos aspiring for careers in science and engineering fields. It is quite clear³ that given the continuing demand for highly trained scientists and engineers, and the relatively low rates of Latino participation in those fields, that a mismatch exists between educational preparation and career opportunities. In particular, the project focuses on the process of choosing a college, and how that process may result in different and perhaps sub-optimal career outcomes for students. The perceived need for this project came from several directions:

- Despite college-going and college completion rates that are lower than non-Latino whites, the fact is that more Latinos are going to college. How, therefore, can we maximize the long-term outcomes of that experience?
- Our perception, supported by recent data⁴, is that many Latino parents are not well informed about how, when, and what they need to do to qualify their children for college. How then can we expand this "college knowledge," particularly as it pertains to choosing a college that will maximize future career opportunities?
- In an increasingly technological world, all degrees are not equal in terms of future prospects, and it is imperative that Latinos have the opportunities to succeed in science and engineering careers. What can we learn about the college choice processes of Latinos?

Are All Colleges Equal in Terms of Preparation for a Science or Engineering Career?

In a word, no they are not. Colleges vary widely in the selectivity of their admissions standards, the reputation of their faculty, the scope of their physical infrastructure and laboratory facilities, and the extent of their research activities. These differences have implications for resultant career opportunities for students, and the differences may be too subtle to a Latino parent with limited direct experience in higher education.

For one, the most extensive recruiting by employers is often focused on the larger and more prestigious institutions. Large universities attract major national companies as well as regional and local employers in science and technology fields. In fact, in certain fields, employers may restrict their searches to a relatively small number of institutions.

Another implication of attending a larger and more research-intensive institution is that it places students, via their professors, into a network of similar institutions. This is extremely important if the student has aspirations for graduate training up to and including the doctorate. Professors at a research university, which are the primary loci for graduate training at the Ph.D. level, will typically have collegial relationships that are more current, extensive, and intensive with their counterparts at other research universities. They are more likely to be involved in large projects, receiving external grants, and attending a wide range of conferences and meetings. Thus a graduate school reference letter for a student may have a bit more credibility when it comes from a faculty member at a more prestigious, research-intensive institution. It should be emphasized that increasing the small fraction of Hispanics who go on to receive a Ph.D. to a larger number (albeit still tiny in the grand scheme of things) is of great importance. One of the major problems confronting postsecondary education is the relative absence of professors from minority groups who can function as role models and mentors. The national data⁵ are relatively clear as well that most Ph.D.s in science and engineering fields received their undergraduate degrees at a research-intensive university.

³ Barton, P.E. *Meeting the Need for Scientists, Engineers, and an Educated Citizenry in a Technological Society*. Princeton, NJ: Educational Testing Service, Policy Information Center, 2002.

⁴ Tornatzky, L.G., Cutler, R., and Lee, J. (2002). *College Knowledge: What Latino Parents Need to Know and why they Don't Know It*. Claremont, CA: Tomás Rivera Policy Institute.

⁵ National Science Foundation, *Undergraduate Origins of Recent (1991-1995) Science and Engineering Doctorate Recipients*. Detailed Statistical Tables, NSF 96-334. Arlington, VA, 1996.

Research universities create more opportunities simply by the fact that they do research. Faculty members at colleges that are primarily focused on a teaching mission tend to have higher course loads, and much less time for large funded projects for industry or government. In most colleges, undergraduates in science and engineering fields have the opportunity to participate in experiential learning, such as by being a member of a research project team, taking a laboratory-focused honors course, or interning in a lab setting. Because there is more research project money circulating in research-intensive universities, there are simply more opportunities for students. It should be noted that some universities⁶, particularly in engineering fields, have a large fraction of their research work (up to 20% for national leaders) funded by industry. It is generally understood that companies benefit from these relationships in two important ways: getting a "window" into early faculty research; and getting access to students who might constitute future hires.

In fairness, it should be stated however, that many of these opportunities are available to students that attend highly selective Bachelor's-level institutions, some of which are quite distinguished in science and engineering fields. Nonetheless, our assumption is that the opportunities are richer and easier to come by at large but selective, research-intensive universities, with prominent programs of undergraduate and graduate education in those fields. Many of these institutions are public universities, with very large enrollments in the sciences and in engineering. In effect, there are more available "seats", at a reasonable price, at this cohort of institution.

Given the above, an important study question would be:

How do Latino students compare with non-Latinos in their college choices among different types of institutions?

Expanding the College Choice Options: To Leave Home or Not?

Another issue that graduating seniors must address is whether to include among college choice options schools in another state or region, or to stay close to

home. There are a variety of decision factors underlying this basic choice dilemma.

From a positive perspective, expanding the geographic scope of choosing a college will expand by definition the number of colleges "available." For example, among doctoral-level institutions and those with a major emphasis on R&D, there are less than 200 nationally and most states have a relative handful. If a prospective student can identify a number of institutions from this national pool that match his or her degree objectives, and apply to all of them, the prospects for admission are enhanced.

However, there are economic costs in expanding the geographic scope of college choice. All things equal, leaving home adds cost to the educational bill. For example, the lowest cost college option is to attend a local community college for two years, and then transfer to a four-year school in the community after completion of the Associate degree, and live at home for the duration of the experience. In contrast, the highest cost options are found at out-of-state public universities and private colleges. The tuition, fees and room and board charges at these institutions can create "college sticker shock." A four year college degree in the United States can cost as little as \$10-15,000 and range into six figures.

An important additional question would be:

Are Latino students more or less likely to attend college in another state than their non-Latino counterparts, and does the stay/leave choice have implications for the level of institution attended?

Culture, Family, and Gender

For most prospective college students, choosing a school to attend involves more than balancing considerations of curriculum, location, and cost. Students come from a community, a family, and cultural traditions. For Latino families especially, there are expectations for young people to rely on the family⁷ for emotional support, to contribute to the well being of the family, and to stay physically engaged by either living at home

⁶ Tornatzky, L., Waugaman, P. and Gray, D. *Innovation U: New University Roles in a Knowledge Economy*. Research Triangle Park, NC: Southern Growth Policies Board, 2002.

⁷ Keefe, S.E., Padilla, A.M., and Carlos, M.L. The Mexican-American extended family as an emotional support system. *Human Organization*, 28, pp. 144-152, 1979.

or visiting often, participating in family events, and staying in touch. For example, in a recent national survey⁸, it was found that 78% of Latinos felt that it was better for children to live in their parent's home until they get married, compared to 46% and 47% for whites and African-Americans respectively. This has implications for the stay/leave choice discussed above.

However, it gets more complicated. Among many Latino communities, cultural traditions tend to create different patterns of expectations for young women⁹. The expected physical attachment to and presence in the family gets confounded and accentuated with gender-specific roles, and there is little research on how these cultural and familial traditions impact college choices. These observations raise a number of research questions, for example:

Within Latino families, how do patterns of staying at home or going away to school interact with gender roles and expectations? Are Latinas more likely than their brothers to stay home to attend college, and/or to attend institutions that are less research-intensive than others?

Methodology and Approach

The basic research approach involved an analysis of an existing database, with comparisons developed along the lines of the research questions mentioned above.

Data Sources

The National Survey of Recent College Graduates (NSRCG) is a national probability survey of recent bachelor's and master's degree recipients in the sciences and engineering. It is conducted periodically, and is supported by the National Science Foundation. The edition that was used here involved students who received their degrees between July 1, 1994 and June 30, 1996, and who were interviewed between May

and November 1997. The NSRCG collects data on a range of pre- and post-graduation information. Most importantly for this analysis, it includes information on where a respondent went to high school, where they graduated from college, and where they ended up working. Critical to this analysis, the database also categorized the college that was attended by the student in terms of the Carnegie Classification of Institutions of Higher Education. This classification¹⁰ system, in effect, groups each institution in terms of its degree offerings and involvement in research. Thus a Research I or Research II school would have significantly more research expenditures and doctoral degree offerings than those in other categories.

Analysis

Two approaches to presenting and analyzing the data were used. One involved fairly straightforward frequency tables, which were analyzed using comparative statistics.

A second approach involved multivariate prediction using regression analysis.

Findings

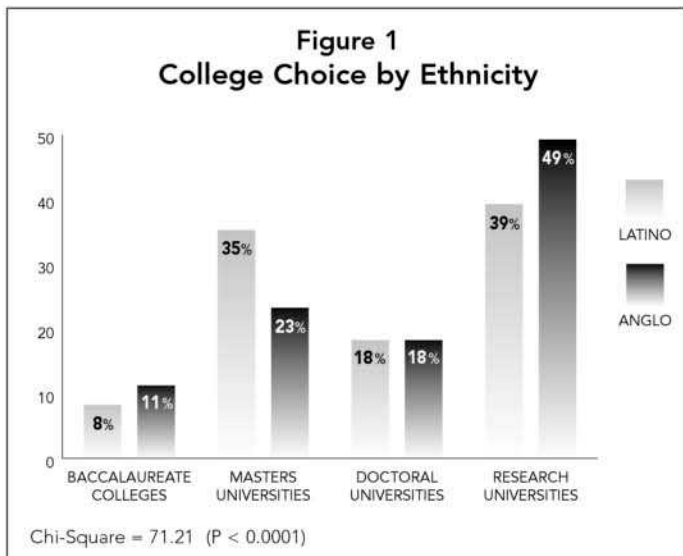
Several analyses are reported here including:

- 1 the differential enrollment patterns of Latinos and Anglos (non-Latino whites)
- 2 the same differential enrollment patterns by gender
- 3 the same differential enrollment patterns, except looking at those students who ended up going to college in the same state where they went to high school
- 4 a multivariate analysis of school choice

⁸ Suro, R., Brodie, M., Steffenson, A., Valdez, J., and Levin, R. 2002 *National Survey of Latinos*. Washington, DC: Pew Hispanic Center, 2002.

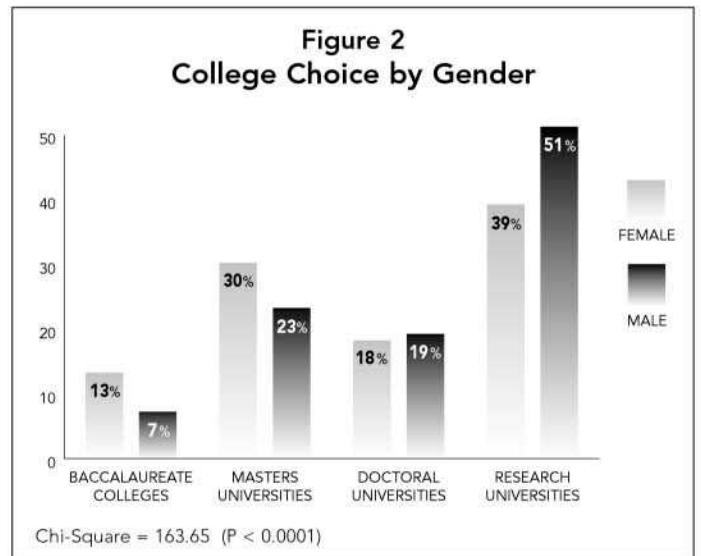
⁹ Ginorio, A. and Huston, M. *Si, Se Puede! Yes, We Can: Latinas and School*. Washington, D.C.: American Association of University Women Educational Foundation, 2001.

¹⁰ The Carnegie classification system has been changed since 1997 when the NSRCG data re-analyzed in this study were collected. In many ways the "old" Carnegie system had a finer-grained classificatory system than that currently being used, and was quite compatible with the research objectives of the project.



Comparative College Choices: Ethnicity

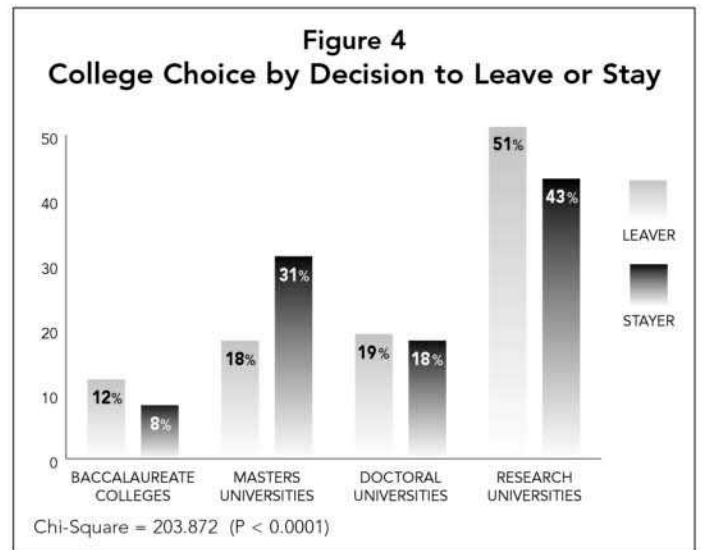
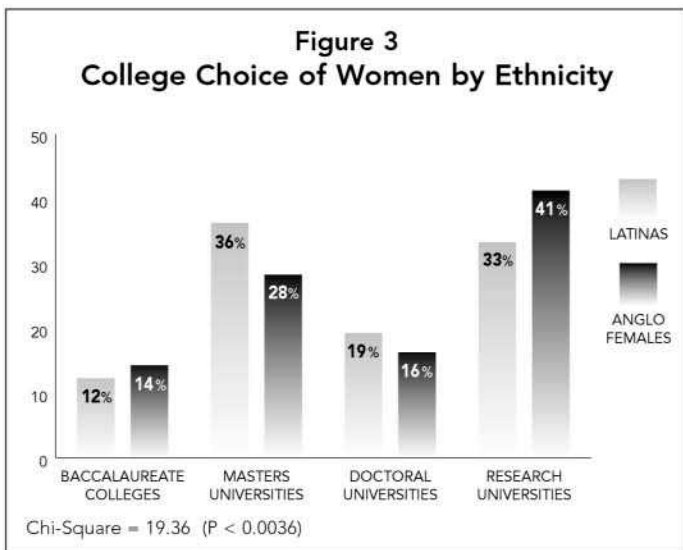
Figure 1 summarizes the relationship between the type of college from which students graduated¹¹ and ethnicity. As can be seen, Latinos and Anglos are significantly different in their college matriculation. Latinos are significantly less likely than Anglos to graduate from a research-intensive university (e.g., Research I or Research II), and significantly¹² more likely to graduate from a master’s university, (e.g., only granting masters degrees and not Ph.D.s). For example, there is a 10% difference between Anglos and Latinos in terms of the rate of graduating from a research university.



Comparative College Choices: Gender

Figures 2 and 3 present parallel analyses on the basis of gender. It indicates that there are statistically significant differences between the sexes in the type of school attended. Males are more likely than females to graduate from an institution with a higher level of research intensity.

To further elaborate these gender-related findings, we also looked at differences among women as influenced by ethnicity. Figure 3 shows that Latinas are doubly disadvantaged when it comes to college choice.



¹¹ According to the Carnegie Classification of Institutions of Higher Education, this ranged from Research I to Baccalaureate II. For ease of presentation, we have collapsed these into four groupings.

¹² The Chi-square statistic was used to determine if these different patterns of college choice were "statistically significant." This term refers to the probability that an observed statistical result could have been observed by chance. The probability level of every statistically significant result cited in this report was extraordinarily low (ranging from less than one in a hundred to less than one in ten thousand). These are very powerful results.

Table 1
Average Post-Graduation Income Reported
by Leavers and Stayers as a Function
of Ethnicity and Gender

	<i>Latino</i>		<i>Anglo</i>	
	Male	Female	Male	Female
Leaver	\$35,790	\$29,724	\$36,827	\$28,646
Stayer	\$31,564	\$27,737	\$34,665	\$27,378

Latinas are significantly less likely than Anglo females to graduate from a research-intensive university.

Comparative College Choices:
Leaving versus Staying Home for College

Reflecting the discussion above, we also wanted to explore whether the issue of leaving home had an influence on college choice. Unfortunately, the NSRCG database did not have a precise measure of the distance between a student's home and where they graduated from college, although we were able to use a relatively crude proxy to examine this question. Thus we compared students who matriculated to a college within the state where they went to high school ("stayers") versus those who ended up gradu-

ating from a college in another state ("leavers"). As can be seen from Figure 4, the advantage goes to leavers in terms of ending up in a research-intensive college. This was true across ethnicity and gender.

Interestingly, leaving home seemed to have implications for income after college graduation. Leavers reportedly earned \$35,325, which is significantly more than the \$31,526 reported by stayers. As shown in Table 1, this is true across ethnicity and gender. Since a number of other factors are associated with

Figure 5
Determinants of College Choice

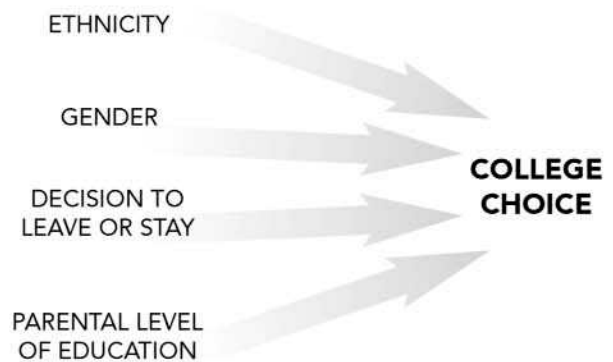


Table 2
OLS Regression Estimates of College Choice

	Unstandardized Estimates	Beta Estimates
Ethnicity (Latino)	-0.277 ** (0.109)	-0.033
Gender (Female)	-0.811 *** (0.076)	-0.138
Parental Level of Education	0.189 *** (0.025)	0.101
Decision to Leave or Stay	0.284 *** (0.078)	0.048
Constant	4.949	

$R^2 = 0.036$ Adjusted $R^2 = 0.035$ $N = 5,774$

Note: Standard errors are reported in parentheses under unstandardized co-efficient estimates.

being a leaver, however, it is difficult to sort out causality at this point. The data also indicate a disparity between men and women in post-graduation income, whether stayers or leavers.

Determinants
of School Choice:
A Multivariate Approach

In order to expand upon the simple comparisons presented above, and to begin to unravel the dynamics of these phenomena, TRPI also performed some multivariate analyses of

college choice. That is, we tried to sort out what factors were associated with the hierarchy of choices represented in the Carnegie classification. To that end, we constructed a hypothetical causal model as described in Figure 5.

To test the relationships hypothesized in the proposed model, we conducted an ordinary least squares (OLS) regression analysis. The purpose was to examine whether the primary factors described above (gender, ethnicity, parental level of education, and the decision to stay-leave) all are independent (e.g., non-redundant) predictors of a decision to matriculate to a more research-intensive institution.

That turned out to be the case. As shown in Table 2, ethnicity, gender, and parental level of education along with the decision to leave turn out to be significant in shaping college choice. This confirms our expectation that Latinos, women, and those who have parents with a lower level of education are less likely to matriculate to a more research-intensive institution. So are those who decided to stay home for college. All this clearly indicates that Latinas who have parents with a lower level of education and decided to stay in their home state for college are the least likely to matriculate to a more research intensive institution.

Discussion, Policy Implications and Unanswered Questions

The results have interesting implications for higher education policy, for parents and students in the Latino community, and for stakeholders in high technology industry concerned about the pipeline of future employees.

For educators, the data indicate a new wrinkle or complication in the longstanding issue of how to increase the college graduation rate of Latinos. These data suggest that it is not enough to craft policies to increase enrollment in college, but that one needs to attend to the "where and why" of college choice. For example, there may be large numbers of Latino youth who are aiming too low in terms of their future educational and career opportunities.

As noted above, TRPI has done significant work on parents' "college knowledge." This study seems to

illustrate a similar pattern of parent-children issues. How many parents, or how many high-achieving students for that matter, understand the substantive differences between schools that look alike in that they all offer bachelor's degrees, but which are qualitatively different institutions? Without having parents learn the complex lexicon of the Carnegie classification or similar sorting approaches, one could nonetheless hope that a greater awareness of college options would permeate the Latino community. Unfortunately, it is not clear what type of organization could or would provide this type of information outreach to Latino parents and students. High school counselors are overloaded, and college night events are probably not a good venue for conveying the subtle distinctions that are the focus of this study. Perhaps a third-party organization should develop an objective "educational consumer guide" oriented toward Latino parents and students that would frankly discuss costs and accessibility, as well as educational and career outcomes.

Not surprisingly, the results also suggest a number of yet answered questions, including:

- How stable are these findings, particularly as the Latino population and its college-going segment have increased over the past several years?
- To what extent do the stayer-leaver results reflect the economics of state vs. out-of-state tuition levels, or a qualitatively different phenomenon of leaving home?
- How do the dynamics and criteria of choosing a college play out across Latino and non-Hispanic white families?
- How do other educational experiences between high school graduation and 4-year college graduation impact college choice?
- What are the implications of these findings for elite research universities trying to achieve greater diversity in their student body, and ultimately in their faculty?

In its future work, the Center for Latino Educational Excellence of the Tomás Rivera Policy Institute intends to address these and a number of other related issues.

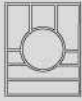
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TRPI Mission Statement

Founded in 1985, The Tomás Rivera Policy Institute advances critical, insightful thinking on key issues affecting Latino communities through objective, policy-relevant research, and its implications, for the betterment of the nation.

CLEE Mission Statement

The Center for Latino Educational Excellence (CLEE) was established as a major initiative of the Tomás Rivera Policy Institute (TRPI) in the spring of 2002. The long-term mission of CLEE is to improve educational attainment and achievement in America's Latino communities through the development of policy research that can provide guidance for Latino leadership — across public, non-profit, and private sectors — on how to change the current systems of education that are, on many levels, failing Latino youth and adults.

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