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Education and Work after High School: Recent Findings from the Central Texas Student Futures Project

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Any strong regional economy is built on the success of its educational system, both secondary and postsecondary. The Central Texas Student Futures project is providing a new comprehensive, longitudinal study of high school graduates. This project combines surveys of high school seniors with administrative records to produce a new stream of data that benchmarks regional educational and workforce outcomes.¹ The results provide new insights into various factors influencing college enrollment and retention as they relate to different key population subgroups (e.g., minority, low-income, and first-generation college students).

Research Questions

The conceptual model presented in Figure 1 shows influential factors in the transition from secondary to postsecondary education. This model helps frame the basic research questions we sought to answer, including:

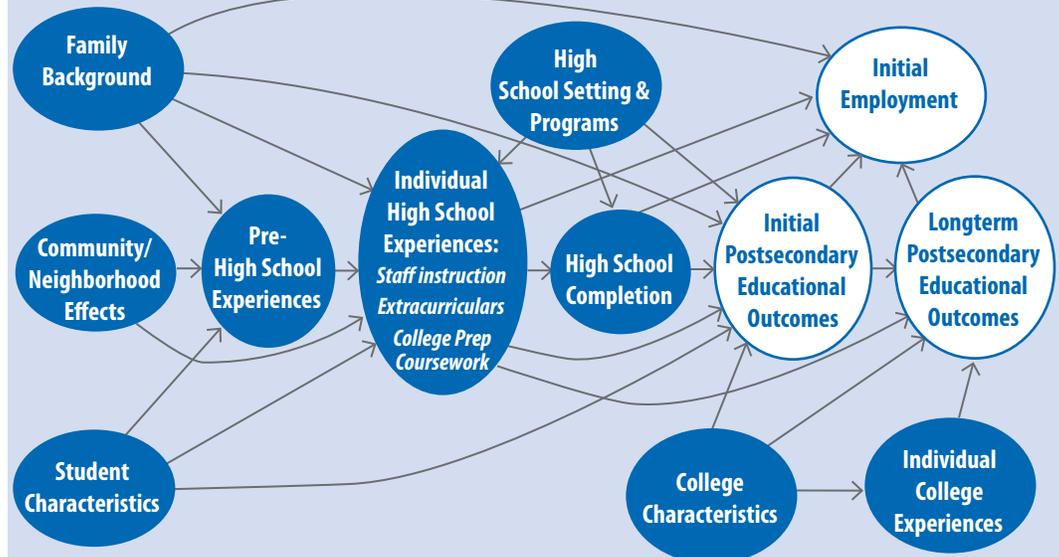
1. In the fall quarter after graduation, what share of high school graduates was enrolled in four-year postsecondary institutions, and what share of graduates was employed?

2. Which factors are statistically associated with initial enrollments in four-year colleges or universities? How does this vary for selected population groups?

Characteristics of the Research Sample

The demographic characteristics of all 2007 high school graduates (N=9,394) in the eight Central Texas school districts included in this study are presented in Table 1 (page 2). White graduates constituted approximately half of all graduates, followed by Hispanics at 29% of the total. Graduates were evenly split between genders. Graduates from low-income families made up about 21% of the sample.² One in ten graduates was enrolled in Special Education. The three school districts with the largest share of graduates in the fall 2007 research data set were Austin, Round Rock, and Leander ISDs, whose graduates comprise 38%, 23% and 12% of the data set, respectively. (The sample of surveyed graduates [N=3,061] is not representative of all 2007 graduates due to low survey completion and consent rates in some school districts.)

Figure 1
Student Futures Project Conceptual Model



Source: Student Futures Project

Contrary to the pattern of post-high school outcomes in Texas as a whole, a larger share of Central Texas graduates enrolled in four-year schools after graduation than in two-year colleges...

Table 1
Characteristics of 2007 Central Texas Graduates

	Total 2007 Graduates	Surveyed Graduates
N	9,394	3,061
Race/Ethnicity		
Asian	6%	5%
Black	11%	10%
Hispanic	29%	31%
White	53%	53%
Other	1%	1%
Gender		
Female	49%	52%
Male	51%	48%
Family Income Status		
Low-income	21%	21%
Not low-income	76%	79%
Unknown	3%	0%
Special Education Status		
Special Education	10%	6%
Not Special Education	88%	94%
Unknown	2%	0%
School District		
Austin	38%	66%
Del Valle	3%	2%
Eanes	6%	6%
Leander	12%	10%
Manor	2%	1%
Pflugerville	11%	5%
Round Rock	23%	8%
San Marcos	5%	3%

Source: Student Futures Project

Research Results

Enrollments. Of the total graduates from the participating districts, 62% enrolled in postsecondary education in the fall after graduation. Contrary to the pattern of post-high school outcomes in Texas as a whole, a larger share of Central Texas graduates enrolled in four-year schools after graduation than in two-year colleges. Forty percent of all graduates matriculated at four-year universities, while 22% enrolled in two-year colleges or technical schools. Both the overall Central Texas college enrollment rates and the share enrolled in four-year schools were similar to those for the U.S. as a whole, which had a 67% total enrollment rate and 43% enrolled in four-year schools.³

A majority of graduates (54%) enrolled at in-state institutions, while the remainder (8%) enrolled at out-of-state institutions. A lower number of graduates enrolled in postsecondary education in the fall after graduation than the number who said that they planned to enroll when surveyed in the spring.

The diversity of the high schools and school districts in this sample is reflected in their overall enrollment rates for graduates. As shown in Figure 2 (page 3), the enrollment rates across the eight ISDs in the study ranged from 84% (Eanes ISD) to 32% (Del Valle ISD). A majority of enrolled graduates from every district matriculated to four-year universities. Leander ISD sent the largest share of its graduates to two-year colleges or technical schools (28%), while only 11% of Eanes ISD graduates attended two-year schools. Of all districts, Leander ISD had the largest share of graduates attending in-state institutions (62%); Eanes ISD sent the largest share of its graduates to out-of-state colleges/universities (29%).

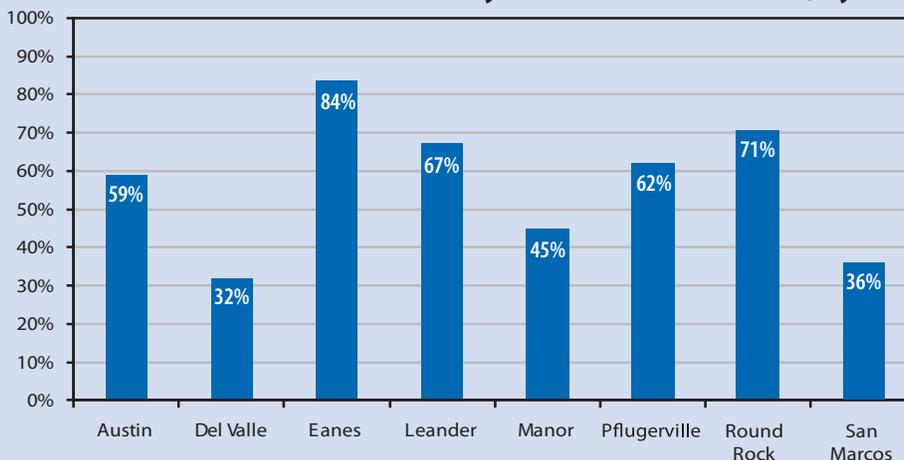
Asian and White graduates enrolled at higher rates (78% and 72%, respectively) than graduates of other racial/ethnic groups. Hispanic graduates had the lowest enrollment rate (44%) across all race/ethnic groups. Low-income graduates enrolled at far lower rates (40%) than other graduates (70%). Special Education graduates enrolled at lower rates (29%) than those graduates not classified as such (67%). Most of these differences occurred due to variation in enrollment rates at four-year institutions, as two-year enrollment rates were relatively consistent across all of these groups.

Employment. Nearly half of all graduates (46%) were employed in the state of Texas during the fourth quarter of 2007. Texas employment rates were higher for graduates who were Hispanic, Black, or from a low-income family (53% each). Asian graduates had the lowest employment rates of all racial/ethnic groups (30%). Initial employment rates were generally higher for graduates from districts with lower overall rates of postsecondary enrollment.

Enrollment and employment. Over eight of every ten graduates (83%) were either enrolled in institutions of postsecondary education or employed, a much higher rate than in most other studies of this type. Across all districts, 25% of graduates were both enrolled and employed within the state of Texas while a nearly equal share (26%) were enrolled but not employed. Twenty-one percent of graduates were employed within the state of Texas but not enrolled in postsecondary education and 12% were neither employed nor enrolled

One of the unique features of this research data set is its large sample size for population groups that traditionally have had far lower rates of enrollment in postsecondary education than other graduates, which is of particular interest to stakeholders seeking to improve enrollment in postsecondary education.

Figure 2
2007 Graduates Enrolled in Postsecondary Institutions in Fall 2007, by District



Source: Student Futures Project

in postsecondary education. Of the 16% of graduates with unknown employment status, 11% were enrolled in out-of-state institutions and 5% were not enrolled at any institution (Figure 4, page 6).⁴

Multivariate Analyses

While enrolling in four-year colleges and universities in the fall immediately after graduation was the most typical pathway of all measured outcomes, after holding all other variables constant, several variables increased the odds of enrolling in four-year schools by more than 50% for all surveyed graduates (Figure 3, page 4). The strongest effect was completion of the Distinguished Achievement Program (DAP) or Recommended High School Plan (RHSP), the Texas curriculum plans recommended for students who intend to pursue further education. Completing one of these graduation plans increased the odds of attending a four-year college or university by 345%.

When holding other variables constant, the next factors most strongly increasing the odds of four-year enrollment for all surveyed graduates included (in order of strength): taking college placement exams, graduating in the Top 10% of the class and completing Free Application for Federal Student Aid (FAFSA); all of these more than doubled the odds of four-year enrollment. These were followed (also in order) by: receiving high school math credit in eighth grade, being identified as gifted/talented, visiting one or more college campuses, and participating in high school sports, which all increased four-year enrollment odds by at least 50%.

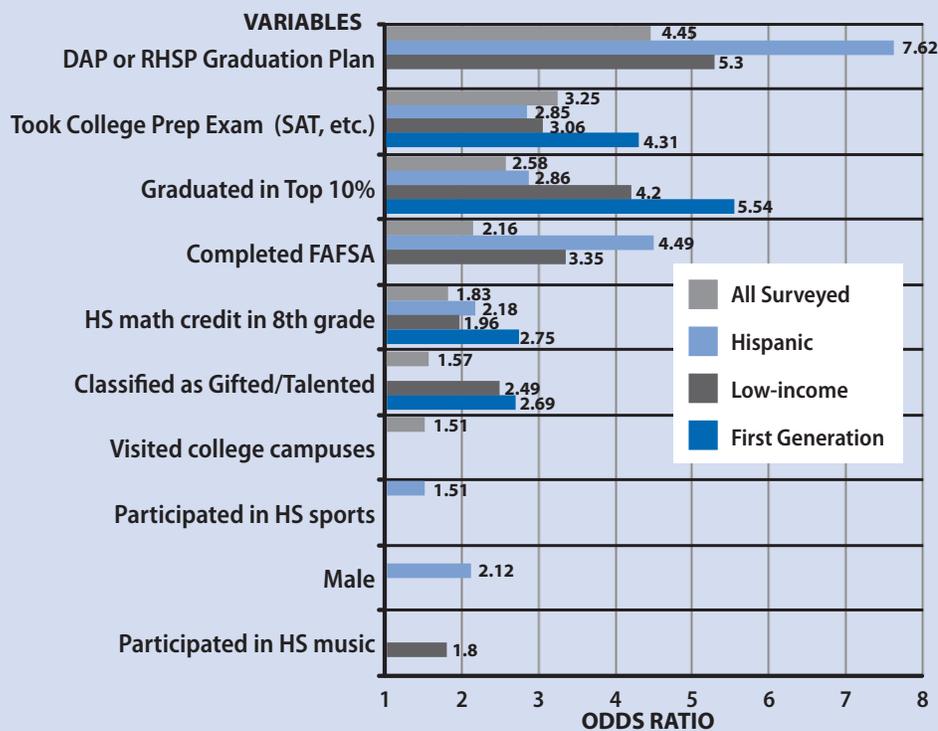
In addition to reporting major factors statistically associated with four-year enroll-

ments for all surveyed graduates, Figure 4 also lists factors that increased the odds of four-year enrollments for key groups of interest – Hispanic graduates, students from low-income families and graduates who would be the first in their families to attend college. One of the unique features of this research data set is its large sample size for population groups that traditionally have had far lower rates of enrollment in postsecondary education than other graduates, which is of particular interest to stakeholders seeking to improve enrollment in postsecondary education. The pattern of variables most strongly linked to four-year enrollments varied somewhat for each of these groups. Only three variables – taking college entrance exams, graduating in the Top 10% and receiving high school math credit in eighth grade – increased the odds of four-year enrollment by more than 50% for all four groups. No variables reduced the odds of enrollment in four-year institutions by more than 50%.

Hispanic graduates. Many of the key factors that significantly influenced the odds of four-year enrollment for all graduates had similar effects for Hispanic graduates, although the strength of various factors differed for Hispanic graduates. For example, while completing the DAP or RHSP was the most important factor both for all surveyed graduates and for Hispanic graduates, completing one of those curriculum plans increased Hispanic graduates' odds of four-year college enrollment by over 650% (compared to 345% for all graduates). FAFSA completion was also particularly important for Hispanic graduates, increasing the odds of enrollment by 350%. After controlling for other effects, Hispanic males were twice as likely to enroll in four-year colleges than

... completing [college preparation] curriculum plans increased Hispanic graduates' odds of four-year college enrollment by over 650% (compared to 345% for all graduates).

Figure 3
Major Variables Associated with Increased Postsecondary Education Enrollment*



*Major variables shown in this chart include those that that increased the odds of enrollment by more than 50%; other variables tracked by the study increased odds by less than 50%. An odds ratio of 1.5 indicates a multiplicative factor of 1.5, or an increase of 50%. (Similarly, an odds ratio of .75 reduces the chances of enrollment by 25%.)

Source: Student Futures Project

Hispanic females, while gender had no effect for all surveyed graduates. Hispanic graduates who did not plan to borrow money for college were *less* likely to enroll in four-year schools.

Variables that were usually linked to higher odds of four-year enrollments but were not statistically significant for Hispanics, include: parents' education, participation in extracurricular sports or music, taking a college prep exam, and visiting college campuses.

Low-income graduates. Family income plays an important role in shaping graduates' chances for education continuance. Graduates from low-income families, who make up just over one-fifth of all surveyed graduates, had an initial four-year enrollment rate of just 19%, compared to 47% for other graduates. Variables most strongly linked to four-year enrollments for low-income graduates included: completing the DAP/RHSP curriculum, which increased the odds by 430%, and graduating in the Top 10% (which increased the odds by 320%). Other academic factors related to higher enrollment rates were gifted/talented classification and high school math credit in eighth grade. Of the college preparation activities, only taking college entrance exams

and completing the FAFSA were associated with higher enrollment rates for low-income graduates.

While all of the variables listed were statistically linked to higher enrollments for all surveyed graduates, many other factors that influenced four-year enrollments for the full sample had no significant effects on four-year enrollments for low-income graduates. Only one factor was linked to lower four-year enrollments for low-income students: uncertainty about borrowing money for college.

First-generation graduates. Nearly one-quarter (24%) of surveyed 2007 graduates said that they would be the first generation in their families to attend college. Of these first-generation college students, 22% enrolled initially in a four-year institution, a rate less than half of that (51.5%) for non-first-generation students. Major factors associated with higher four-year enrollments for first-generation students were: graduating in the Top 10%, taking college entrance exams, earning high school math credits in eighth grade and being classified as gifted/talented. While most effects were not uniformly larger for first-generation students, one factor is worth noting: graduating in the

Top 10% increased the odds of four-year enrollment for first-generation graduates by more than 400%, the largest effect of any variable for this group. Smaller positive effects were observed for visiting college campuses, taking college entrance tests, and completing the FAFSA.

Contrary to the results for all other groups, the type of high school curriculum completed was not significant for first-generation students. Several factors were associated with lower initial four-year enrollments for first-generation students, including failing any ninth grade course, uncertainty about borrowing money for college, discussing academic performance with counselors, and not feeling well-prepared for college/career goals.

Conclusions

These preliminary research results hold particular significance as state and national policy makers pursue reforms to “close the gaps” in post-high school education and training for traditionally under-served groups including Hispanics and first-generation students. Texas has made additional modifications to its high school curriculum in the 2009 state legislative session, and the Austin Chamber of Commerce has championed efforts to boost participation in the FAFSA program and increase direct-to-college enrollments. The Obama administration is launching national initiatives along the same lines.

Our conclusions based on this analysis include:

- *The largest, most consistent influences associated with increased odds of initial four-year college enrollment are related to academic achievement and engaging in college preparation activities.*
- *Uncertainty over financing and low family income are important and substantial inhibiting factors for graduates seeking to pursue postsecondary education.*
- *Most results from this research for all surveyed graduates are logical and largely consistent with previous research; however, the strength and importance of specific variables differ for Hispanic and low-income graduates, as well as first-generation students.*
- *There is significant variation in postsecondary outcomes across schools.*

Recommendations

A number of policy and program recommendations follow from our analysis.

- *District and campus leaders as well as programs helping high school students should*

continue to pursue approaches that show strong links to educational continuance to a four-year institution. These include: students taking the more advanced coursework embedded in the Distinguished Achievement Program or Recommended High School Plan, as well as taking math for high school credit while in middle school, and taking college entrance exams.

- *School district and campus personnel should work closely with business leaders and postsecondary education representatives to create coordinated, sustained college and career planning initiatives addressing the goals, interests and aptitudes of different groups of students.*
- *Given the critical role that FAFSA completion and uncertainty over college financing play in four-year college enrollments, even greater effort needs to be devoted to increasing families' knowledge of financial aid programs. Additional steps might include earlier efforts to make parents aware of the financing options available for their children, expanded financial education for low- and middle-income parents, as well as new initiatives to connect with families who have difficulty navigating the FAFSA process.*
- *Educators, business leaders, policy makers and other community stakeholders should embrace a multiple-pathway approach to postsecondary education and labor market success.*

Through 2013, the Central Texas Student Futures project will continue to survey each new class of seniors prior to high school graduation, add additional postsecondary enrollment and employment data as they become available, and prepare annual reports on each graduating cohort of Central Texas graduates. The next phase of multivariate analyses on the assembled data will examine different influences across schools, colleges, access programs, and districts.

References

1. The Central Texas Student Futures project is a research partnership of the Ray Marshall Center for the Study of Human Resources at The University of Texas at Austin, Skillpoint Alliance, and eight Central Texas independent school districts (ISDs). Publications and a description can be found at www.centexstudentfutures.org.
2. Low-income status depends on participation in the federal free/reduced lunch program. Some eligible families may not opt to complete the application, which may result in an undercount of the actual number of low-income graduates.
3. Bureau of Labor Statistics (2008). "College Enrollment and Work Activity of 2007 High School Graduates." United States Department of Labor. (<http://www.bls.gov/news.release/hsgsec.nr0.htm>. Accessed July 17, 2009.)
4. Employment could only be measured for those working in Texas who had reported their Social Security numbers to their high schools. ◆

These preliminary research results hold particular significance as state and national policy makers pursue reforms to “close the gaps” in post-high school education and training for traditionally under-served groups including Hispanics and first-generation students.

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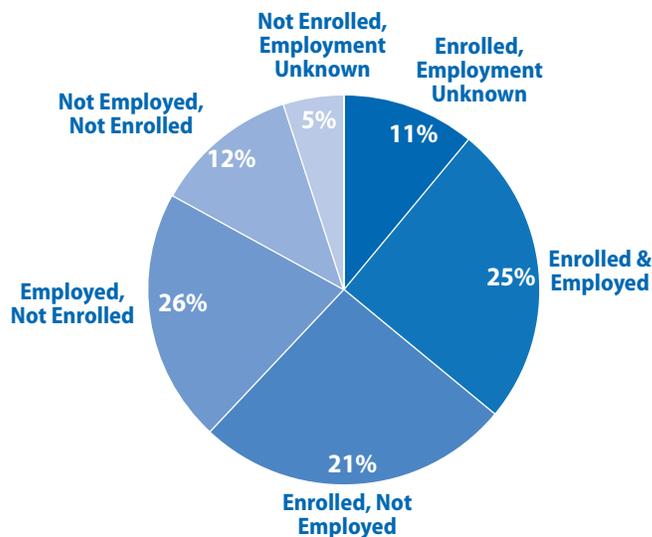
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Figure 4
Initial Postsecondary Education & Employment Outcomes for
2007 Central Texas High School Graduates



Source: Student Futures Project

Announcement

Regional Economic Research Conference: October 18-21, 2009

The 63rd annual Association for University Business and Economic Research (AUBER) conference will be held in Austin, October 18-20, 2009, and is being hosted by the IC² Institute's Bureau of Business Research at the University of Texas at Austin. The conference will take place at the historic Driskill Hotel located in the heart of downtown Austin's entertainment district on 6th Street.

Anyone interested in hearing from economic experts in government, the private sector, and academia about best practices in regional economic research is encouraged to register and attend. Keynote speakers include David Altig, Director of Research at the Federal Reserve Bank of Atlanta. For registration information, visit www.AUBER.org. ♦