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Student*Futures*

P R O J E C T

Education and Work After High School:
A First Look at the Class of 2007

A Research Report of the
Central Texas Student Futures Project

RMC RAY MARSHALL CENTER
for the Study of Human Resources

skillpoint alliance
where community, education and business connect

Education and Work After High School:
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List of Acronyms

ACT	formerly, American College Testing Program
CTE	Career and Technology Education
DAP	Distinguished Achievement Program
FAFSA	Free Application for Federal Student Aid
G/T	Gifted and Talented Program
GAC	Austin Chamber of Commerce
HS	High School
ISD	Independent School District
NSC	National Student Clearinghouse
OLS	Ordinary Least Squares
PEIMS	Public Education Information Management System
PSAT	Preliminary Scholastic Aptitude Test
RHSP	Recommended High School Plan
RMC	Ray Marshall Center for the Study of Human Resources
SAT	Scholastic Aptitude Test/Scholastic Assessment Test
SSN	Social Security Number
TEA	Texas Education Agency
TG	formerly, Texas Guaranteed Student Loan Corporation
THEA	Texas Higher Education Assessment
THECB	Texas Higher Education Coordinating Board
TWC	Texas Workforce Commission
UI	Unemployment Insurance
UNT	University of North Texas
UT	University of Texas
VIF	Variance Inflation Factor

Acknowledgements

Executive Summary

The Central Texas Student Futures Project is a research partnership of the Ray Marshall Center, Skillpoint Alliance and a growing number of Central Texas independent school districts (ISDs). The project's purpose is two-fold:

- To provide Central Texas school districts, postsecondary education institutions and employers with comprehensive, longitudinal research on what local high school students do after high school and how a variety of educational, personal and financial factors relate to their success in higher education and the workforce; and

- To foster best practices through workshops, seminars and applied research, assisting the region's ISDs, Education Service Center and postsecondary institutions to increase the number of regional youth who obtain postsecondary academic and workforce credentials.

To determine both what students plan to do after high school and key influences on these outcomes, the project surveys seniors in the spring prior to graduation. Graduates' actual postsecondary education and work outcomes are computed annually (for at least four years) using postsecondary enrollment and employment records. Data from prior high school records and the senior survey are added to the longitudinal outcomes data and used to identify those background factors and educational activities associated with specific education and labor force outcomes. Findings are shared annually with local educators, business and community leaders, and policymakers committed to improving the quality of education and employment in Central Texas.

This report presents the results of an analysis of initial postsecondary enrollment and employment outcomes — measured in the fall of 2007 — for 2007 high school graduates in the eight independent school districts (ISDs) that participated in the Student Futures Project in 2007: Austin, Del Valle, Eanes, Leander, Manor, Pflugerville, Round Rock and San Marcos Consolidated.

Initial Outcomes for 2007 High School Graduates

Enrollment. Of the 9,394 total graduates from the participating districts, 62% enrolled in postsecondary education in the fall after graduation. Forty percent of all graduates matriculated at 4-year universities, while 22% enrolled in 2-year colleges or technical schools. A majority of graduates (54%) enrolled at in-state institutions, while the remainder (8%) enrolled at out-of-state institutions. A lower share of graduates actually enrolled in postsecondary education in the fall after graduation than those who said that they planned to enroll when surveyed in the spring.

Overall enrollment rates for graduates 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 4-year universities. Leander ISD sent the largest share of its graduates to 2-year colleges or technical schools (28%), while only 11% of Eanes ISD graduates attended 2-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 overall 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 much lower rates (29%) than those graduates not classified as such (67%). Most of these differences occurred due to variation in enrollment rates at 4-year institutions, as 2-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.[1] 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.

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[1] Employment could only be measured for those working in Texas who had reported their Social Security numbers to their high schools.

Enrollment and employment. Over eight in every ten graduates (83%) were located either in postsecondary education or employment. 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 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.

Factors Associated with Initial Postsecondary Outcomes

Through a series of logistic regression models, researchers identified and analyzed factors that were significantly associated with initial enrollment in either 4-year or 2-year educational institutions or initial employment while not also enrolled. Prior literature was used to identify explanatory variables that could be constructed from available administrative and survey data. For each outcome measured, the logit models measured the statistical association between each explanatory variable and increased or reduced odds of occurrence.[2] (This method does not measure or imply causation.) Some regressions were run for all 2007 graduates, but the most complete models could only be estimated for those graduates whose survey data could be linked to their administrative records.

The findings presented here apply to all *surveyed* graduates in Central Texas but may not always apply to the *universe* of Central Texas graduates. Specific findings that may be affected by the differences in sample composition are noted in the report.

Factors Linked to Enrollment in 4-Year or 2-Year Postsecondary Education

Any enrollment. Different factors influenced the odds of enrolling in 4-year or 2-year postsecondary institutions; thus, these two outcomes were best analyzed separately. Graduates' high school coursework, extracurricular and college preparation activities affected the odds of enrolling in 4-year or 2-year postsecondary education in different ways that could be masked by simply analyzing 'any postsecondary enrollment' as the outcome of interest.

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[2] In these models, variation in the odds of enrollment or employment across school districts was controlled for through the use of dummy variables for each district. Measurement of specific variation attributable to school-level or district-level factors will be explored in greater depth in the next phase of this project.

Enrollment in 4-year schools. Numerous factors significantly increased the odds of enrollment in 4-year colleges and universities for surveyed graduates. After holding all other variables constant, the factors most strongly associated with increasing the odds of 4-year enrollment for all surveyed graduates included (in order of strength): completing a rigorous high school curriculum plan, taking college entrance exams, graduating in the Top 10% of the class and completing FAFSA; all of these more than doubled the odds of 4-year enrollment. These were followed (also in order) by receiving high school math credit in 8th grade, being identified as gifted/talented, visiting one or more college campus and participating in high school sports, which all increased 4-year enrollment odds by at least 50%.

Only a few factors were consistently associated with strongly increased odds of 4-enrollment across all of the specific population groups — Hispanic graduates, graduates from low-income families and graduates who would be the first in their families to attend college — that were analyzed in further detail because of their lower postsecondary education enrollment rates. Three variables — taking college entrance exams, graduating in the Top 10% and receiving high school math credit in 8th grade — increased the odds of 4-year enrollment by more than 50% for all surveyed graduates as well as the three smaller population segments. No variables reduced the odds of enrollment in 4-year institutions by more than 50%.

Enrollment in 2-year schools. Fewer factors were strongly associated with the odds of 2-year enrollment for surveyed graduates. No variables increased the odds of 2-year enrollment by more than 50%, and only two variables — graduating in the Top 10% and never thinking about college as an option — decreased the odds of 2-year enrollment by over 50%.

Graduating in the Top 10% of the senior class was the only factor that consistently affected the odds of enrolling in 2-year colleges for all population groups, substantially reducing enrollment odds by more than 50%. Factors associated with strongly increased odds of 2-year enrollment were not consistent across these groups. Other variables linked to increased or reduced odds of enrolling in 2-year colleges or technical schools are listed in the main report.

Factors Linked to Postsecondary Employment if Not Enrolled

Logistic regressions also measured those factors significantly linked to higher or lower odds of employment for surveyed graduates who were not enrolled in further education in the fall after high school graduation. Never thinking about college as an option increased the odds of being employed but not enrolled by 137%. Other factors that increased the employment odds by more than 50% were: being from a low-income family, earning more than $2,000 during one's senior year, discussing personal/family issues with a counselor, Hispanic ethnicity and discussing academic performance with a counselor. No variable reduced the employment odds by a similar magnitude.

The pattern of variables most strongly linked to being employed but not enrolled varied somewhat for each smaller population segment. No variable increased or decreased the odds of only being employed by more than 50% for all groups.

Conclusions

This report provides the first analysis of initial postsecondary enrollment and employment outcomes for 2007 Central Texas graduates. Major conclusions based on this analysis include:

- ❖ Four-year and 2-year postsecondary institutions appear to attract and serve very different students in terms of their backgrounds, characteristics, high school records and activities.

- ❖ The largest, most consistent influences associated with increased odds of initial 4-year college enrollment are related to academic achievement and engaging in specific college preparation activities.

- ❖ The existing statistical models better explain the factors influencing 4-year enrollments than either 2-year enrollments or employment.

- ❖ Low family income is an important and substantial inhibiting factor for graduates seeking to pursue postsecondary education

- ❖ Uncertainty over financing appears to play an important role in students' decisions about whether or not to enroll in college.

- ❖ Most results from this research for all surveyed graduates are logical and largely consistent with the literature; however, the strength and importance of specific variables differ for Hispanic and low-income graduates, as well as those who would be the first in their families to attend college.

- ❖ The relationship between postsecondary outcomes and several important variables — taking a defined sequence of Career and Technology Education courses, receiving high school credit for a foreign language in 8th grade and failing at least one 9th grade

course — could not be adequately assessed in this analysis due to differences between the samples of all graduates and surveyed graduates.

Recommendations:

❖ Given the consistency of findings for many of the academic and college preparation factors associated with higher odds of 4-year postsecondary enrollment, district and campus leaders should continue encouraging students to complete more challenging curriculum plans, college entrance exams and the FAFSA, among other approaches.

❖ 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 many different groups of students.

❖ Given the critical role that FAFSA completion and uncertainty over college financing play in 4-year college enrollments, even greater effort needs to be devoted to increasing families' knowledge of financial aid programs.

❖ Educators and other stakeholders should recognize that graduates pursue varied pathways — both linear and non-linear — to prepare for their future careers and embrace a variety of approaches to prepare students for future economic success.

Plans for the Future

The project will continue to survey each new class of seniors prior to high school graduation and prepare annual reports on each graduating cohort of Central Texas graduates through the addition of more longitudinal postsecondary education and enrollment data. Beginning with graduates from the Class of 2008, outcomes will be reported for ten ISDs, including Bastrop and Hays ISDs. The next phase of multivariate analysis will incorporate data that can measure differences across schools, programs and districts, and will use a variety of more sophisticated statistical models to test the robustness of the findings presented in this report.

Chapter I. Introduction

The Central Texas Student Futures Project is a research partnership of the Ray Marshall Center, Skillpoint Alliance and a growing number of Central Texas independent school districts (ISDs). [3] The project follows the progress of Central Texas high school graduates as they make the critical transition from high school to postsecondary education and the labor market. This effort grew out of concerns among key education, business, workforce development and community stakeholders that the region's economy and its residents would not prosper in the near- and longer-term unless more of its graduates obtained higher levels of enrollment in postsecondary education and better labor market outcomes.[4]

The purpose of the Student Futures Project is two-fold:

- To provide Central Texas school districts, postsecondary education institutions and employers with comprehensive, longitudinal research on what local high school students do after high school, and how a variety of educational, personal and financial factors relate to their success in higher education and the workforce; and

- To foster best practices through workshops, seminars and applied research, assisting the region's ISDs, Education Service Center and postsecondary institutions to increase the number of Central Texas youth who obtain 2-year and 4-year postsecondary education and workforce credentials (e.g., occupational certificates).

To determine what students plan to do after high school and the key influences on those outcomes, the Student Futures Project surveys seniors in the spring prior to graduation. Graduates' actual postsecondary education and work outcomes are computed annually (for at least four years) using postsecondary enrollment and employment records. Data from high school records and the senior survey are added to the longitudinal data and used to identify those background factors and educational activities that are associated with education and labor force outcomes. Findings are shared annually with local educators, business and community leaders, and policymakers committed to improving education and supporting local initiatives.

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[3] The Central Texas Student Futures Project was previously named the Central Texas High School Graduate Data Center.

[4] These concerns are outlined in the 2006 *Beyond the Numbers* report by King, Schexnayder and Gourgey.

Postsecondary Transition Processes

Central Texas students encounter many choices as they approach high school graduation and decide on their initial postsecondary pathways. The factors influencing their choices vary depending on the particular pathway — 4-year college, 2-year college or employment — each student pursues. Although the process for applying to any type of postsecondary education institution entails the same basic elements (application, acceptance and enrollment), there are key differences in the timing and steps of each.

Prior to high school graduation, many students have already taken key steps to pursue a 4-year baccalaureate degree. With encouragement from their parents, many of whom have some postsecondary education themselves, these students take college admissions tests, submit college applications, visit a number of college campuses and even fill out the Free Application for Federal Student Aid (FAFSA) and various scholarship applications (King et al., 2007). This pathway often comes to mind when stakeholders think about the postsecondary transitions process and strategies for improving enrollment for traditionally underserved populations (e.g., Texas Higher Education Coordinating Board, 2004).

Many other Central Texas students focus on a pathway to attend 2-year institutions, either as the initial step toward completing a 4-year degree or to gain a workforce credential or associate's degree. These students may take some of the same steps as the group noted above, but they are less likely to visit college campuses or submit college or financial aid applications (King et al., 2007). This pathway is also emphasized in *Closing the Gaps*, and workforce projections suggest that many of the jobs generated over the next decade will require more than a high school diploma but less than a baccalaureate degree (Holzer and Lerman, 2007). Completing at least a year of postsecondary education and obtaining an occupational certificate results in substantial payoffs: higher wages, reduced need for government services and reduced involvement in criminal activity (Kane and Rouse, 1995; Marcotte et al., 2005; Gill and Leigh, 2003; Lochner, 2004, Prince and Jenkins, 2005). Typically, less than half of academically prepared 2-year college students later enroll in 4-year colleges or universities (Roska and Calcagno, 2008).

A third group of students focuses only on working after high school graduation. For many of these students, postsecondary employment is a continuation of their high school work activity. Unless these students are employed in growing sectors that offer upward mobility and good wages, they are less likely to succeed in the labor market than either of the

other two groups (Brown et al., 2006; Andersson et al., 2005). Access to and funding for education and training opportunities while working are much better for those who already have some postsecondary education (Lerman et al., 2004).

It is worth noting that the pathways described above are initial routes students may pursue. These pathways are not necessarily the ones that are ultimately followed, nor are they likely to be linear. Many students will shift between these pathways. Some may even lead to a graduate degree and then "progress" later to a 2-year degree or occupational certificate to gain the skills and credentials needed for careers in emergent fields (e.g., biotechnology).

Influences on Postsecondary Transitions

The literature documents a number of factors that influence student transitions to postsecondary education and the workforce. These factors can be grouped into several broad categories: community and neighborhood effects; family background and influences; student characteristics; pre-high school experiences; high school setting and programs; and individual high school experiences. Based on this literature, the Ray Marshall Center has developed a conceptual model to reflect how and when these broad categories influence education and employment outcomes. The conceptual model presented in Figure 1 progresses in a chronological fashion, beginning with family background as one of the earliest influences on students' pathways and ending with individual college experiences as one of the last (Levy and King, 2009). [5]

In this report, the Student Futures Project focuses on a subset of those *individual-level* categories that integrate both early and later influences: family background, student characteristics and individual high school experiences.[6] The specific variables in each category included in Student Futures Project analyses are presented and defined in Appendix A, along with the researchers' expectations (based on findings in the literature and their own hypotheses) for the variables' likely relationship to initial postsecondary enrollment and employment. Outcomes for this year of the study focus on initial postsecondary results, with some analysis of longer-term outcomes planned for later years of the project. In terms of

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[5] The literature review for this project is ongoing. Both the conceptual model and a list of the literature that supports it are updated as new information becomes available or new topics (e.g., college persistence, employment retention and earnings) are added to the scope of the literature review.

[6] Data on high school settings and programs will be added in the next phase of this project. School district dummy variables are used in the current analysis to control for differences across districts. This is explained further in Chapter II.

overall expectations, variables expected to have a positive effect on postsecondary education enrollment are expected to have a negative effect on employment and vice versa.

Figure 1. Student Futures Project Conceptual Model
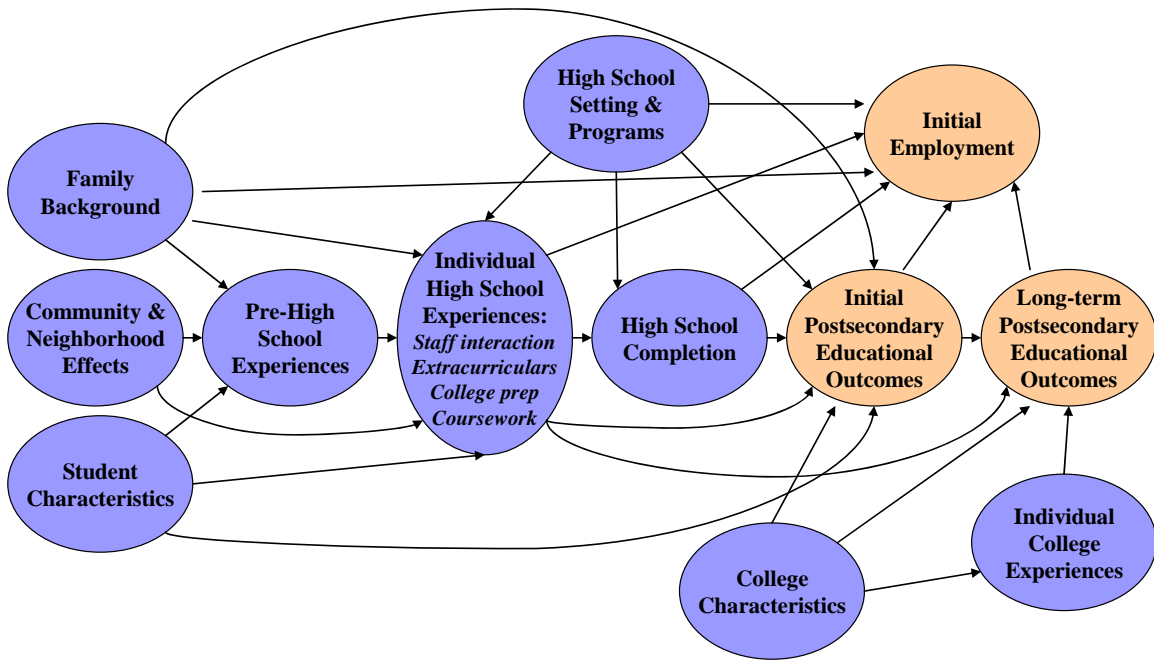
Organization of This Report

This report presents initial postsecondary enrollment and employment outcomes (as of December 2007) for 2007 high school graduates in eight Central Texas ISDs.[7] Chapter II outlines the specific research questions driving the analysis of initial postsecondary outcomes for Central Texas high school graduates and summarizes the methods and data sources used in the analysis. Chapter III presents initial postsecondary education enrollment rates and employment and earnings for all 2007 graduates. Chapter IV discusses results from the multivariate analysis of factors related to initial enrollment in postsecondary education and employment for 2007 graduates (both for all graduates and only those completing the senior survey). Chapter V summarizes the results from all facets of this research, offers conclusions and recommendations and outlines future plans for the Student Futures Project. Two appendices complete the report: Appendix A provides technical details related to the methods and data used in this report, while Appendix B contains detailed results from the logistic regressions discussed in Chapter IV.

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[7] Graduates include any student who graduated during the entire school year.

Chapter II. Research Questions, Methods and Data

The first report on postsecondary outcomes for Central Texas students, *Education and Work After High School: A First Look at the Class of 2006*, was published in November 2007 (King et. al., 2007). A number of improvements, described below, have been incorporated for the analysis of initial outcomes for 2007 graduates.

Research Questions

This report addresses the following research questions for 2007 graduates:

1. What share of high school graduates enrolled in postsecondary education in the fall after graduation?

2. What share of graduates was employed in the fall quarter after graduation?

3. What share of graduates was both enrolled in postsecondary education and employed in the fall quarter after graduation?

4. Which factors — family background and influences, student characteristics, pre-high school and individual high school experiences — are statistically associated with these initial postsecondary education and labor market outcomes?

This is the first of four annual outcomes reports on 2007 graduates from eight Central Texas school districts. By design, the research questions addressed for each graduating class become more sophisticated as additional years of postsecondary education and employment data become available and possible combinations of post-high school activities grow more complex.

Research Methods

To answer this year's research questions, researchers used both descriptive statistics and more sophisticated multivariate techniques to measure initial outcomes for 2007 high school graduates. The methods and data used to analyze these outcomes are briefly described below and discussed in more detail in Appendix A.

Descriptive Statistics: The first three research questions that measure initial postsecondary enrollment and employment were analyzed by computing the total number and shares of all graduates in participating school districts who enrolled in postsecondary education in Texas and other states, were employed in Texas, or did both in the fall after high

school graduation.[8] Chapter III summarizes all enrollment and employment rates by major demographic group and district.

Multivariate Analysis: To address the fourth research question on the individual factors associated with these postsecondary outcomes, researchers employed both standard Ordinary Least Squares (OLS) regression models and maximum likelihood logistic regression analysis. The multivariate results reported in Chapter IV are all based on logistic regressions with robust variances.[9]

The dependent variables analyzed included a series of binary outcome variables: any enrollment in postsecondary education, enrollment in a 4-year school, enrollment in a 2-year school, and employment if not enrolled. In each case, the outcome variable was measured against all other possible outcomes.[10]

Explanatory variables in the regression models were developed from the categories of individual student factors — family background, student characteristics, pre-high school experiences and individual high school experiences — that were cited in the literature and could be constructed from prior school records, earnings records or senior survey data. Results from the two models described below are discussed in Chapter IV and presented in detail in Appendix B.

> **Model 1** includes variables that could be constructed from historical school records and employment records. Examples include: student demographic variables; transcript information, graduation plans and class rank; participation in Special Education or Gifted and Talented (G/T) programs; and earning more than $2,000 during the senior year.

> **Model 2** incorporates additional variables cited in the literature that could only be measured from the senior exit survey. Examples include: parents' educational attainment; extracurricular activities; and college preparation activities, including plans for financing any further education.

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[8] The data source used to measure employment only covers employment within the state of Texas for those graduates who reported their Social Security numbers to their high schools.

[9] Logistic regression accounts for the fact that student postsecondary outcomes are categorical rather than continuous. Robust variances are generally more conservative than standard estimates, accounting more effectively for data anomalies and also providing some protection against problems arising from possible model misspecification.

[10] Future reports will explore the use of multinomial logistic regression using categorical outcome measures instead of binary measures.

Appendix A provides a complete list of the explanatory variables used in these regression models, including the data source used to construct each variable, and the expected effects of these variables on outcomes based on the literature used to develop the project's conceptual model. Although this phase of the research did not measure differences in outcomes attributable to a particular school or school district, dummy variables for each school district were included in the regressions to control for base-level differences across districts.[11]

Researchers also investigated the potential impact of multicollinearity and found that it had no significant impact on the results of the analyses presented in this report. Multicollinearity is a problem that can arise in regression analysis when one or more explanatory variables are highly inter-correlated, a situation that can lead to the potential misattribution of the specific effects of correlated variables on outcomes. Researchers verified that multicollinearity is not a critical issue in the results reported here by examining a measure called the variance inflation factor (VIF) of the models.[12]

Construction and Description of the Research Dataset

Over the past year, the Student Futures Project research team substantially improved the research dataset used in this report. The following specific actions improved the quality of information available for the Class of 2007:

- Modifying the data-sharing agreement with Austin ISD to receive complete data on all Austin ISD students and agreeing to share programming definitions so that the two organizations do not publish conflicting statistics for Austin ISD graduates;

- Obtaining additional data from school districts so that postsecondary outcomes could be calculated for 'graduates' instead of 'seniors,' and explanatory variables used in regressions could be constructed from transcript and special program participation data; and

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[11] Future reports will analyze the differences in outcomes that can be attributed to high school settings and programs by using hierarchical linear modeling or other methods that are suitable for analyzing nested data.

[12] Multicollinearity is present if the VIF for any one explanatory variable ≥ 10 or if the average VIF of all variables is much greater than one (Chatterjee et al., 2000). In this report, researchers used a single variable threshold of 3.5; no single variable demonstrated significant multicollinearity using this standard. The mean VIF never exceeded 2.0 for any single variable in any of the models discussed.

- Improving the postsecondary educational outcomes database by adding University of North Texas enrollment data to existing National Student Clearinghouse and University of Texas at Austin data.

Data Sources: Table 1 identifies the data sources used to construct the research dataset described in this report and briefly describes each source. Further information about each data source is included in Appendix A.

Table 1. Sources and Time Periods of Data Used to Construct the Research Dataset

Type of Data	Data Source	Description
Historical High School Records	All 8 participating ISDs	Demographic and program information and transcripts for all 2007 graduates
Senior Surveys	Austin ISD Senior Exit Survey	Results from Austin ISD survey for all 2007 graduates who took the survey
	Student Futures Project Senior Survey	Survey data for all 2007 graduates in 7 non-Austin ISD districts who both completed the senior survey and gave consent to use survey data in the longitudinal analysis
Postsecondary Education Enrollment	National Student Clearinghouse	Directory information for 2007 graduates enrolled in postsecondary education in the fall of 2007 at colleges throughout the U.S.
	University of Texas and University of North Texas	Directory information for students enrolled in the fall of 2007 (UT and UNT are not included in NSC database)
Employment and Earnings	Texas Workforce Commission	Unemployment Insurance quarterly wage records for employment within Texas from the 4th quarter of 2005 through the 4th quarter of 2007

Research Dataset: The research dataset and samples drawn from it were based on high school 'graduates' (rather than 'seniors' as was used in the Class of 2006 *First Look* report). Rates of postsecondary education enrollment and employment reported in Chapter III were computed for all high school graduates (N=9,394) in the full research dataset (i.e., all 2007 graduates in the eight participating school districts).

The logit results discussed in Chapter IV and presented in Appendix B were based on the following samples drawn from the research dataset: 1) all graduates and 2) a smaller sample of those graduates who completed a senior survey.[13] Missing information on any graduate for any variable caused that graduate to be dropped from each sample, and

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[13] In Austin ISD, this included all survey respondents with complete information. In other districts, this included those survey respondents who provided direct consent to use their survey information.

employment regressions only included those graduates who reported their Social Security numbers to their high schools. The sizes of the various samples are listed in Table 2.

Table 2. Size of the Dataset and Samples Used in this Report

	Total Observations
Descriptive Analysis Dataset (Chapter III)	9,394
Logistic Regression Samples (Chapter IV)	
All Graduates (Logit Model 1 only)	
Postsecondary enrollment	8,706
Employment	7,244
Surveyed Graduates (Logit Models 1 & 2)	
Postsecondary enrollment	3,061
Employment	2,759

Source: Student Futures Project calculations.

Characteristics of 2007 Graduates: The demographic characteristics of all 2007 high school graduates in the eight Central Texas school districts included in this study are presented in Table 3. 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 2007 sample.[14] One in ten graduates was enrolled in Special Education. The three school districts with the largest share of graduates in the Fall 2007 research dataset were Austin, Round Rock and Leander ISDs, whose graduates comprise 38%, 23% and 12% of the dataset respectively.

The sample of surveyed graduates (N=3,061) is not completely representative of all 2007 graduates due to low survey completion and consent rates in some school districts. It over-represents Austin ISD graduates and those who completed the Distinguished Achievement Program (DAP) or the Recommended High School Plan (RHSP) for graduation. It under-represents Round Rock and Pflugerville ISD graduates, as well as those who took a sequence of Career and Technology Education (CTE) courses, those receiving

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[14] Low-income status depends on participation in the federal free/reduced lunch program. Some eligible families may opt to not complete the application, which may result in an undercount of the actual number of low-income graduates (Gleason, 1995).

high school credit for a foreign language in 8th grade, and students failing at least one 9th grade course. See Table B-1 in Appendix B for further details.

Due to the richness of the additional information only available from the senior survey, most of the discussion of logit regression results in Chapter IV is based on Model 2, which could only be estimated for surveyed graduates.[15] The text in that chapter notes those results that probably were affected by the sample differences discussed above. In the future, the research team will continue to work with all school districts to increase the share of surveyed seniors whose survey data can be linked with administrative data and used in the multivariate analyses.

Table 3. Characteristics of 2007 Central Texas Graduates

	All 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 calculations.
Note: Totals do not always equal 100% due to rounding.

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[15] The "goodness of fit" measures for all Model 2 logistic regressions were superior to those for the Model 1 regressions. See Appendix A for further details.

Data Limitations and Interpretations

Data issues affecting this analysis include low survey response and consent rates in some high schools, the absence of some Texas postsecondary institutions from the National Student Clearinghouse (NSC) database, and an inability to measure out-of-state employment or employment not covered by the Texas Workforce Commission's UI wage records.[16] Enrollment information obtained directly from the University of Texas at Austin and the University of North Texas — the two largest Texas postsecondary institutions that do not participate in NSC — were used to mitigate the largest gaps in the NSC database.

Low consent rates from seniors in some high schools made it impractical to statistically weight the survey responses to account for survey non-respondents. Thus, regression findings and interpretations based on the research sample of surveyed graduates cannot always be generalized to the universe of Central Texas graduates from all participating school districts. The text in Chapter IV indicates those instances in which regression findings for surveyed graduates may be affected by differences in sample characteristics.

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[16] A complete list of non-participating Texas colleges and universities in the NSC database is provided in Appendix A. In Texas, more than 95% of wage and salary employment is covered by UI. Gaps in coverage exist for those who are self-employed, including independent contractors, as well as employees of religious organizations, railroads, small farms and the military (Stevens, 2002).

Chapter III. Initial Postsecondary Outcomes for
2007 High School Graduates

This chapter presents initial education and employment outcomes (measured in the fall following graduation) for all 2007 Central Texas graduates, both overall and for major subgroups. To answer the first three research questions listed in Chapter II, this chapter examines which graduates in the eight participating school districts (N = 9,394) were enrolled in postsecondary education, which were working, and which were both enrolled in postsecondary education and working. The final section compares the planned to actual outcomes for surveyed graduates (N=3,061). This is the first of four annual reports that will follow this cohort of graduates.

Initial Postsecondary Enrollment

Enrollment outcomes in the fall of 2007 are reported for *all* 2007 graduates from Austin, Del Valle, Eanes, Leander, Manor, Pflugerville, Round Rock and San Marcos Consolidated ISDs.[17] Overall, 62% (5,858 students) of the 9,394 graduates were enrolled in postsecondary education in the fall of 2007.

As shown in Table 4, 40% of 2007 graduates enrolled in 4-year colleges and universities in the fall following their high school graduation, while 22% enrolled in 2-year colleges. Contrary to the pattern of post-high school outcomes in Texas as a whole, a substantially larger share of Central Texas graduates enrolled in 4-year schools after graduation than in 2-year colleges.[18] Both the overall Central Texas college enrollment rates and the share enrolled in 4-year schools were fairly similar to those for the United States as a whole, which had a 67% total enrollment rate and 43% enrolled in 4-year schools, according to the Bureau of Labor Statistics (2008). The overwhelming majority of Central Texas graduates enrolled in postsecondary institutions within the state of Texas.

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[17] Initial enrollment is defined as any graduate enrolled in a postsecondary institution in the fall of 2007.

[18] See Appendix A for a comparison of the postsecondary enrollment rates in this report to those published by the Texas Higher Education Coordinating Board (THECB, 2009).

Table 4. Initial Postsecondary Enrollment for 2007 Graduates

	Number	Percent
N	**9,394**	**100%**
Total Enrolled in Fall 2007	5,858	62%
Type of Institution		
4-Year College/University	3,743	40%
2-Year College/Technical School	2,115	22%
Location of Institution		
In-State	5,098	54%
Out-of-State	760	8%

Source: Student Futures Project calculations.

Enrollment by District

Postsecondary enrollment rates for all graduates (N=9,394) varied widely among individual districts and high schools. Figure 2 summarizes the percent of 2007 graduates attending postsecondary institutions as of December 2007 by district. Enrollment percentages varied from a high of 84% for Eanes ISD graduates to a low of 32% for graduates from Del Valle ISD.

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

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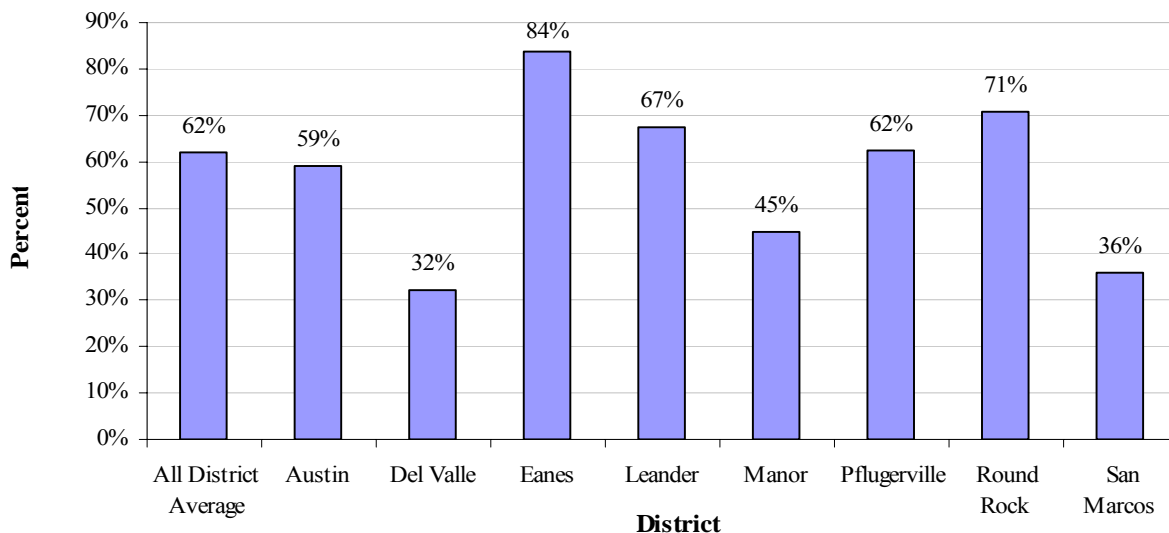
Additionally, the type of institution that graduates selected varied widely by district. Figure 3 provides the breakdown of 4-year and 2-year enrollment by district. A larger share of graduates from every district attended 4-year colleges and universities than 2-year schools. Eanes ISD had the smallest percent of graduates attending 2-year colleges (11%), while Leander ISD had the highest percentage of graduates at 2-year colleges (28%).

Figure 3. Percent of 2007 Graduates Enrolled in 4-Year and 2-Year Institutions, by District
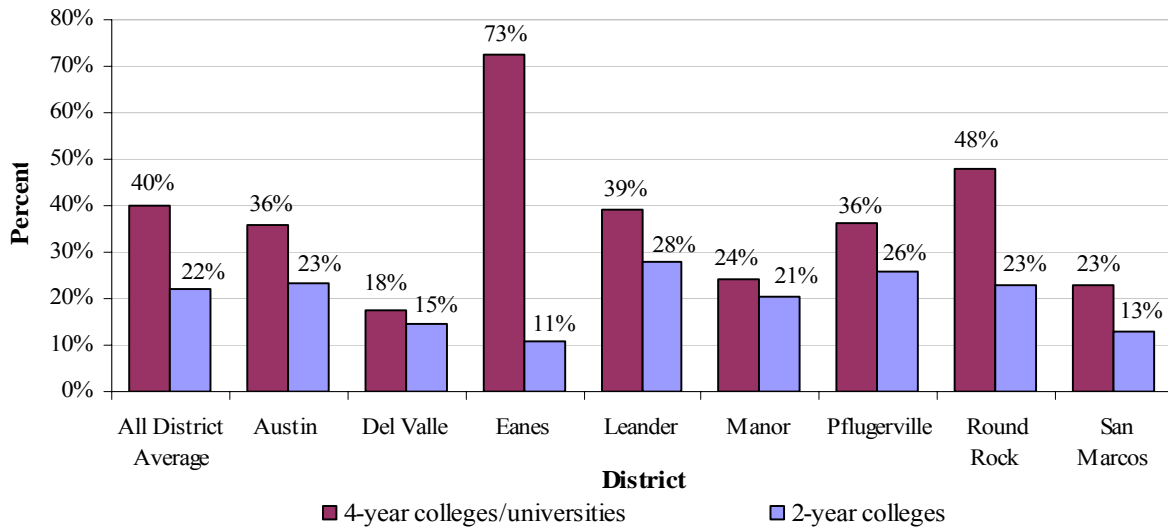
Note: Total percents across categories do not always equal those reported in Figure 2 due to rounding.

Over half of all Central Texas graduates (54%) attended in-state institutions during the fall after their high school graduation. Figure 4 details the variation between in-state and out-of-state enrollment by district. Across all districts, Eanes ISD sent the largest percentage of its graduates to out-of-state institutions (29%), while Leander ISD had the largest share of graduates attending in-state institutions (62%).

**Figure 4. Percent of 2007 Graduates Enrolled in In-State
and Out-of-State Institutions, by District**
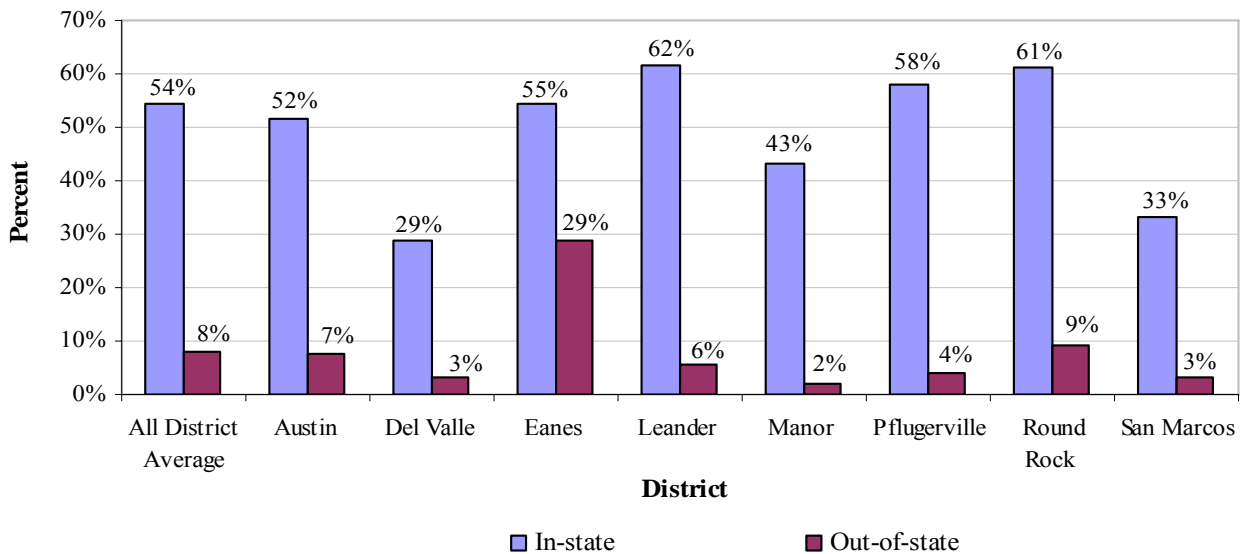
Note: Total percents across categories do not always agree with those reported in Figure 2 due to rounding.

Enrollment by Demographic Characteristics

Table 5 provides information on the initial postsecondary educational enrollment status of 2007 high school graduates by demographic and other characteristics. Asian and White graduates enrolled in postsecondary education at higher rates (78% and 72%, respectively) than graduates of other racial/ethnic groups, while Hispanic graduates had the lowest overall postsecondary enrollment rate (44%) of any racial/ethnic group. Low-income graduates also enrolled in postsecondary education at far lower rates (40%) than graduates from higher-income families (70%). Finally, Special Education graduates enrolled at much lower rates (29%) than other graduates (67%).

The table also shows both the type and location of postsecondary institutions attended by different subgroups. Asian and White graduates enrolled in 4-year colleges and universities at higher rates (57% and 49%, respectively) than graduates of other racial/ethnic groups. A lower share of low-income and Special Education graduates (19% and 6%, respectively) enrolled in 4-year colleges and universities than graduates who were not low-income (47%) or not classified as Special Education (44%). In addition, lower shares of these same subgroups enrolled at out-of-state institutions. The rates of graduates enrolled in 2-year schools were consistent across all groups presented in Table 5.

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**Table 5. Initial Postsecondary Enrollment Rates of 2007 Graduates
by Selected Characteristics and Type/Location of Institution**

	Total Graduates	Percent Enrolled	Type of Institution		Location of Institution	
			4-Year	2-Year	In-State	Out-of-State
N	9,394					
Overall Enrollment	5,858	62%	40%	22%	54%	8%
Ethnicity						
Asian	551	78%	57%	21%	70%	8%
Black	1,071	58%	35%	23%	52%	6%
Hispanic	2,768	44%	22%	22%	41%	3%
White	4,960	72%	49%	23%	61%	11%
Other	44	61%	32%	29%	50%	11%
Gender						
Female	4,622	65%	42%	23%	57%	8%
Male	4,772	60%	38%	22%	52%	8%
Economic Status						
Low-income	2,006	40%	19%	21%	37%	3%
Not low-income	7,148	70%	47%	23%	60%	10%
Unknown	240	33%	12%	21%	29%	4%
Special Education Status						
Special Education	927	29%	6%	23%	26%	3%
Not Special Education	8,227	67%	44%	23%	58%	9%
Unknown	240	33%	12%	21%	29%	4%

Source: Student Futures Project calculations.

High School and Initial Postsecondary Employment in Texas

Employment data were first examined to determine the share of graduates who worked while in high school. Employment while in high school was only measured during the fourth quarter (October — December) and the first quarter (January — March) of graduates' junior and senior years so as to only include employment during the regular school year. Table 6 summarizes employment and wage data for all graduates (N=9,394). While only 26% of graduates worked in UI-covered employment in Texas during their junior year, almost half of graduates worked during their senior year. During each year, only 3% of juniors and 10% of seniors earned $2,000 or more. So, although it was common for graduates to work during their senior year of high school, only a small share of them earned a substantial amount of money.

Table 6. Employment Prior to Graduation for 2007 Graduates

	Total	Employed	Not Employed	Unknown[1]
N	**9,394**			
Junior Year		26%	65%	9%
Senior Year		46%	45%	9%

[1] Students with missing SSNs could not be identified in the UI earnings database.
Source: Student Futures Project calculations.

Texas employment outcomes for the fourth calendar quarter of 2007 were examined for the 9,394 graduates in the eight participating school districts. Texas employment data were not available for 16% of the sample (1,540 graduates) due to missing Social Security numbers (9%) and graduates who enrolled at out-of-state institutions (8%).[19] Figure 5 shows employment for all graduates by school district. Table 7 shows employment rates for selected demographic groups based on the total sample, including the share of graduates for whom employment was "unknown." This table measures all Texas employment, regardless of enrollment in postsecondary education.

Figure 5. Percent of All 2007 Graduates Employed in Fall 2007, by District

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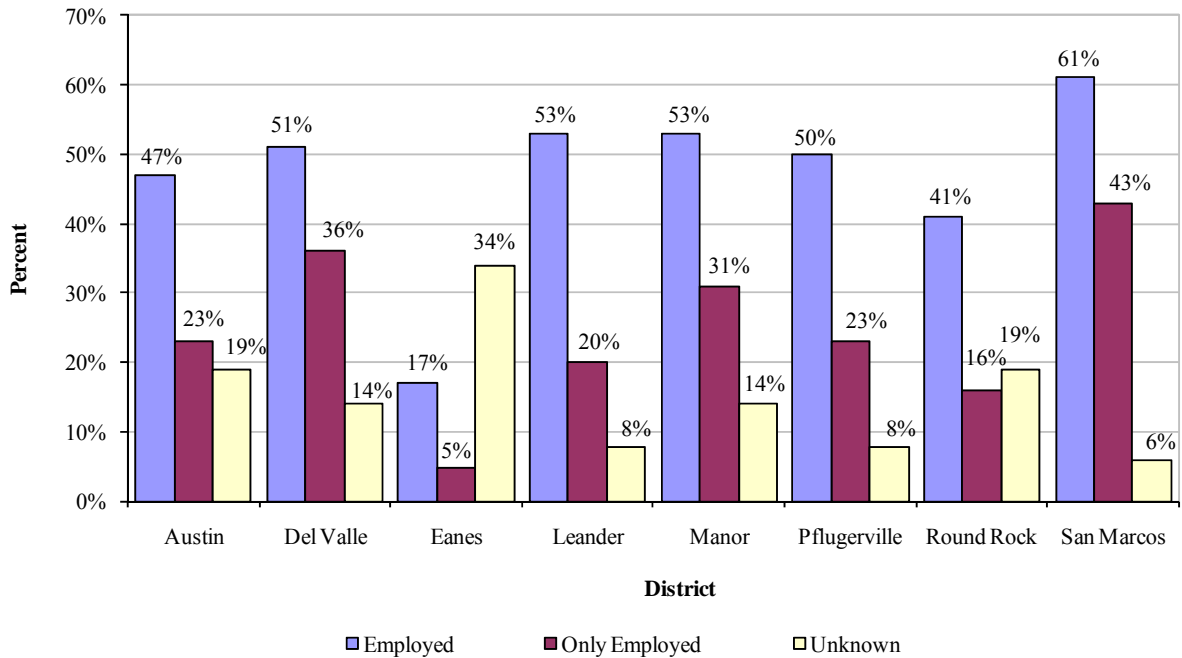
[19] Some graduates who enrolled out of state also did not have SSNs, so the sum does not total 16%.

Table 7. Initial Texas Employment Outcomes for All 2007 Graduates, Fall 2007

	Total	Employed	Only Employed	Unknown
N	**9,394**	**46%**	**21%**	**16%**
Ethnicity				
Asian	551	30%	9%	24%
Black	1,071	53%	27%	12%
Hispanic	2,768	53%	30%	18%
White	4,960	43%	17%	16%
Other	44	43%	27%	14%
Gender				
Female	4,622	47%	20%	16%
Male	4,772	45%	23%	16%
Income Status				
Low-income	2,006	53%	33%	18%
Not low-income	7,148	44%	18%	16%
Unknown	240	54%	34%	12%
Special Education Status				
Special Education	927	56%	43%	9%
Not Special Education	8,227	45%	19%	17%
Unknown	240	55%	34%	12%

Source : Student Futures Project calculations.

The percentages shown in the table are largely consistent with researchers' expectations and the patterns of postsecondary enrollment discussed in Chapter II. In the fall quarter after leaving high school, Texas employment rates were higher for Hispanic and Black graduates (53% each) and those from low-income families (53%). Asian graduates were employed at the lowest rates across all racial/ethnic groups (30%). Employment rates for male and female graduates were similar.

As expected, initial employment rates were inversely related to the postsecondary enrollment patterns presented in Figure 2: Employment rates generally tend to be higher for graduates from districts and schools with lower overall rates of postsecondary education enrollment. After high school, graduates often work if they are not going to school. However, many of those who are going to college are working as well, which explains why the relationship between employment and education outcomes is not perfectly inverse.

Employment and Enrollment Activities

The third research question posed by the Student Futures Project asked which Central Texas graduates (N=9,394) were both employed and enrolled in postsecondary education after high school. Over eight in every ten graduates (83%) were located either in

postsecondary education or employment. The post-high school profile for all 2007 graduates can be seen in Figure 6. 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 in postsecondary education. Of the 16% of graduates for whom employment was unknown, 11% were enrolled in postsecondary institutions, and 5% were not enrolled at any institution included in the research dataset.

Several other possible postsecondary outcomes of interest could not be measured by this analysis. These include: enrollment in postsecondary institutions not included in the current research dataset, out-of-state employment, employment not covered by the UI system and enlistment in the military.

Figure 6. Initial Postsecondary Education and Employment Outcomes for 2007 Graduates
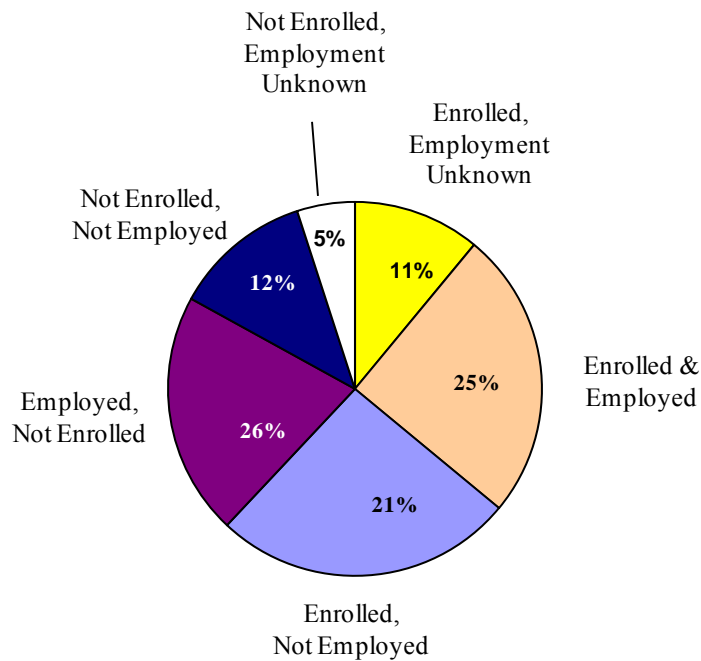
Comparison of Post-High School Plans to Actual Education and Employment

The 2007 senior survey asked students what they planned to do within one year after graduation. For those graduates whose survey data could be linked to education and employment records (N=3,061), their survey responses were compared to actual education and enrollment outcomes measured in the fall of 2007. As shown in Figure 7, 94% of surveyed graduates expected to continue their education within a year of graduation. As of December 2007, 73% had actually done so. Conversely, while only 2% expected to be employed without also enrolling in school, 18% were employed in Texas while not enrolled in college during the fall of 2007. The remaining 4% of surveyed graduates were evenly divided between those who expected to enlist in the military and those who were unsure of their future plans. As shown below, 9% of surveyed graduates could not be found in either the education or employment records available for this analysis.

**Figure 7. Planned versus Actual Post-High School Education
and Employment in Fall 2007 for All Surveyed Graduates
(N=3,061)**
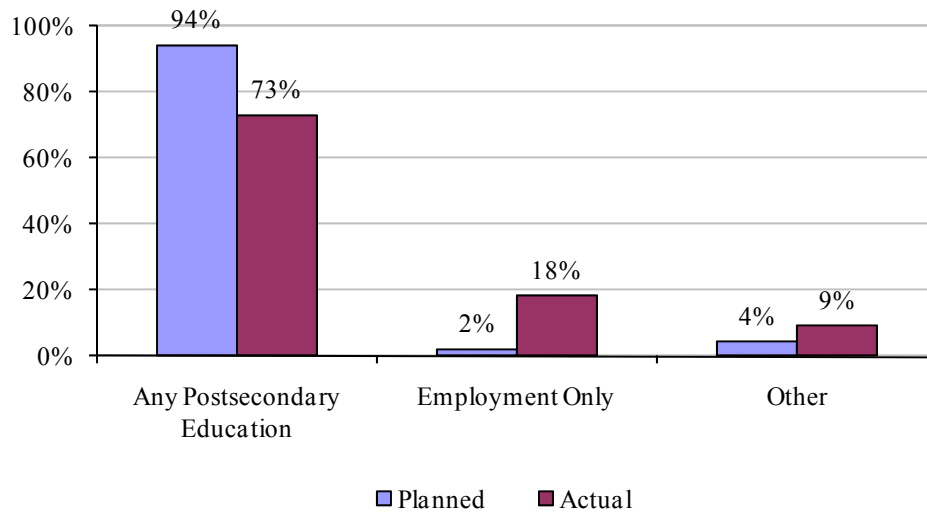
Chapter IV. Multivariate Analysis of Factors Associated with Initial Postsecondary Education and Employment for 2007 Graduates

The fourth research question seeks to identify those factors that are significantly associated with initial education and labor market outcomes for recent high school graduates. A series of binary logistic regressions were used to analyze the following outcomes of interest: enrollment in postsecondary education — both any enrollment and enrollment in either 4-year or 2-year schools — and employment for graduates who did not enroll in postsecondary education.

Interpreting Logit Results

As described in Chapter II, two different logit models were employed to determine effects on postsecondary enrollment and employment outcomes — one using only variables constructed from administrative data sources (Model 1) and another including variables based on senior survey responses (Model 2). Model 1 regressions were run both for all graduates and surveyed graduates; however, Model 2 specifications could only be estimated for surveyed graduates. Although the differences in sample characteristics discussed in Chapter II could potentially affect the multivariate findings, in reality, the statistical significance and direction for most of the explanatory variables in Model 1 were identical, regardless of the sample used. (Model 1 results are included in appendix tables B-2, B-3, B-5 and B-7.) Because the project's conceptual model emphasizes the importance of family background and individual high school experiences — data that are only collected in the senior survey — this chapter generally discusses Model 2 findings. Results that may have been affected by differences in the characteristics of the two samples are noted in the text.

The results reported in this chapter measure the relationship of *individual-level* student factors to future education and employment. To account for district-level factors that may influence graduates' outcomes, district-level dummy variables were included (but not reported) in all logit models. Thus, the results discussed in this chapter should be interpreted as applying to all surveyed graduates in the Central Texas region, regardless of the Central Texas school district that they attended. Differences in the odds of future education or employment attributable to attending a particular high school or district will be explored in a future report.

Logit regressions typically report "odds ratios" that measure the degree to which a one-unit change in any given explanatory variable affects the odds, or chances, of a particular outcome occurring, holding the effects of all other variables included in the model constant. An odds ratio of 1.50 for graduating in the Top 10% variable in a logit model of postsecondary enrollment, for example, would mean that graduating in the Top 10% tends to increase the odds of enrolling by a multiplicative factor of 1.50, an increase of 50%. Similarly, an odds ratio of 0.75 would reduce the chances of enrollment by 25%.

Finally, it is important to note that the logit results highlight conditional *associations* between explanatory variables and postsecondary outcomes and do *not* measure or imply causation. This study is descriptive and observational in its approach.

Factors Associated with Initial Postsecondary Enrollment

As discussed in Chapter I, high school graduates can take several different pathways to obtain the qualifications needed for the job market in the Central Texas region. This project's prior research identified differences in the student characteristics, high school coursework, and activities of high school seniors who enrolled in different types of postsecondary options after high school (King et al., 2007). To verify that this initial finding still held when based on graduates rather than seniors across a greater number of school districts, logistic regressions were run to determine whether those factors associated with *any* enrollment in postsecondary education varied from those specifically associated with enrollment in either 4-year or 2-year schools.

Table 8 summarizes logistic regression results measuring the effects of numerous variables on the rates of enrollment in any postsecondary education, as well as enrollment in either 4-year or 2-year postsecondary schools. This table and the ones that follow only report variables that were statistically significant in the logit regressions. Items marked with a "+" increased the odds of enrollment, and items marked with a "−" reduced the odds of enrollment. Full regression results, which include a list of all variables used, can be found in Appendix B.

Table 8. Factors Significantly Associated with Initial Enrollment in Postsecondary Education by Type of Enrollment for 2007 Surveyed Graduates (Model 2)

	Any	4-Year	2-Year
N	3,061	3,061	3,061
Asian	+		
Hispanic	-	-	
Low-income	-	-	-
Classified as G/T		+	-
Received high school math credit in 8th grade	+	+	-
Failed any 9th grade course		-	
Took a sequence of CTE courses		-	
Took Tech Prep courses		-	
Graduated in Top 10%		+	-
Graduated under DAP or RHSP	+	+	
Earned more than $2,000 during senior year		-	
Student would be first generation to go to college	-		-
Mother or father completed at least a bachelor's degree		+	-
First thought about college as an option in high school		-	
Never thought about college as an option	-		-
Participated in extracurricular music (school)		+	
Participated in extracurricular sports (school)	+	+	
Participated in extracurricular sports (non-school)		+	
Participated in extracurricular community service			-
Spent 16+ hours per week working in senior year		-	+
Discussed personal/family issues with counselor	-	-	
Discussed grades/test scores/academic performance with counselor	-		
Discussed writing resumes/job applications/career information with counselor		-	+
Visited one or more college campuses		+	-
Took the PSAT		+	
Took college entrance tests (SAT, ACT, and/or THEA)	+	+	
Completed FAFSA	+	+	-
Felt very well/well prepared for college/career goals		+	
Not very well/not at all prepared for college/career goals	-	-	
Uncertain about borrowing money for college	-	-	

Note: + increased odds of enrollment
 - decreased odds of enrollment

Only one variable — low-income — was both statistically significant and had the same direction of influence (negative) across all three regressions. More commonly, the significance of factors associated with any enrollment resulted from a strong association with either 4-year or 2-year enrollments. For example, the effect of never thinking about college as an option was linked both to lower overall *and* 2-year enrollments but bore no statistically significant relationship to enrollment in 4-year colleges. In a number of instances, factors were significantly linked to *both* 4-year and 2-year enrollments, but in opposite directions,

thereby contributing to a finding of no overall significant effect in the any enrollment regressions.[20] The effects of G/T classification, graduating in the Top 10%, having a parent with a college degree or visiting a college campus were all linked to both higher odds of 4-year enrollments and reduced odds of 2-year enrollments. Conversely, working more than 16 hours per week in the senior year or discussing career information with a counselor was linked to both higher odds of 2-year enrollments and lower 4-year enrollments.

Because many of the variables in these regressions interact in different ways for enrollment in 4-year or 2-year schools, those two postsecondary outcomes are analyzed separately in the rest of this chapter. Moreover, it is worth noting that the current statistical models identify a larger number of factors statistically linked to 4-year enrollments than to 2-year enrollments. Future plans call for further analysis of the literature to identify other variables that may better explain 2-year enrollments.

Factors Associated with 4-Year Enrollments

Four of every ten Central Texas high school graduates enrolled in 4-year colleges and universities in the fall immediately following their graduation, the most typical pathway of all measured outcomes. After holding all other variables constant, several variables increased the odds of enrolling in 4-year schools by more than 50% (Figure 8). For all surveyed graduates (N=3,061), the strongest effect on 4-year enrollments was completion of the Distinguished Achievement Program (DAP) or Recommended High School Plan (RHSP) for graduation, the Texas curriculum plans suggested for students who intend to pursue further education. Completing all academic requirements for one of those graduation plans increased the odds of attending a 4-year college or university by 345%.

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[20] The opposite directions of these effects are, in part, artifacts of defining each outcome variable in a binary manner. Enrollment in any education, 4-year education and 2-year education were each measured against all other possible outcomes.

**Figure 8. Major Factors Significantly Associated with Increased Odds
of 4-Year Postsecondary Education Enrollment for Surveyed Graduates**
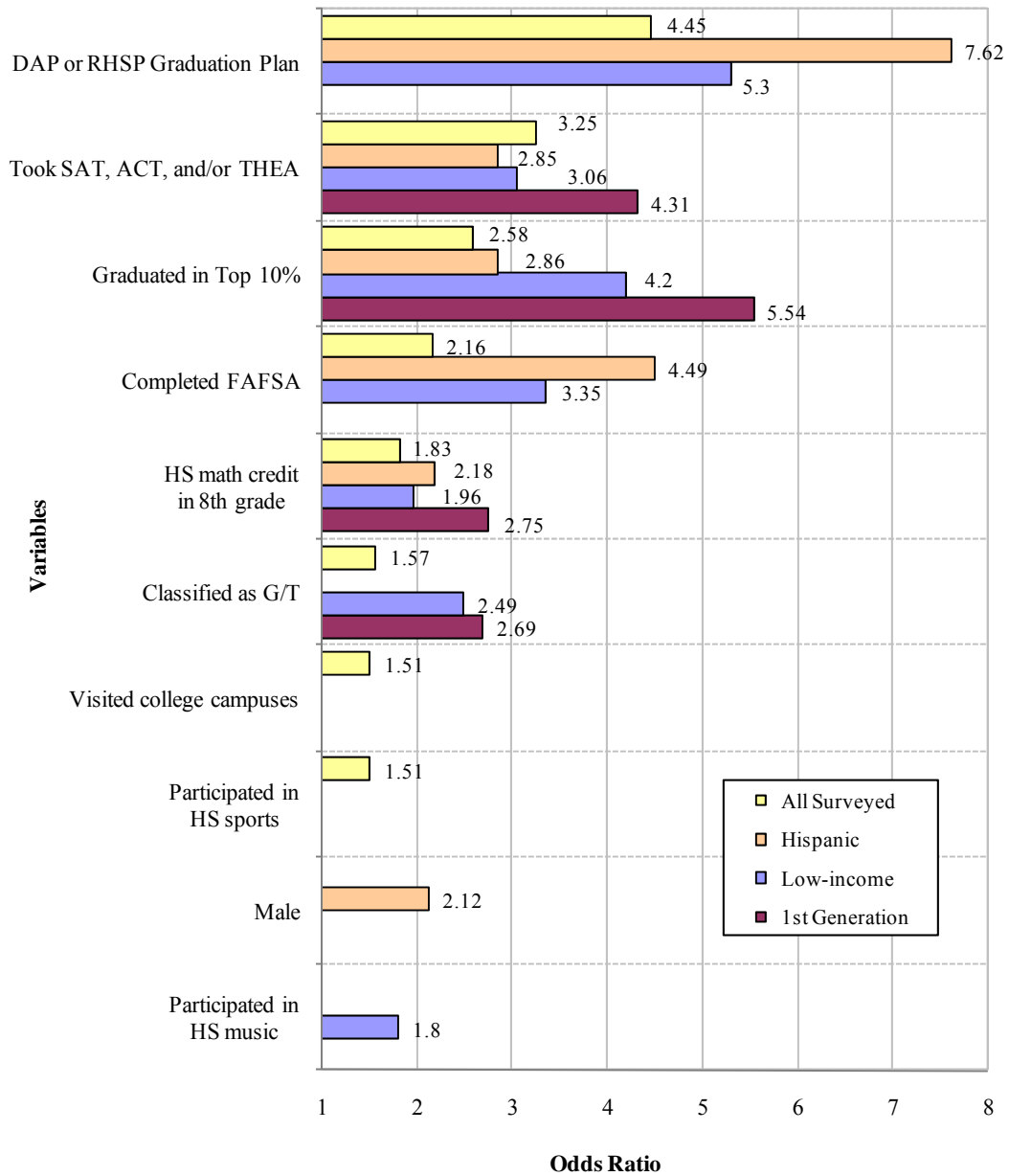
Note: Each factor included in this chart increased the odds of enrollment by more than 50%.

Other major factors that increased the odds of enrolling in 4-year schools for all surveyed graduates were (in order of strength of the effect): taking college entrance exams, graduating in the Top 10% of one's class (which guarantees admission to any public Texas

university) and completing the FAFSA. Each of those variables more than doubled surveyed graduates' odds of 4-year enrollment. G/T program participation, visiting one or more college campuses and participating in high school sports all increased 4-year enrollment odds by more than 50%.

In addition to reporting major factors statistically associated with 4-year enrollments for all surveyed graduates, Figure 8 also lists factors that increased the odds of 4-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. These groups were selected for additional analysis because they all have far lower rates of enrollment in postsecondary education than other graduates and are thus of particular interest to stakeholders seeking to improve enrollment in postsecondary education. As shown in Figure 8, the pattern of variables most strongly linked to 4-year enrollments varies 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 8th grade — increased the odds of 4-year enrollment by more than 50% for all four groups. No variables reduced the odds of enrollment in 4-year institutions by more than 50%.

Table 9 summarizes all statistically significant effects of variables on initial enrollment in 4-year colleges and universities. Differences not already mentioned for each group are discussed below.

Table 9. Summary of Factors Significantly Associated with Initial Enrollment in 4-Year Postsecondary Education for 2007 Surveyed Graduates (Model 2)

	All	Low-income	First-generation	Hispanic
N	3,061	647	746	939
Hispanic	-			(dropped)
Male				+
Low-income	-	(dropped)		
Classified as G/T	+	+	+	
Received high school math credit in 8th grade	+	+	+	+
Failed any 9th grade course	-		-	-
Took a sequence of CTE courses	-			-
Took Tech Prep courses	-			-
Graduated in Top 10%	+	+	+	+
Graduated under DAP or RHSP	+	+		+
Earned more than $2,000 during senior year	-			-
First thought of college as an option in high school	-			-
Mother or father completed at least a bachelor's degree	+		(dropped)	
Participated in extracurricular music (school)	+	+		
Participated in extracurricular sports (school)	+			
Participated in extracurricular sports (non-school)	+	+		
Spent 16+ hours per week working in senior year	-			
Discussed writing resumes/job applications/career information with counselor	-			
Discussed grades/tests scores/academic performance with a counselor			-	
Discussed personal/family issues with a counselor	-			-
Visited one or more college campuses	+		+	
Took the PSAT	+			
Took college entrance tests (SAT, ACT, and/or THEA)	+	+	+	+
Completed FAFSA	+	+	+	+
Felt very well/well prepared for college/career goals	+			+
Felt not very well/not at all prepared for college/ career goals	-		-	
Did not plan on borrowing money for college				-
Uncertain about borrowing money for college	-	-	-	-

Note: + increased odds of enrollment
      - decreased odds of enrollment
      Shaded cells indicate that the variable was dropped from the analysis.

All surveyed graduates: A number of additional variables increased the odds of 4-year enrollment by less than 50%. These include: having a college-educated parent, having received high school math credit in 8th grade, participating in extracurricular sports (either in-school or outside of school) or music, completing other college preparation activities (visiting college campuses or taking the PSAT) and feeling well-prepared for future goals.

Even after controlling for all other variables in the Model 2 equations, Hispanic graduates and low-income graduates were less likely to enroll in 4-year colleges or

universities. Among academic variables, failing at least one 9th grade course, participating in a defined sequence of CTE courses or completion of Technical Preparation (Tech Prep) courses were each associated with lower odds of enrollment in 4-year colleges.[21] Graduates who worked more than 16 hours per week or who earned more than $2,000 during their senior year were also less likely to enroll in 4-year colleges, as were those who reported discussing personal/family problems with a counselor or who did not feel well prepared for college/career goals. Finally, the odds of enrolling in a 4-year school were lower for those graduates who were uncertain about borrowing money for college.

Several variables were statistically linked to 4-year enrollment in the Model 1 equations for all graduates but not for all surveyed graduates, due to the differences in sample composition discussed in Chapter II. After holding all other factors constant, increased enrollment odds *for all graduates* in the Model 1 equations were observed for Black graduates and those receiving high school credit for foreign language in 8th grade, while graduates whose home language was Spanish were less likely to attend 4-year colleges or universities. None of those variables were statistically significant *for all surveyed graduates* in the Model 1 equations. As noted earlier, Model 2 equations could not be computed for all graduates. See Appendix B for a comparison of all Model 1 results across the two samples.

*Hispanic graduates***:** One key policy concern in recent years has been the persistently low postsecondary enrollment and graduation rates for Hispanic students in Central Texas and across the state (THECB, 2000 and 2004; Adelante Solutions, Inc., 2009). Hispanic graduates continue to have the lowest postsecondary enrollment rates of any racial/ethnic group in Central Texas, despite being the fastest growing segment of the population.

As shown in Figure 8 and Table 9, many of the key factors that significantly influenced the odds of 4-year enrollments for all surveyed graduates had similar effects for Hispanic graduates. However, 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 4-year college enrollment by over 650% (compared to

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[21]This finding is not surprising given that many high school CTE and Tech Prep programs are formally articulated with workforce development and associate's degree programs at 2-year colleges.

only 345% for all graduates). FAFSA completion was also particularly important for Hispanic graduates, increasing the odds of enrollment by 350%.

Several factors worked differently for Hispanic graduates than for the entire sample. After controlling for other effects, Hispanic males were twice as likely to enroll in 4-year colleges than Hispanic females, while gender had no effect for all surveyed graduates. Some variables linked to higher odds of 4-year enrollments were not statistically significant for Hispanics. These include: parents' education, participation in extracurricular sports or music, taking the PSAT and visiting college campuses. Another difference was that Hispanic graduates who did not plan to borrow money for college were less likely to enroll in 4-year schools.

Low-income graduates: Family income plays an important role in shaping graduates' chances for going on to college or university. As discussed in Chapter III, graduates from low-income families, who make up just over one-fifth of all surveyed graduates, had an initial 4-year enrollment rate of just 19%, compared to 47% for non-low-income graduates.

Figure 8 and Table 9 summarize the estimated 4-year enrollment effects for surveyed low-income graduates. Far fewer variables were linked to higher rates of 4-year enrollments for low-income graduates than for all surveyed graduates. As shown in Figure 8, the variables most strongly linked to 4-year enrollments for low-income graduates were completing the DAP/RHSP curriculum, which increased the odds of enrollment by 430%, and graduating in the Top 10% (which increased the odds by 320%). Other academic factors related to higher enrollment rates were G/T classification and high school math credit in 8th 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 these variables were also statistically linked to higher enrollments for all surveyed graduates, many other factors that influenced 4-year enrollments for the full sample had no significant effects on 4-year enrollments for low-income graduates. Only one factor — uncertainty about borrowing money for college — was linked to lower 4-year enrollments for low-income students.

First-generation: 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 4-year institution, a rate less than half of that (51.5%) for non-first-generation students.

Major factors associated with higher 4-year enrollments for first-generation students were: graduating in the Top 10%, taking college entrance exams, earning high school math credits in 8th grade and being classified as G/T. 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 4-year enrollment for first-generation graduates by more than 400%, the largest effect of any variable. 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 4-year enrollments for first-generation students, including failing any 9th grade course, uncertainty about borrowing money for college, discussing academic performance with counselors, and not feeling well-prepared for college/career goals.

Factors Associated with 2-Year Enrollments

As discussed in Chapter III, 22% of Central Texas graduates enrolled in 2-year colleges in the fall after graduation. Unlike the results for 4-year enrollments, comparable shares of graduates across all demographic backgrounds enrolled in 2-year postsecondary institutions. In the regression findings summarized in Table 10, however, the independent effect of being from a low-income family was statistically linked to lower odds of enrollment in 2-year schools, after other explanatory variables were added to the model.

No variables in the logit models increased the odds of enrolling in 2-year schools by more than 50% for surveyed graduates. The only variables that were significantly and positively linked with enrollment in 2-year colleges — discussing resume-writing, job applications and/or career information with school counselors, and working more than 16 hours per week during the senior year of high school — increased those enrollment odds by less than 50%.

Two variables — graduating in the Top 10% and never thinking about college as an option — decreased the odds of 2-year enrollments by over 50%. Several other factors reduced odds of 2-year enrollment by less than 50%. These included being identified as G/T, receiving high school math credit in 8th grade, having either college-educated parents or

parents with no post-high school education, completing the FAFSA or visiting one or more college campuses.

Several variables were statistically linked to 2-year enrollment in the Model 1 logit equations for all graduates but not all surveyed graduates, due to the differences in sample composition. For all graduates, completing a CTE sequence or failing a 9th grade course increased the odds of 2-year enrollments, while being Black or taking a foreign language in 8th grade reduced the odds of enrolling in a 2-year school.

Hispanic graduates: The only factor associated with higher 2-year enrollments for Hispanic graduates was participating in extracurricular arts and music outside of school. Hispanic graduates were less likely to enroll in a 2-year school if they were male, classified as G/T, graduated in the Top 10% of their senior class or completed a FAFSA. Participating in extracurricular environmental projects was also related to lower 2-year enrollment odds.[22] It is unclear, however, why this variable would be significant for Hispanic graduates and not for graduates from other racial/ethnic groups.

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[22] Several high school principals and counselors have stated that the term "environmental projects" is often used as a euphemism for mandatory (court-ordered) roadside and park cleanup activities for youth.

Table 10. Factors Significantly Associated with Initial Enrollment in 2-Year Postsecondary Education for 2007 Surveyed Graduates
(Model 2)

	All	Low-income	First-generation	Hispanic
N	**3,061**	**647**	**746**	**939**
Male				-
Low-income	-	(shaded)	-	
Classified as G/T	-	-		-
Received high school foreign language credit in 8th grade		-		
Received high school math credit in 8th grade	-			
Graduated in Top 10%	-	-	-	-
Student would be first-generation to go to college	-		(shaded)	
Mother or father completed at least a bachelor's degree	-		(shaded)	
Home language is Spanish		+	+	
Never thought about college as an option	-			
Participated in extracurricular journalism (school)		+	+	
Participated in extracurricular arts/music (non-school)				+
Participated in extracurricular community service	-	-		
Participated in extracurricular environmental projects				-
Spent 16+ hours per week working in senior year	+			
Discussed writing resumes/ job applications/ career information with a counselor	+	+		
Visited one or more college campuses	-			
Completed FAFSA	-			-
Felt not very well/not at all prepared for college/career goals		-		
Did not plan on borrowing money for college		-		

Notes: + increased odds of enrollment
 − decreased odds of enrollment

Shaded cells indicate that the variable was dropped from the analysis.

Low-Income Graduates: Three factors were associated with higher odds of 2-year enrollment for low-income graduates: having Spanish as a home language, participating in journalism as a school-based extracurricular activity, and discussing career information with counselors. Lower odds of 2-year enrollment for low-income graduates were observed for those who were classified as G/T, earned high school foreign language credits in 8th grade or graduated in the Top 10%. Other factors related to lower 2-year enrollment odds were

participating in extracurricular community service projects, feeling unprepared for college or career goals, and deciding not to borrow money for college.

First-generation: Two factors — home language of Spanish and participation in journalism as a school-based extracurricular activity — were related to higher odds of enrolling in 2-year colleges for graduates who would be the first in their family to attend college. One of the factors linked to lower odds of 2-year enrollment for this group, graduating in the Top 10%, was also linked to higher odds of 4-year enrollment. Being from a low-income family also reduced the likelihood of attending a 2-year school for graduates whose parents had not attended college.

Factors Associated with Postsecondary Employment

As shown in Chapter III, 46% of all 2007 graduates had some postsecondary employment; 21% were employed in Texas but not enrolled in postsecondary education. Employment status could only be measured for Central Texas graduates who provided an SSN to their high school.

Logit results presented in Figure 9 include those factors that increased the odds of employment without enrollment by more than 50% for all surveyed graduates, while those in Table 11 include all statistically significant factors for all groups. Both are based on Model 2 results for surveyed graduates (N = 2,759). Full results are presented in Appendix B.

After holding all other variables constant, several variables increased the odds of being employed but not enrolled by more than 50% (Figure 9), while no variable reduced the employment odds by a similar magnitude. For all surveyed graduates, the strongest effect on this type of employment was never thinking about college as an option. This variable increased the odds of being employed but not enrolled by 137%.

Figure 9. **Major Factors Significantly Associated with Increased Odds of Employment if not Enrolled for All 2007 Surveyed Graduates**
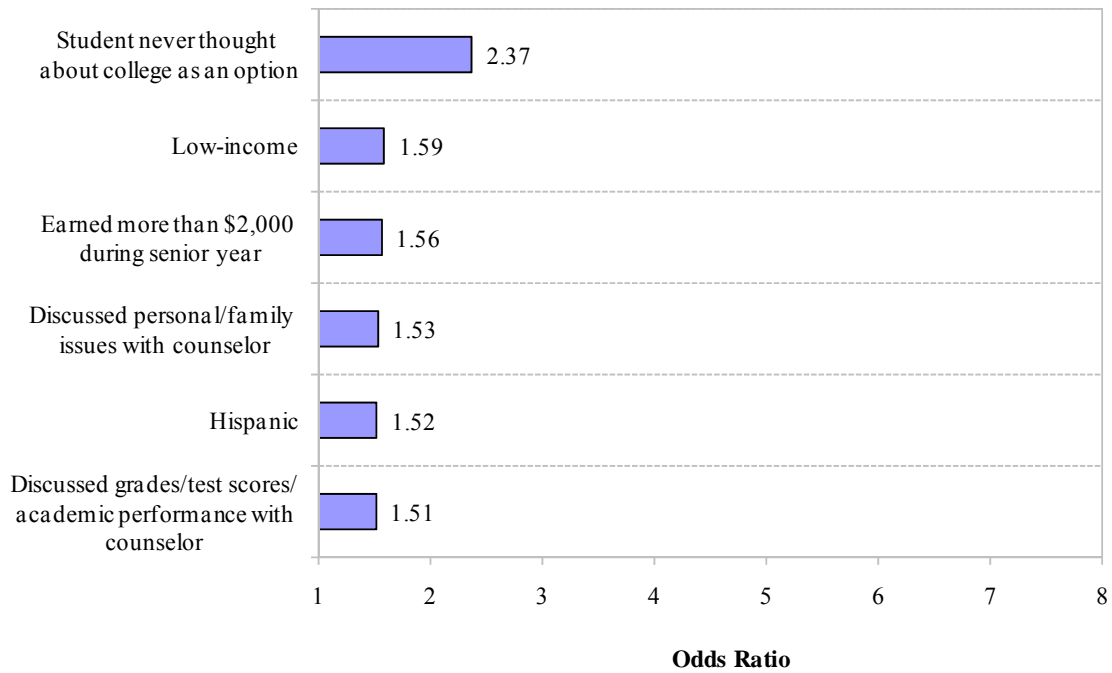
Note: Each factor included in this chart increased the odds of employment by more than 50%.

Other major factors that increased the odds of only being employed for all surveyed graduates were (in order of odds ratio): being classified as low-income, earning more than $2,000 during one's senior year, discussing personal/family issues with a counselor, being Hispanic, and discussing grades/test scores/academic performance with a counselor.

The pattern of variables most strongly linked to being employed but not enrolled varies somewhat for each subpopulation. No variable increased the odds of only being employed by more than 50% for all four groups; as a result subpopulations are not included in Figure 9. Table 11 summarizes all of the statistically significant effects of variables on employment if not initially enrolled in postsecondary education for all surveyed graduates and the subpopulations. Differences for each group are discussed below.

**Table 11. Factors Significantly Associated with Employment
if Not Enrolled for 2007 Surveyed Graduates
(Model 2)**

	All	Low-income	First-generation	Hispanic
N	2,759	628	725	897
Hispanic	+		+	░░░
Low-income	+	░░░		+
Home language is Spanish	-	-	-	-
Received high school foreign language credit in 8th grade		+		
Received high school math credit in 8th grade	-		-	-
Graduated in Top 10%			-	
Graduated under DAP or RHSP	-			
Earned more than $2,000 during senior year	+			
Mother or father completed at least a bachelor's degree	-		▓▓▓	
First thought about college as an option in high school	+			
Never thought about college as an option	+			
Spent 16+ hours per week working in senior year	+		+	+
Discussed personal/family issues with a counselor	+			+
Discussed grades/test scores/academic performance with a counselor	+		+	+
Discussed writing college applications/ essays and scholarship/financial aid information with a counselor	-			
Took the PSAT		-		
Took college entrance tests (SAT, ACT, and/or THEA)	-	-		-
Completed FAFSA	-		-	
Uncertain about borrowing money for college	+			+

Notes: + increased odds of employment
   - decreased odds of employment

  Shaded cells indicate that the variable was dropped from the analysis.

All Surveyed Graduates: A number of variables increased the odds of being just employed by less than 50%. These include: working more than 16 hours per week in their senior year, first thinking about college as an option in high school, and being uncertain about borrowing money to attend college (Table 11). Graduates were less likely to be just working after high school if their home language was Spanish, they received high school

math credit in 8th grade, they graduated under either the DAP or RHSP, their mother or father completed at least a bachelor's degree, they took college entrance tests, they discussed college with a school counselor, or they completed the FAFSA. These factors are fully consistent with expectations based on the literature and reflected in the project's conceptual model.

Some factors operated consistently for most subpopulations. Working 16 or more hours per week during their senior year or discussing academic problems with counselors were associated with higher odds of initial employment for first-generation and Hispanic graduates, as well as for all surveyed graduates. Conversely, taking college entrance tests was linked to lower odds of employment for low-income and Hispanic graduates, while speaking Spanish at home was associated with lower odds of post-graduation employment for all groups examined.

Two variables were statistically linked to postsecondary employment in the Model 1 results for all graduates but not all surveyed graduates, due to the differences in sample composition discussed earlier. Being Asian and taking a foreign language in 8th grade both reduced the odds of employment for all graduates but were not statistically significant for all surveyed graduates.

Hispanic Graduates: For Hispanic graduates, four variables increased the odds of being only employed by more than 50%: discussing personal/family issues with a counselor, discussing academic performance with a counselor, working 16+ hours per week during the student's senior year, and being from a low-income family. Uncertainty over borrowing money for college increased the odds by exactly 50%. Taking college entrance tests, receiving high school math credit in 8th grade and speaking Spanish at home were associated with lower odds of only being employed after graduation.

Low-Income Graduates: A number of factors increased graduates' chances of only working after high school for all surveyed graduates, but only one factor — receiving foreign language credit in the 8th grade — increased the odds of employment for low-income graduates. Receiving foreign language credit in 8th grade increased the odds of being only employed by 130%. Factors associated with low-income graduates being less likely to only work after graduation were speaking Spanish at home, taking the PSAT or taking college entrance tests. Although the effect of speaking Spanish at home remains somewhat puzzling,

taking college entrance tests was also linked to lower odds of employment for all surveyed graduates.

First-Generation: For graduates from families without any prior college experience, three factors were positively associated with being employed and not enrolling in an institution of higher education. These variables all increased the odds of being only employed by greater than 50%: working 16 or more hours per week, being Hispanic, and discussing academic performance with a counselor. All of these were similar to findings for all surveyed graduates. Among graduates from non-college educated families, only four factors were significantly linked with reduced odds of just working after high school: speaking Spanish at home, receiving high school math credit in 8th grade, graduating in the Top 10%, and completing the FAFSA.

Chapter V. Summary of Findings, Conclusions and Recommendations

This report provides the first analysis of postsecondary enrollment and employment outcomes for 2007 high school graduates in eight Central Texas ISDs, documenting and analyzing their outcomes in the fall of 2007. After reviewing the major findings, this section offers conclusions and policy recommendations based on this analysis.

Summary of Findings

Recapping some of the key findings for 2007 graduates offers useful context for the conclusions and recommendations. Important descriptive findings include:

- ❖ **Most Central Texas graduates attending postsecondary education enrolled at 4-year institutions.** Over six of every ten 2007 graduates (62%) enrolled in some postsecondary institution in the fall after graduation. Nearly nine of every ten enrollees (54% of all graduates) enrolled in state, and nearly two-thirds (40% of all graduates) enrolled in 4-year colleges or universities.

- ❖ **Initial postsecondary enrollment rates varied widely by district, as did the type and location of the postsecondary institutions in which graduates enrolled.** Overall postsecondary enrollment rates ranged from a low of 32% for Del Valle to a high of 84% for Eanes. Four-year enrollment rates ranged from 18% for Del Valle to 73% for Eanes, while 2-year enrollment rates varied much less, from a low of 11% for Eanes to 28% in Leander. While few graduates in most districts enrolled out-of-state, 29% of graduates from Eanes enrolled in out-of-state schools.

- ❖ **Initial enrollment rates in 4-year postsecondary education and the location of those institutions varied widely by graduates' background and characteristics, with the notable exception of gender.** Asian and White graduates had higher 4-year enrollment rates and attended out-of-state institutions more often than other graduates. Hispanic graduates had the lowest rates for both of these measures, with only 22% enrolled in 4-year institutions and just 3% enrolled out of state. Low-income and Special Education students had lower enrollment rates for these measures as well.

- ❖ **Initial enrollment rates for 2-year postsecondary education exhibited much less variation than 4-year postsecondary enrollments.** Although rates of enrollment in 2-year colleges varied across school districts, they were very similar across most demographic characteristics, including gender, race/ethnicity and family income.

- ❖ **Initial employment rates for graduates varied widely by district and most student background characteristics and were inversely related to 4-year postsecondary enrollment rates.** Nearly half of all graduates (46%) were employed in Texas in the fourth quarter of 2007. Overall employment rates were lowest for Eanes graduates (17%) and highest for San Marcos graduates (61%). Employment rates were considerably higher for minority, low-income and Special Education graduates than for other graduates.

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❖ **Over eight of every ten graduates were located in postsecondary education or employment through this analysis**. One-quarter was both enrolled and employed (in Texas), another quarter (26%) was enrolled but not employed, and 21% were employed (in Texas) but not enrolled. Seventeen percent of all graduates could not be found in either the education or employment records available for this analysis.

❖ **A lower share of surveyed graduates actually enrolled in postsecondary education than planned to, while a higher share was working.** Nearly 95% of graduates stated that they planned to continue their education within a year of graduation when surveyed in the spring. As of the fall following graduation, 73% had actually done so. A higher share of graduates was working than had planned to just before graduation (18% vs. 2%). The next report on the Class of 2007 will add outcomes data from the spring of 2008 to determine the share that actually enrolled within the full first year following high school graduation.

The logit regression findings presented below are based on the most complete set of variables available from all data sources for 2007 graduates. These findings apply to all *surveyed* graduates in Central Texas after controlling for differences attributable to the school districts that these graduates attended. They may not always apply to the *universe* of Central Texas graduates.

Major findings from the logit analyses of surveyed graduates include:

❖ **Different factors influenced the odds of enrolling in 4-year or 2-year postsecondary institutions; thus, these two outcomes were best analyzed separately**. Graduates' high school coursework, extracurricular and college preparation activities significantly affected their odds of enrolling in 4-year or 2-year postsecondary education in different ways that could be masked by simply analyzing 'any postsecondary enrollment' as the outcome of interest.

❖ **Numerous factors had significant positive effects on the odds of surveyed graduates attending 4-year colleges and universities, some of them quite strong; far fewer factors reduced the odds of 4-year enrollment, all by less than 50%.** Factors strongly associated with increasing the odds of 4-year enrollment included (in order of strength): completing one of the rigorous graduation plans (DAP or RHSP), taking college entrance exams, graduating in the Top 10% of the class and completing FAFSA, all of which more than doubled the odds of 4-year enrollment. These were followed (also in order) by receiving high school math credit in 8th grade, G/T program designation, visiting one or more college campuses and participating in high school sports, all increasing the odds by at least 50%. Factors that reduced odds of 4-year enrollment (all by less than 50%) included being from a low-income family, being uncertain about borrowing money to pay for college and failing 9th grade courses, among others.

❖ **Only a few factors were consistently associated with strongly increased odds of 4-enrollment across the three specific groups of graduates examined, i.e.,**

Hispanics, those from low-income families and those who would be the first in their families to attend college. Only three variables — taking college entrance exams, graduating in the Top 10% and receiving high school math credit in 8th grade — increased the odds of 4-year enrollment by more than 50% both for all surveyed graduates and all of these groups. No variables reduced the odds of enrollment in 4-year institutions by more than 50% for all groups.

❖ **Fewer factors were found to be strongly associated with the odds of 2-year enrollment for surveyed graduates.** No variables increased the odds of 2-year enrollment by more than 50%, and only two variables — graduating in the Top 10% and never thinking about college as an option — decreased 2-year enrollment odds by over 50%.

❖ **Graduating in the Top 10% of the senior class was the only factor that consistently affected the odds of enrolling in 2-year colleges for all surveyed graduates and the three specific population groups examined.** Graduating in the Top 10% reduced the odds of 2-year enrollment by 87% for all surveyed graduates, by 74% for low-income graduates, by 81% for Hispanic graduates and by 90% for first-generation graduates. Other factors associated with strongly increased or decreased odds of 2-year enrollment were not consistent across groups.

❖ **The factors most strongly associated with only working after high school differed from those affecting either 4-year or 2-year enrollment.** Not surprisingly, the strongest of these was having never thought about college as an option, which more than doubled the odds of working while not enrolled. Other factors that increased odds of employment by more than 50% were: being from a low-income family, earning more than $2,000 during one's senior year, discussing personal or family issues with a counselor, being Hispanic or discussing academic performance with a counselor. No factor significantly increased the odds of just working across all groups, nor did any factor decrease these odds by more than 50%.

Conclusions

Major conclusions from the analysis of postsecondary education and labor market outcomes for 2007 graduates include the following:

❖ **Four-year and 2-year postsecondary institutions appear to attract and serve very different students in terms of their backgrounds, characteristics, high school records and activities.**

❖ **The largest, most consistent influences increasing the odds of initial 4-year college enrollments were related to academic achievement and engaging in specific college preparation activities.** Participating in the more rigorous high school curriculum plans strongly increased the odds of 4-year enrollments for all surveyed graduates as well as low-income and Hispanic graduates. Graduating in the

Top 10% of the class, taking college entrance tests and earning high school math credits in the 8th grade strongly increased enrollment odds for all groups studied.

❖ **The existing statistical models better explained the factors influencing 4-year enrollments more precisely than was true for either 2-year enrollments or employment.** The models for explaining enrollments in 4-year colleges and universities explain a higher share of the variance and perform more consistently across groups than do similar models for 2-year and employment outcomes. More factors influence the outcomes for graduates going directly to 4-year colleges as well. Work remains to be done to better understand the pathways graduates pursue to each postsecondary outcome — especially 2-year education and employment outcomes — and to develop better models for estimating them.

❖ **Low family income is an important and substantial inhibiting factor for graduates seeking to pursue postsecondary education.** After controlling for the effects of other factors, graduates from low-income families are less likely to enroll in both 4-year and 2-year postsecondary education. Low-income graduates who did enroll in 4-year colleges and universities at higher rates demonstrated exceptionally high achievement and took concrete steps to pursue college (e.g., taking college entrance tests, completing the FAFSA). Successfully increasing the overall postsecondary enrollment rate for this group likely depends on the extent to which school districts understand and effectively respond to the needs of low-income students who are not top academic performers.

❖ **Uncertainty over financing appears to play an important role in students' decisions about whether or not to enroll in college.** Uncertainty over whether to borrow money for college was closely related to reduced odds of enrolling in 4-year schools for all groups. Addressing the financing issue is paramount for successfully increasing postsecondary enrollments, a point that is reinforced by the consistent role that completing the FAFSA has across the board in making all surveyed graduates as well as low-income, Hispanic and first-generation graduates more likely to enroll in 4-year education.

❖ **Most results from this research for all surveyed graduates are logical and largely consistent with the literature with just a few noteworthy exceptions — e.g., the absence of pronounced gender effects — some of which may be unique to Central Texas; however, the strength and importance of effects vary for selected population groups**. The fact that most of the factors measured and accounted for in the analysis are consistent with expectations generated from the literature and reflected in the conceptual model lends considerable credibility to these results. The variation in importance of selected factors for those populations that have been traditionally less likely to attend college also supports the intent of the project to isolate particular influences for these groups that may vary from the literature of a more general population. These patterns also suggest that policy and program guidance stemming from these results merits serious attention from education leaders and other stakeholders.

❖ **The relationship between postsecondary outcomes and several important variables could not be adequately assessed in this analysis due to differences between the samples of all graduates and surveyed graduates.** In a few instances, the under-representation of certain types of graduates in the survey sample may have caused some logit results for surveyed graduates — the only group for which all variables could be measured — to vary from results for the entire population. Findings most affected were those for graduates who took a defined sequence of CTE courses, received high school credit for a foreign language in 8th grade or failed at least one 9th grade course.

In general, the regression models that included information from individual school and employment records linked with student background information obtained from student exit surveys performed better than statistical models that relied only on administrative records. Studies based solely on administrative or survey data can miss important factors that are associated with students' transitions into education and work after high school.

Recommendations

A number of policy and program recommendations follow from the current analysis of 2007 graduates.

❖ **Given the consistency of the research findings for some of the factors associated with higher 4-year postsecondary enrollments, district and campus leaders as well as programs helping high school students should continue to pursue these approaches.** For example, 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, taking college entrance exams and completing FAFSA are all linked to far higher rates of 4-year enrollments for most groups of graduates.

❖ **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.** Adopting one-size-fits-all approaches may not lead to desired education and employment outcomes. Some students need additional encouragement and/or different types of support. Pathways to postsecondary success vary considerably by group and the implications of such variation should be explored more extensively to effectively tailor interventions.

❖ **Given the critical role that FAFSA completion and uncertainty over college financing play in 4-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 in languages other than English.

❖ **Educators, business leaders, policymakers and other community stakeholders should embrace a multiple-pathway approach to postsecondary education and labor market success.** As pointed out above, graduates pursue varied, linear and non-linear pathways to college and careers. These pathways and the factors supporting and constraining them have been noted in this report. Rather than attempt to force students into a single pathway, it would be better to foster and support multiple pathways that could all lead to future economic success.

Plans for the Future

As the work of the Student Futures Project progresses, researchers will add new categories of variables to the existing dataset to test the robustness of these findings. In particular, information on the school settings in which Central Texas graduates were educated will be added, along with additional years of postsecondary outcomes data. If sufficient additional funding can be secured, key actions planned for future years include:

❖ Increasing the usable survey sample sizes in all high schools — through a combination of higher survey response and consent rates for future cohorts — so that the linked research files can support more robust analyses.

❖ Enhancing the current conceptual model that characterizes key influences and effects on postsecondary education and employment outcomes so as to better understand 2-year and labor market pathways.

❖ Developing additional school-level variables to describe differences in educational programs and characteristics of individual high schools not measured in the existing models.

❖ Testing and incorporating more sophisticated statistical models (e.g., hierarchical linear modeling) and estimation techniques (e.g., multinomial probit), and continuing to explore the use of statistical weighting techniques.

❖ Extending the timeframe for measuring outcomes.

Two additional reports are being published concurrently with this one — one measuring revised initial postsecondary outcomes and first-year persistence results for Class of 2006 graduates in four ISDs (Beck and Cumpton, 2009), and another presenting the conceptual model and existing literature on the influences on postsecondary enrollment and

employment (Levy and King, 2009). All Student Futures Project reports are available on the project website (www.centexstudentfutures.org), as well as the respective websites of the Ray Marshall Center (www.utexas.edu/research/cshr) and Skillpoint Alliance (www.skillpointalliance.org).

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Appendix A. Technical Appendix

This technical appendix provides additional information on the data and methods used in this report. It includes descriptions of data sources, a list of the variables included in the analysis and their expected impact on postsecondary enrollment and employment, dataset limitations, and a description of the "goodness of fit" measure used. It also compares the report's calculation of postsecondary education enrollment outcomes with those reported by the THECB. The sources of all variables are included in Table A-2.

Description of Data Sources

Historical High School Records. Researchers obtained historical high school records on graduates from each district. In the state of Texas, districts are required to report specific student-, school-, and district-level information to the Texas Education Agency (TEA) through the Public Education Information Management System (PEIMS). Although districts may have more complete administrative data in their own records, PEIMS variables are consistent across districts. For this reason, student information contained in PEIMS records was used when available. Graduates are classified by districts to TEA through PEIMS records in the spring following graduation. Additional variables not currently required to be reported to the state through PEIMS, such as high school transcript information, were provided to researchers by each district.

Senior Surveys. Researchers constructed variables from two surveys of seniors conducted in the spring of 2007. For non-Austin ISD districts, RMC developed a survey instrument to collect data on variables of interest that could not be obtained through prior student records.[23] Students in these districts had the option of taking this survey anonymously; because they could not be linked to administrative records, anonymous student survey responses were not included in the regression analysis contained in this report.

The Austin ISD Department of Program Evaluation conducts a yearly senior exit survey of students in its high schools and provides data from this survey to RMC researchers.[24] Students in Austin ISD do not take the survey anonymously. While few questions exactly matched those in the Student Futures Project survey, many Austin ISD questions were similar enough in wording and answer choices to analyze jointly.

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[23] A report on results from the 2007 senior surveys is available at: http://www.centexstudentfutures.org.

[24] A report on the 2007 Austin ISD High School Exit Survey is available at:
http://www.austinisd.org/inside/accountability/evaluation/survey_reports.phtml.

Postsecondary Education Data. Initial outcomes data for the class of 2007 were collected through December 2007. Future reports will extend the time period for which outcomes are measured for these graduates.

National Student Clearinghouse: National Student Clearinghouse (NSC) data are based on college directory information from over 3,000 participating colleges nationwide; the NSC database includes information on student dates of enrollment, location, name and type of institution, and whether any degrees and/or honors were awarded. For Del Valle, Eanes, Leander, Manor, Pflugerville, Round Rock and San Marcos Consolidated ISDs, RMC researchers submitted student directory information to NSC to obtain relevant postsecondary enrollment records. Austin ISD works separately with the NSC to obtain this information for their students and provided the data to RMC researchers based on the current data sharing agreement.

University of Texas at Austin and the University of North Texas: Not all postsecondary institutions in the state of Texas are included in the NSC database, the largest of which are the University of Texas at Austin (UT) and the University of North Texas (UNT). For all students not found in the NSC data, researchers used directory information provided by the registrars at UT and UNT to locate additional graduates. RMC researchers also worked with staff from the Austin ISD Department of Program Evaluation using the same process to locate their graduates in the UT and UNT databases.

Employment Data. As the administrator for the Unemployment Insurance (UI) program, the Texas Workforce Commission (TWC) maintains the UI wage records database system. This database contains quarterly earnings data for over 95% of all Texas employment. Employees are identified in these records by their Social Security numbers (SSNs). For this report, RMC researchers used UI data from the 4th quarter of 2005, the 1st and 4th quarters of 2006, and the 1st quarter of 2007 to measure high school earnings, and data from the 4th calendar quarter of 2007 to measure employment in the fall following high school graduation.

Explanatory Variables and Expected Impacts

Explanatory variables included in the dataset do not encompass all of the influential factors identified in the conceptual model, but only those student-level variables for which sufficient information was available for analysis.[25] Table A-2 below lists each of the

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[25] For more details on the literature and the development of the conceptual model guiding this research, see Levy and King, 2009.

Table A-2. Expected Effect of Variables Used in this Report

Category	Variable	Expected Effect — Enrollment	Expected Effect — Employment	Source — School Records/ UI Wage Records	Source — Senior Surveys
Family Background	Student would be first generation to go to college	-	+		x
	Mother or father completed at least a bachelor's degree	+	-		x
	Low-income	+	-	x	
	Home language is Spanish	-	?	x	
Student Characteristics	Asian	+	-	x	
	Black	-	+	x	
	Hispanic	-	+	x	
	White*	+	?	x	
	Other	-	+	x	
	Male	+	-	x	
	Classified as Special Education	-	+	x	
	Classified as G/T	+	-	x	
	Thought about college for as long as could remember*	+	-		x
	First thought about college as an option when a child	+	-		x
	First thought about college as an option in middle/junior high school	?	?		x
	First thought about college as an option in high school	-	+		x
	Never thought about college as an option	-	+		x
Community & Neighborhood Effects; High School Settings & Programs	School district dummy variables	?	?	x	
Pre-High School Experiences	Received high school foreign language credit in 8th grade	+	-	x	
	Received high school math credit in 8th grade	+	-	x	
Individual High School Experiences: Coursework	Failed any 9th grade course	-	+	x	
	Received dual credit for college course while in HS	+	-	x	
	Took up to one CTE course*	?	?	x	
	Took a sequence of CTE courses	+	+	x	
	Took Tech Prep courses	+	+	x	
	Graduated in Top 10%	+	-	x	
	Graduated under DAP or RHSP	+	-	x	
Individual High School Experiences: Extracurricular Activities	High school extracurricular activity:				
	Music	+	-		x
	Theater/Drama	+	-		x
	Dance	+	-		x
	Sports	+	-		x
	Journalism	+	-		x
	Speech/Debate	+	-		x

* Indicates variable excluded in the regression analysis. The remaining variables of a similar type should be interpreted in reference to the excluded variable.

Category	Variable	Expected Effect		Source	
		Enrollment	Employment	School Records/ UI Wage Records	Senior Surveys
Individual High School Experiences: Extracurricular Activities	High school extracurricular activity:				
	Music	+	-		x
	Theater/Drama	+	-		x
	Dance	+	-		x
	Sports	+	-		x
	Journalism	+	-		x
	Speech/Debate	+	-		x
	Non-school extracurricular activity:				
	Sports	+	-		x
	Arts/Music	+	-		x
	Community service	+	-		x
	Environmental projects	+	-		x
Individual High School Experiences: Extracurricular Activities	Faith-based or charitable organizations	+	-		x
	Provided routine care to another family member	-	+		x
	Typical number of hours spent studying in high school:				
	0-5 hours per week*	?	?		x
	6-15 hours per week	?	?		x
	16+ hours per week	+	-		x
	Typical number of hours spent working in senior year:				
	0-5 hours per week*	?	?		x
	6-15 hours per week	?	?		x
	16 + hours per week	-	+		x
	Earned more than $2,000 during senior year	-	+	x	
Individual High School Experiences: High School Staff Interactions	Discussed personal/family issues with a counselor	-	+		x
	Discussed scheduling/course selection and placement/graduation plans with a counselor	+	-		x
	Discussed grades/test scores/academic performance with a counselor	-	+		x
	Discussed writing resumes/job applications/career information with a counselor	-	+		x
	Discussed writing college applications/essays and scholarship/financial aid information with a counselor	+	-		x
Individual High School Experiences: College Preparation	Visited one or more college campuses	+	-		x
	Took the PSAT	+	-		x
	Took college entrance tests (SAT, ACT, and/or THEA)	+	-		x
	Completed FAFSA	+	-		x
	Felt very well/well prepared for college / career goals	+	?		x
	Felt somewhat well prepared for college/ career goals*	?	?		x
	Felt not very well/not at all prepared for college/career goals	-	?		x
	Felt very well/well prepared for college selection/application process	+	?		x
	Felt somewhat well prepared for college selection/application process*	?	?		x
	Felt not very well/not at all prepared for college selection/application process	-	+		x
	Planned on borrowing money for college*	+	?		x
	Did not plan on borrowing money for college	?	?		x
	Uncertain about borrowing money for college	-	+		x

* Indicates variable excluded in the regression analysis. The remaining variables of a similar type should be interpreted in reference to the excluded variable.

variables used in the analysis presented in this report, identifies the conceptual model category to which it belongs, provides the data source used to construct the variable, and gives the expected effect of that variable on college enrollment and employment.

Logistic Regression Goodness of Fit

There is a strong statistical case for using logistic regression in settings in which the outcome (dependent variable) is either zero or one (binary). Researchers relied on a number of statistical measures to determine which logistic regression model specification best fit the data. Researchers chose to report the "percent of model predictions correctly classified" across each model specification. This goodness of fit statistic is calculated in the following way: after estimating each logistic regression model, the predicted probability of enrolling or working is calculated for each individual in the sample. If the predicted probability for a given student is greater than 0.5, this student is predicted to enroll or work; otherwise the prediction is not to enroll or work. These binary predictions are then compared with the actual outcomes (enroll, work). A prediction of enrollment for a student who actually did enroll is correctly classified. A prediction of no enrollment or work for a student who did not, in fact, enroll or work is also considered correctly classified. The goodness of fit measure reports the percent of correct predictions across the entire sample.

It is important to recognize that generating predictions simply by flipping a coin would be expected to yield correct classifications 50% of the time. Consequently, the baseline against which the "correctly classified" goodness of fit measure should be evaluated is 50% and not 0 (as would be the case with the R^2 goodness of fit measure used in OLS when the dependent variable is measured on the interval scale). The proportion of model predictions correctly classified in all Model 2 results were consistently higher than in all Model 1 results. Logistic regressions involving 4-year enrollment outcomes improved model predictions more than those involving 2-year enrollment or employment outcomes.

Dataset and Sample Limitations

Missing Data and Variables: Any missing demographic, or academic information from a school record caused an individual to be dropped from all regressions. Missing survey information caused graduates to be dropped from Model 2 regressions. Graduates in the *All Graduates* sample are those for whom all information was available. Only those graduates whose survey information could be linked to their school records are included in the *Surveyed Graduates* sample.

Postsecondary Enrollment: As discussed earlier, not all postsecondary institutions are included in the NSC database. A complete list of Texas institutions not included in NSC is presented in Table A-3, along with the approximate number of students enrolled in each institution as reported by the NSC in April 2008.

Table A-3: Texas Postsecondary Education Institutions
Not Included in NSC Data

School Name	Approximate Enrollment Size
University of Texas at Austin	50,000
University of North Texas	30,000
South Texas College	17,000
Laredo Community College	9,000
Texas A&M University - Corpus Christi	8,000
Lee College	6,000
Angelina College	5,000
Texarkana College	4,000
Paris Junior College	4,000
Alvin Community College	4,000
University of Dallas	3,000
Texas Wesleyan University	3,000
Northeast Texas Community College	2,000
Lamar State College - Port Arthur	2,000
Galveston College	2,000
Remington College - Dallas Campus	2,000
Lamar State College - Orange	2,000
Lubbock Christian University - Undergraduate	2,000
Dallas Theological Seminary	2,000
Panola College	2,000
The Art Institute of Houston	2,000
College of Biblical Studies - Houston	1,500
The Art Institute of Dallas	1,500
Frank Phillips College	1,500
Western Technical Institute	1,500
Court Reporting Institute - Wheeler Institute of TX	1,500

Employment: Employment outcomes could only be determined for graduates who both possessed an SSN and provided that information to their school districts. Additionally, employment records were not available for graduates employed outside the state of Texas.

Comparison of Postsecondary Enrollment Outcomes to THECB Outcomes

The Texas Higher Education Coordinating Board (THECB) produces a report providing information on the initial postsecondary enrollment rates of high school graduates; these rates are based on "trackable" graduates enrolled in a Texas postsecondary institution

in the fall following graduation (THECB, 2009).[26] As discussed earlier, the Student Futures Project uses multiple sources of data to calculate initial postsecondary enrollment rates, including directory information from the University of Texas at Austin and the University of North Texas as well as from the National Student Clearinghouse. These sources of data are not restricted to graduates with SSNs. A comparison of the THECB and Student Futures Project initial postsecondary enrollment rates is included in table A-4. It is important to note that Texas institutions listed in Table A-3 are included in the THECB calculations but not the Student Futures Project calculations.

Table A-4: A Comparison of Initial Postsecondary Enrollment Rates for 2007 Graduates between THECB and the Student Futures Project by District

ISD	THECB		Student Futures Project				
	Total High School Graduates	Percent Found (In-state with SSNs)	Total High School Graduates	Percent Found (In-state with SSNs)	Found In-state (without SSNs)	Found Out-of-state (regardless of SSN status)	Total Percent Found Enrolled in Postsecondary Education
Overall	9419	51%	9394	51%	3%	8%	62%
Austin	3592	48%	3592	47%	4%	7%	59%
Del Valle	302	25%	296	28%	1%	3%	32%
Eanes	535	52%	535	51%	3%	29%	84%
Leander	1188	62%	1178	61%	1%	6%	67%
Manor	151	44%	160	41%	3%	2%	45%
Pflugerville	1049	58%	1042	57%	1%	4%	62%
Round Rock	2172	56%	2161	56%	6%	9%	71%
San Marcos Consolidated	430	36%	430	32%	1%	3%	36%

Note the similarity in the percents found in-state for students with SSNs between these two methods (using SSNs at THECB and directory information at the SFP). This implies that, except for those enrolled at UT or UNT, a small percentage of Central Texas students are enrolled in Texas postsecondary institutions that do not participate in the NSC. The advantage of the procedure used by the Student Futures Project is that more graduates, including those without SSNs and those enrolled in out-of-state institutions, can be located in postsecondary education institutions

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[26] Trackable students are those who provided their SSN to both their institution of higher education and their high school.

Appendix B. Logistic Regression Results

Table B-1. Means and Distribution of Variables in Logistic Regression Models

		All Graduates		Surveyed Graduates	
		Enrollment	Employment	Enrollment	Employment
	N	8,706	7,244	3,061	2,759
Asian		0.06	0.06	0.05	0.05
Black		0.11	0.12	0.10	0.11
Hispanic		0.28	0.28	0.31	0.33
White[†]		0.54	0.54	0.53	0.51
Other		0.01	0.01	0.01	0.01
Male		0.51	0.51	0.48	0.48
Low-income		0.21	0.20	0.21	0.23
Home language is Spanish		0.10	0.08	0.10	0.10
Classified as Special Education		0.10	0.11	0.06	0.07
Classified as G/T		0.11	0.11	0.15	0.15
Received high school foreign language credit in 8th grade		0.24	0.23	0.18	0.17
Received high school math credit in 8th grade		0.30	0.28	0.35	0.33
Failed any 9th grade course		0.27	0.28	0.20	0.21
Received dual credit for college course while in HS		0.06	0.06	0.09	0.09
Took up to one CTE course[†]		0.48	0.47	0.62	0.62
Took a sequence of CTE courses		0.40	0.41	0.28	0.28
Took Tech Prep courses		0.13	0.13	0.10	0.10
Graduated in Top 10%		0.11	0.10	0.13	0.12
Graduated under DAP or RHSP		0.83	0.82	0.90	0.89
Earned more than $2,000 during senior year		0.13	0.15	0.13	0.14
Student would be first-generation to go to college				0.24	0.26
Mother or father completed at least a bachelor's degree				0.54	0.51
Thought about college for as long as could remember†				0.43	0.41
First thought about college as an option when a child				0.12	0.13
First thought about college as an option in middle/junior high school				0.22	0.22
First thought about college as an option in high school				0.22	0.23
Never thought about college as an option				0.01	0.01
Participated in high school extracurricular activity:					
Music				0.31	0.30
Theater/Drama				0.13	0.13
Dance				0.14	0.14
Sports				0.52	0.50
Journalism				0.11	0.10
Speech/Debate				0.09	0.09
Participated in non-school extracurricular activity:					
Sports				0.33	0.32
Arts/Music				0.24	0.24
Community service				0.44	0.42
Environmental projects				0.12	0.12
Faith-based or charitable organizations				0.17	0.18
Provided routine care to another family member				0.17	0.17

Table B-1. (continued) Means and Distribution of Variables in Logistic Regression Models

		All Graduates		Surveyed Graduates	
		Enrollment	Employment	Enrollment	Employment
	N	8,706	7,244	3,061	2,759
Typical number of hours spent studying in high school:					
0-5 hours per week[†]				0.57	0.58
6-10 hours per week				0.27	0.27
11-15 hours per week				0.10	0.10
16+ hours per week				0.05	0.05
Typical number of hours spent working in senior year:					
0-5 hours per week[†]				0.42	0.39
6-10 hours per week				0.10	0.10
11-15 hours per week				0.13	0.13
16 + hours per week				0.35	0.37
Discussed personal/family issues with a counselor				0.16	0.16
Discussed scheduling/course selection and placement/ graduation plans with a counselor				0.91	0.91
Discussed grades/test scores/academic performance with a counselor				0.25	0.25
Discussed writing resumes/job applications/career information with a counselor				0.19	0.19
Discussed writing college applications/essays and scholarship/financial aid information with a counselor				0.55	0.54
Visited one or more college campuses				0.57	0.55
Took the PSAT				0.71	0.69
Took college entrance tests (SAT, ACT, and/or THEA)				0.78	0.77
Completed FAFSA				0.52	0.51
Felt very well/well prepared for college/career goals				0.48	0.46
Felt somewhat well prepared for college/career goals+				0.41	0.42
Felt not very well/not at all prepared for college/career goals				0.11	0.12
Felt very well/well prepared for college selection/application process				0.42	0.41
Felt somewhat well prepared for college selection/application process[†]				0.43	0.44
Felt not very well/not at all prepared for college selection/ application process				0.15	0.16
Planned on borrowing money for college[†]				0.42	0.42
Did not plan on borrowing money for college				0.26	0.24
Uncertain about borrowing money for college				0.32	0.33

† Indicates variable excluded in the regression analysis. The remaining variables of these type should be interpreted in reference to the excluded variable.

Dummy variables for each ISD were included in each logistic regression but are not reported here.

Table B-2. Logistic Regression Results of Factors Associated with Enrollment in Any Postsecondary Institution

	All Graduates	Surveyed Graduates	
	Model 1	Model 1	Model 2
Constant	0.95	1.32	0.94
Percent of Model Predictions Correctly Classified	74.66%	76.38%	78.98%
N	8,706	3,061	3,061
Asian	1.20	1.59	1.88*
Black	1.17	0.87	0.78
Hispanic	0.66**	0.63**	0.76*
Other	0.75	0.60	0.76
Male	0.93	1.00	0.98
Low-income	0.51**	0.48**	0.57**
Home language is Spanish	0.67**	1.22	1.41
Classified as Special Education	0.57**	0.97	1.05
Classified as G/T	1.29*	1.27	1.06
Received high school foreign language credit in 8th grade	1.23**	0.92	0.87
Received high school math credit in 8th grade	1.69**	1.79**	1.42**
Failed any 9th grade course	0.66**	0.75**	0.90
Received dual credit for college course while in HS	1.89**	1.63*	1.40
Took a sequence of CTE courses	0.79**	0.72**	0.83
Took Tech Prep courses	0.87	0.66**	0.79
Graduated in Top 10%	1.56**	1.86**	1.26
Graduated under DAP or RHSP	3.42**	3.22**	2.16**
Earned more than $2,000 during senior year	0.73**	0.71**	0.85
Student would be first-generation to go to college			0.69**
Mother or father completed at least a bachelor's degree			1.18
First thought about college as an option when a child			0.91
First thought about college as an option in middle/junior high school			0.81
First thought about college as an option in high school			0.68**
Never thought about college as an option			0.36*
Participated in high school extracurricular activity:			
Music			1.14
Theater/Drama			1.00
Dance			0.96
Sports			1.25*
Journalism			1.18
Speech/Debate			1.03
Participated in non-school extracurricular activity:			
Sports			1.17
Arts/Music			1.07
Community service			0.95
Environmental projects			0.91
Faith-based or charitable organizations			0.96
Provided routine care to another family member			0.95

Table B-2. (continued) Logistic Regression Results of Factors Associated with Enrollment in Any Postsecondary Institution

	All Graduates	Surveyed Graduates	
	Model 1	Model 1	Model 2
Constant	0.95	1.32	0.94
Percent of Model Predictions Correctly Classified	74.66%	76.38%	78.98%
N	8,706	3,061	3,061
Typical number of hours spent studying in high school:			
6-10 hours per week			0.98
11-15 hours per week			1.18
16+ hours per week			1.00
Typical number of hours spent working in senior year:			
6-10 hours per week			1.16
11-15 hours per week			0.89
16 + hours per week			1.01
Discussed personal/family issues with a counselor			0.67**
Discussed scheduling/course selection and placement/graduation plans with a counselor			0.93
Discussed grades /test scores /academic performance with a counselor			0.73*
Discussed writing resumes/job applications/career information with a counselor			1.07
Discussed writing college applications/essays and scholarship/financial aid information with a counselor			1.18
Visited one or more college campuses			1.06
Took the PSAT			1.23
Took college entrance tests (SAT, ACT, and/or THEA)			2.05**
Completed FAFSA			1.40**
Felt very well/well prepared for college/career goals			1.08
Felt not very well/not at all prepared for college/career goals			0.64**
Felt very well/well prepared for college selection/application process			1.16
Felt not very well/not at all prepared for college selection/application process			1.10
Did not plan on borrowing money for college			0.81
Uncertain about borrowing money for college			0.80*

Notes: 1) Statistical significance: *p<=.05, **p<=.01

2) Dummy variables for each ISD were included in each logistic regression but are not reported here.

Table B-3. Logistic Regression Results of Factors Associated with Enrollment in 4-Year Postsecondary Institutions

	All Graduates	Surveyed Graduates	
	Model 1	Model 1	Model 2
Constant	0.11**	0.17**	0.04**
Percent of Model Predictions Correctly Classified	74.72%	74.58%	80.56%
N	8,706	3,061	3,061
Asian	1.05	0.98	1.27
Black	1.57**	1.17	1.02
Hispanic	0.62**	0.57**	0.69**
Other	0.51*	0.42*	0.44
Male	1.03	1.12	1.18
Low-income	0.56**	0.57**	0.71*
Home language is Spanish	0.61**	0.92	0.92
Classified as Special Education	0.33**	0.42**	0.61
Classified as G/T	1.83**	1.91**	1.57**
Received high school foreign language credit in 8th grade	1.26**	1.16	1.02
Received high school math credit in 8th grade	2.52**	2.48**	1.83**
Failed any 9th grade course	0.56**	0.46**	0.57**
Received dual credit for college course while in HS	1.68**	1.48*	1.27
Took a sequence of CTE courses	0.60**	0.58**	0.69**
Took Tech Prep courses	0.75**	0.51**	0.65*
Graduated in Top 10%	3.55**	4.39**	2.58**
Graduated under DAP or RHSP	7.81**	6.91**	4.45**
Earned more than $2,000 during senior year	0.52**	0.45**	0.62**
Student would be first-generation to go to college			0.91
Mother or father completed at least a bachelor's degree			1.47**
First thought about college as an option when a child			0.93
First thought about college as an option in middle/junior high school			0.84
First thought about college as an option in high school			0.74*
Never thought about college as an option			1.51
Participated in high school extracurricular activity:			
Music			1.37**
Theater/Drama			1.07
Dance			0.84
Sports			1.51**
Journalism			0.91
Speech/Debate			1.09
Participated in non-school extracurricular activity:			
Sports			1.31*
Arts/Music			0.91
Community service			1.18
Environmental projects			1.08
Faith-based or charitable organizations			0.89
Provided routine care to another family member			0.93

Table B-3. (continued) Logistic Regression Results of Factors Associated with Enrollment in 4-Year Postsecondary Institutions

	All Graduates	Surveyed Graduates	
	Model 1	Model 1	Model 2
Constant	0.11**	0.17**	0.04**
Percent of Model Predictions Correctly Classified	74.72%	74.58%	80.56%
N	8,706	3,061	3,061
Typical number of hours spent studying in high school:			
6-10 hours per week			0.96
11-15 hours per week			1.05
16+ hours per week			1.05
Typical number of hours spent working in senior year:			
6-10 hours per week			0.98
11-15 hours per week			0.89
16 + hours per week			0.75*
Discussed personal/family issues with a counselor			0.68**
Discussed scheduling/course selection and placement/graduation plans with a counselor			0.73
Discussed grades /test scores /academic performance with a counselor			0.78
Discussed writing resumes/job applications/career information with a counselor			0.77*
Discussed writing college applications/essays and scholarship/financial aid information with a counselor			1.18
Visited one or more college campuses			1.51**
Took the PSAT			1.30*
Took college entrance tests (SAT, ACT, and/or THEA)			3.25**
Completed FAFSA			2.16**
Felt very well/well prepared for college/career goals			1.30*
Felt not very well/not at all prepared for college/career goals			0.54**
Felt very well/well prepared for college selection/application process			1.19
Felt not very well/not at all prepared for college selection/application process			1.18
Did not plan on borrowing money for college			0.97
Uncertain about borrowing money for college			0.65**

Notes: 1) Statistical significance: *p<=.05, **p<=.01

2) Dummy variables for each ISD were included in each logistic regression but are not reported here.

Table B-4. Model 2 Logistic Regression Results of Factors Associated with 4-Year Postsecondary Enrollment for Selected Populations

	Hispanic	Low Income	First Generation
Constant	0.01**	0.00**	0.04**
Percent of Model Predictions Correctly Classified	75.29%	85.27%	86.46%
N	939	645	746.
Asian		2.96	0.73
Black		2.47	0.64
Hispanic		1.25	0.50
Other		1.80	0.09
Male	2.12**	1.30	1.18
Low-income	0.83		1.11
Home language is Spanish	0.81	1.17	0.90
Classified as Special Education	0.48	0.73	0.45
Classified as G/T	1.95	2.49*	2.69*
Received high school foreign language credit in 8th grade	0.84	0.35	1.44
Received high school math credit in 8th grade	2.18**	1.96*	2.75**
Failed any 9th grade course	0.28**	0.70	0.31**
Received dual credit for college course while in HS	1.53	1.48	1.18
Took a sequence of CTE courses	0.59*	0.54	0.57
Took Tech Prep courses	0.45*	0.52	0.52
Graduated in Top 10%	2.86*	4.20*	5.54**
Graduated under DAP or RHSP	7.62**	5.30**	2.86
Earned more than $2,000 during senior year	0.40**	0.73	0.50
Student would be first-generation to go to college	0.94	1.26	
Mother or father completed at least a bachelor's degree	1.44	1.63	
First thought about college as an option when a child	0.61	0.84	0.76
First thought about college as an option in middle/junior high school	0.89	0.94	1.01
First thought about college as an option in high school	0.50*	0.67	0.63
Never thought about college as an option	1.66	2.48	2.02
Participated in high school extracurricular activity:			
Music	1.19	1.80*	0.90
Theater/Drama	0.88	0.77	0.71
Dance	1.52	0.56	0.57
Sports	1.44	1.00	1.36
Journalism	1.35	0.87	0.77
Speech/Debate	0.72	1.32	1.44
Participated in non-school extracurricular activity:			
Sports	1.10	2.02*	1.22
Arts/Music	1.16	1.00	1.63
Community service	1.18	1.46	1.35
Environmental projects	1.64	1.20	2.23
Faith-based or charitable organizations	0.81	1.17	0.85
Provided routine care to another family member	0.90	1.60	1.29

Table B-4. (continued) Model 2 Logistic Regression Results of Factors Associated with 4-Year Postsecondary Enrollment for Selected Populations

	Hispanic	Low Income	First Generation
Constant	0.01**	0.00**	0.04**
Percent of Model Predictions Correctly Classified	75.29%	85.27%	86.46%
N	939	645	746.
Typical number of hours spent studying in high school:			
6-10 hours per week	1.08	0.77	0.67
11-15 hours per week	1.95	0.56	0.87
16+ hours per week	1.11	0.61	0.47
Typical number of hours spent working in senior year:			
6-10 hours per week	1.00	1.21	0.66
11-15 hours per week	0.83	2.40	1.46
16 + hours per week	0.70	1.30	0.78
Discussed personal/family issues with a counselor	0.53*	0.53	0.71
Discussed scheduling/course selection and placement/ graduation plans with a counselor	0.80	1.19	0.80
Discussed grades /test scores /academic performance with a counselor	0.62	0.57	0.30**
Discussed writing resumes/job applications/career information with a counselor	0.94	0.77	0.86
Discussed writing college applications/essays and scholarship/financial aid information with a counselor	1.11	1.22	0.95
Visited one or more college campuses	1.29	1.48	1.76*
Took the PSAT	1.32	1.47	1.03
Took college entrance tests (SAT, ACT, and/or THEA)	2.85**	3.06**	4.31**
Completed FAFSA	4.49**	3.35**	3.53**
Felt very well/well prepared for college/career goals	2.04*	1.10	1.97
Felt not very well/not at all prepared for college/career goals	0.64	0.58	0.31*
Felt very well/well prepared for college selection/ application process	1.12	1.17	1.19
Felt not very well/not at all prepared for college selection/application process	1.10	0.81	2.35
Did not plan on borrowing money for college	0.50*	0.72	0.88
Uncertain about borrowing money for college	0.39**	0.44**	0.48*

Notes: 1) Statistical significance: *p<=.05, **p<=.01

2) Dummy variables for each ISD were included in each logistic regression but are not reported here.

3) Shaded cells indicate that the variable was dropped from the analysis.

Table B-5. Logistic Regression Results of Factors Associated with Enrollment in 2-Year Postsecondary Institutions

	All Graduates	Surveyed Graduates	
	Model 1	Model 1	Model 2
Constant	0.41**	0.39**	0.49*
Percent of Model Predictions Correctly Classified	77.57%	77.50%	77.83%
N	8,706	3,06	3,061
Asian	1.10	1.51	1.44
Black	0.81*	0.81	0.86
Hispanic	1.03	1.16	1.10
Other	1.52	1.59	1.71
Male	0.90	0.90	0.95
Low-income	0.75**	0.76*	0.75*
Home language is Spanish	0.87	1.25	1.34
Classified as Special Education	0.85	1.31	1.38
Classified as G/T	0.49**	0.50**	0.53**
Received high school foreign language credit in 8th grade	0.90	0.75*	0.79
Received high school math credit in 8th grade	0.48**	0.51**	0.59**
Failed any 9th grade course	1.03	1.41**	1.26
Received dual credit for college course while in HS	0.99	0.93	0.98
Took a sequence of CTE courses	1.31**	1.22	1.14
Took Tech Prep courses	1.16	1.32	1.21
Graduated in Top 10%	0.17**	0.10**	0.13**
Graduated under DAP or RHSP	1.12	1.08	1.24
Earned more than $2,000 during senior year	1.27**	1.45**	1.16
Student would be first-generation to go to college			0.70**
Mother or father completed at least a bachelor's degree			0.74*
First thought about college as an option when a child			1.07
First thought about college as an option in middle/junior high school			1.08
First thought about college as an option in high school			0.88
Never thought about college as an option			0.17*
Participated in high school extracurricular activity:			
Music			0.83
Theater/Drama			0.97
Dance			1.15
Sports			0.87
Journalism			1.27
Speech/Debate			0.85
Participated in non-school extracurricular activity:			
Sports			0.88
Arts/Music			1.23
Community service			0.80*
Environmental projects			0.81
Faith-based or charitable organizations			1.11
Provided routine care to another family member			1.10

Table B-5. (continued) Logistic Regression Results of Factors Associated with Enrollment in 2-Year Postsecondary Institutions

	All Graduates	Surveyed Graduates	
	Model 1	Model 1	Model 2
Constant	0.41**	0.39**	0.49*
Percent of Model Predictions Correctly Classified	77.57%	77.50%	77.83%
N	8,706	3,06	3,061
Typical number of hours spent studying in high school:			
6-10 hours per week			1.01
11-15 hours per week			1.12
16+ hours per week			0.89
Typical number of hours spent working in senior year:			
6-10 hours per week			1.12
11-15 hours per week			1.01
16 + hours per week			1.34*
Discussed personal/family issues with a counselor			0.97
Discussed scheduling/course selection and placement/graduation plans with a counselor			1.24
Discussed grades /test scores /academic performance with a counselor			0.98
Discussed writing resumes/job applications/career information with a counselor			1.43**
Discussed writing college applications/essays and scholarship/financial aid information with a counselor			0.99
Visited one or more college campuses			0.67**
Took the PSAT			0.98
Took college entrance tests (SAT, ACT, and/or THEA)			1.12
Completed FAFSA			0.67**
Felt very well/well prepared for college/career goals			0.82
Felt not very well/not at all prepared for college/career goals			1.04
Felt very well/well prepared for college selection/application process			0.96
Felt not very well/not at all prepared for college selection/application process			0.94
Did not plan on borrowing money for college			0.86
Uncertain about borrowing money for college			1.19

Notes: 1) Statistical significance: *p<=.05, **p<=.01

2) Dummy variables for each ISD were included in each logistic regression but are not reported here.

Table B-6. Model 2 Logistic Regression Results of Factors Associated with 2-Year Postsecondary Enrollment for Selected Populations

	Hispanic	Low Income	First Generation
Constant	0.43	1.25	0.35
Percent of Model Predictions Correctly Classified	82.07%	75.29%	80.26%
N	939.00	647.00	746.00
Asian		1.64	1.36
Black		0.64	0.74
Hispanic		0.91	0.94
Other		1.21	2.81
Male	0.70*	0.76	1.02
Low-income	0.72		0.60*
Home language is Spanish	1.40	1.70*	1.97**
Classified as Special Education	1.06	0.53	1.24
Classified as G/T	0.41**	0.19**	0.64
Received high school foreign language credit in 8th grade	0.71	0.35**	0.90
Received high school math credit in 8th grade	0.82	0.60	0.72
Failed any 9th grade course	1.36	0.92	1.42
Received dual credit for college course while in HS	0.84	1.26	0.89
Took a sequence of CTE courses	1.18	1.07	0.98
Took Tech Prep courses	1.20	0.93	1.33
Graduated in Top 10%	0.19**	0.26*	0.10**
Graduated under DAP or RHSP	1.22	0.64	1.66
Earned more than $2,000 during senior year	1.31	1.57	1.16
Student would be first-generation to go to college	0.82	0.65	
Mother or father completed at least a bachelor's degree	0.87	0.86	
First thought about college as an option when a child	1.08	0.73	1.31
First thought about college as an option in middle/junior high school	0.98	0.87	0.78
First thought about college as an option in high school	0.97	0.68	0.72
Never thought about college as an option	0.24	0.26	0.17
Participated in high school extracurricular activity:			
Music	1.00	1.00	0.89
Theater/Drama	0.66	1.19	0.92
Dance	0.80	1.16	1.07
Sports	1.07	1.10	1.00
Journalism	1.09	2.17*	2.17*
Speech/Debate	1.32	0.79	0.68
Participated in non-school extracurricular activity:			
Sports	0.92	0.79	0.80
Arts/Music	1.61*	1.44	1.29
Community service	0.75	0.58*	0.78
Environmental projects	0.51*	1.17	0.84
Faith-based or charitable organizations	0.97	1.25	0.95
Provided routine care to another family member	0.85	1.11	0.97

Table B-6. (continued) Model 2 Logistic Regression Results of Factors Associated with 2-Year Postsecondary Enrollment for Selected Populations

	Hispanic	Low Income	First Generation
Constant	0.43	1.25	0.35
Percent of Model Predictions Correctly Classified	82.07%	75.29%	80.26%
N	939.00	647.00	746.00
Typical number of hours spent studying in high school:			
6-10 hours per week	1.23	1.35	1.19
11-15 hours per week	1.00	0.94	1.47
16+ hours per week	0.49	0.97	1.36
Typical number of hours spent working in senior year:			
6-10 hours per week	1.43	0.92	0.73
11-15 hours per week	1.29	0.90	0.59
16 + hours per week	1.31	0.91	0.86
Discussed personal/family issues with a counselor	0.77	1.41	0.71
Discussed scheduling/course selection and placement/ graduation plans with a counselor	1.33	0.76	1.17
Discussed grades /test scores /academic performance with a counselor	0.87	0.74	0.90
Discussed writing resumes/job applications/career information with a counselor	1.38	1.87*	1.33
Discussed writing college applications/essays and scholarship/financial aid information with a counselor	1.14	1.10	1.42
Visited one or more college campuses	0.73	0.74	0.67
Took the PSAT	1.20	1.21	1.20
Took college entrance tests (SAT, ACT, and/or THEA)	1.25	1.34	0.98
Completed FAFSA	0.57**	0.74	0.90
Felt very well/well prepared for college/career goals	0.81	0.87	0.88
Felt not very well/not at all prepared for college/career goals	0.59	0.42*	0.73
Felt very well/well prepared for college selection/application process	1.09	0.91	0.99
Felt not very well/not at all prepared for college selection/ application process	1.17	1.19	0.75
Did not plan on borrowing money for college	0.78	0.47*	0.83
Uncertain about borrowing money for college	1.15	1.49	1.30

Notes: 1) Statistical significance: *p<=.05, **p<=.01

2) Dummy variables for each ISD were included in each logistic regression but are not reported here.

3) Shaded cells indicate that the variable was dropped from the analysis.

Table B-7. Logistic Regression Results of Factors Associated with Employment if Not Enrolled in Postsecondary Education

	All Graduates	Surveyed Graduates	
	Model 1	Model 1	Model 2
Constant	0.52**	0.40**	0.56
Percent of Model Predictions Correctly Classified	78.29%	80.83%	80.94%
N	7,244	2,759	2,759
Asian	0.58**	0.66	0.61
Black	0.93	1.14	1.30
Hispanic	1.46**	1.81**	1.52**
Other	1.75	2.05	1.53
Male	1.01	0.96	0.99
Low-income	1.64**	1.84**	1.59**
Home language is Spanish	0.79*	0.65*	0.58**
Classified as Special Education	1.16	1.03	1.09
Classified as G/T	0.68**	0.63*	0.78
Received high school foreign language credit in 8th grade	0.78**	0.82	0.83
Received high school math credit in 8th grade	0.53**	0.55**	0.67*
Failed any 9th grade course	1.46**	1.50**	1.23
Received dual credit for college course while in HS	0.49**	0.56*	0.68
Took a sequence of CTE courses	1.35**	1.28*	1.09
Took Tech Prep courses	1.05	1.38	1.14
Graduated in Top 10%	0.49**	0.30**	0.53
Graduated under DAP or RHSP	0.38**	0.38**	0.59**
Earned more than $2,000 during senior year	2.52**	2.13**	1.56**
Student would be first-generation to go to college			1.16
Mother or father completed at least a bachelor's degree			0.72*
First thought about college as an option when a child			1.17
First thought about college as an option in middle/junior high school			1.32
First thought about college as an option in high school			1.38*
Never thought about college as an option			2.37*
Participated in high school extracurricular activity:			
Music			0.93
Theater/Drama			1.13
Dance			1.06
Sports			0.90
Journalism			0.87
Speech/Debate			0.78
Participated in non-school extracurricular activity:			
Sports			0.87
Arts/Music			0.87
Community service			1.00
Environmental projects			0.79
Faith-based or charitable organizations			1.12
Provided routine care to another family member			1.14

Table B-7. (continued) Logistic Regression Results of Factors Associated with Employment if Not Enrolled in Postsecondary Education

	All Graduates	Surveyed Graduates	
	Model 1	Model 1	Model 2
Constant	0.52**	0.40**	0.56
Percent of Model Predictions Correctly Classified	78.29%	80.83%	80.94%
N	7,244	2,759	2,759
Typical number of hours spent studying in high school:			
6-10 hours per week			1.07
11-15 hours per week			1.18
16+ hours per week			1.06
Typical number of hours spent working in senior year:			
6-10 hours per week			0.81
11-15 hours per week			1.15
16 + hours per week			1.38*
Discussed personal/family issues with a counselor			1.53**
Discussed scheduling/course selection and placement/graduation plans with a counselor			0.93
Discussed grades /test scores /academic performance with a counselor			1.51**
Discussed writing resumes/job applications/career information with a counselor			1.13
Discussed writing college applications/essays and scholarship/financial aid information with a counselor			0.76*
Visited one or more college campuses			0.86
Took the PSAT			0.79
Took college entrance tests (SAT, ACT, and/or THEA)			0.53**
Completed FAFSA			0.67**
Felt very well/well prepared for college/career goals			0.85
Felt not very well/not at all prepared for college/career goals			1.28
Felt very well/well prepared for college selection/application process			0.88
Felt not very well/not at all prepared for college selection/application process			1.05
Did not plan on borrowing money for college			0.96
Uncertain about borrowing money for college			1.38*

Notes: 1) Statistical significance: *p<=.05, **p<=.01

2) Dummy variables for each ISD were included in each logistic regression but are not reported here.

Table B-8. Model 2 Logistic Regression Results of Factors Related to Employment if Not Enrolled for Selected Populations

	Hispanic	Low Income	First Generation
Constant	0.50	0.98	0.32*
Percent of Model Predictions Correctly Classified	81.38%	76.14%	88.07%
N	897.00	628.00	725.00
Asian		0.47	1.40
Black		1.11	1.67
Hispanic		1.40	1.93*
Other		5.07	
Male	0.97	0.92	0.88
Low-income	1.57*		1.47
Home language is Spanish	0.64*	0.50*	0.44**
Classified as Special Education	1.08	1.00	1.18
Classified as Gifted and Talented	0.94	0.97	0.48
Received high school foreign language credit in 8th grade	1.28	2.30**	0.74
Received high school math credit in 8th grade	0.61*	0.91	0.51*
Failed any 9th grade course	1.33	1.33	1.43
Received dual credit for college course while in HS	0.43	0.50	0.56
Took a sequence of CTE courses	1.26	1.19	0.98
Took Tech Prep courses	1.20	0.74	1.05
Graduated in Top 10%	0.50	0.37	0.09**
Graduated under the DAP or RHSP	0.68	0.88	0.97
Earned more than $2,000 during senior year	1.37	1.24	1.36
Student would be first-generation to go to college	1.17	1.12	
Mother or father completed at least a bachelor's degree	0.76	0.92	
First thought about college as an option when a child	1.57	1.61	1.26
First thought about college as an option in middle/junior high school	1.26	1.26	1.26
First thought about college as an option in high school	1.51	1.58	1.50
Never thought about college as an option	3.80	4.23	2.22
Participated in high school extracurricular activity:			
Music	0.78	0.90	0.99
Theater/Drama	1.47	0.82	1.17
Dance	1.11	1.70	1.40
Sports	1.12	1.04	1.07
Journalism	0.73	0.53	0.64
Speech/Debate	0.49	0.94	0.94
Participated in non-school extracurricular activity:			
Sports	0.96	0.89	0.96
Arts/Music	0.75	0.76	0.73
Community service	0.91	0.73	0.82
Environmental projects	0.95	0.58	0.69
Faith-based or charitable organizations	1.06	0.85	1.03
Provided routine care to another family member	1.11	0.60	1.33

Table B-8. (continued) Model 2 Logistic Regression Results of Factors Related to Employment if Not Enrolled for Selected Populations

	Hispanic	Low Income	First Generation
Constant	0.50	0.98	0.32*
Percent of Model Predictions Correctly Classified	81.38%	76.14%	88.07%
N	897.00	628.00	725.00
Typical number of hours spent studying in high school:			
6-10 hours per week	0.84	1.14	1.05
11-15 hours per week	0.99	1.45	0.82
16+ hours per week	1.38	1.19	1.05
Typical number of hours spent working in senior year:			
6-10 hours per week	0.55	0.62	1.20
11-15 hours per week	1.11	0.80	1.88
16 + hours per week	1.70**	1.38	2.14**
Discussed personal/family issues with a counselor	1.87**	1.00	1.44
Discussed scheduling/course selection and placement/graduation plans with a counselor	0.82	0.74	0.89
Discussed grades /test scores /academic performance with a counselor	1.79*	1.69	1.92**
Discussed writing resumes/job applications/career information with a counselor	0.94	0.93	0.96
Discussed writing college applications/essays and scholarship/financial aid information with a counselor	0.94	0.96	0.77
Visited one or more college campuses	1.07	1.02	1.18
Took the PSAT	0.70	0.56*	0.89
Took college entrance tests (SAT, ACT, and/or THEA)	0.64*	0.54*	0.65
Completed FAFSA	0.77	0.83	0.55**
Felt very well/well prepared for college/career goals	0.66	0.79	0.67
Felt not very well/not at all prepared for college/career goals	1.69	1.70	1.38
Felt very well/well prepared for college selection/application process	0.69	1.14	0.86
Felt not very well/not at all prepared for college selection/ application process	0.90	1.11	1.25
Did not plan on borrowing money for college	1.29	1.39	0.75
Uncertain about borrowing money for college	1.50*	1.22	1.21

Notes: 1) Statistical significance: *p<=.05, **p<=.01

2) Dummy variables for each ISD were included in each logistic regression but are not reported here.

3) Shaded cells indicate that the variable was dropped from the analysis.