Early Indicators of Future College Success for Dallas Independent School District Graduates 1998 to 2009

Council *of the* Great City Schools

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INTRODUCTION

In a July 2010 speech, U.S. Education Secretary Arne Duncan outlined the White House's call to action about education: "The North Star guiding all our efforts is President Obama's goal that America should once again have the highest college completion rate in the world by the end of the decade....A high school should be a place where all students are prepared with the knowledge and skills necessary to enter postsecondary education and pursue meaningful careers" (Duncan 2010). The state of Texas had already embraced this challenge. Prior to President Obama's election, in January 2008, the state of Texas adopted the Texas College and Career Readiness standards to address the finding that "Texas trails other states in preparing and sending students to postsecondary education" (THECB 2008).

Within the public education community, college readiness is considered to be the equivalent of career readiness. The basis for this equivalency is a 2006 American College Testing (ACT) report that provided evidence that a student's minimum level of attainment of reading and mathematics skills was the same for college success as for workforce training program success (ACT 2006). ACT's resulting recommendations called for rigorous preparation of all high school students. The ACT report provided the basis for creating high school curricula that meets both college and career readiness (CCR) goals. This study focuses on college readiness and success.

Many public school students who do attend college often require remediation. A June 2010 report states that the national college readiness gap is "huge" with 75 percent of nonselective two-year college students requiring remediation, as well as nearly half of students enrolled in less selective four-year colleges (NCPPHC and SREB 2010).

Other recent research has identified a disconnect between high school graduation requirements and college readiness as evidenced by both the high level of remediation courses taken, in addition to low college completion rates. Programs that bridge the education systems between high school and college such as Advanced Placement (AP), dual/concurrent enrollment (Hoffman 2007), and International Baccalaureate (IB) have only reached a minority of college bound students (Conley 2005). Consequently, many first-year college students are

not performing at an adequate level in college and a majority of these students are taking at least one remedial course (NCES 2004).

This report shows that the rate at which Dallas ISD graduates complete postsecondary degrees trails the state and the nation[1]. Given that college readiness is a critical goal of the nation, state and the Dallas ISD, much needs to be addressed. In particular, the Dallas ISD's ethnically diverse (95.4 percent ethnic minorities) and poor (87 percent low socioeconomic status) student body is being left far behind in the nation's quest for equitable postsecondary achievement.

Limited research exists to assist public school districts in their quest to graduate students who are college ready. With the exception of the studies summarized in this document, the research on postsecondary success is rarely completed by public school districts. This study outlines the key characteristics of college readiness identified in the literature, but statistical analyses of these variables have not been conducted in any depth or breadth on the secondary level. This study analyzes student-level (graduating classes of 1998 through 2009) data to discover those factors that are most closely associated with success in college. Findings from this study may assist public school districts with: replicable analytical methods that allow data collection and analysis of student postsecondary achievement; knowledge of highly correlated, and possibly predictive, characteristics of students who do and do not achieve postsecondary success; and secondary campuses' best practices in curriculum design and school culture that encourage future postsecondary student access and success.

The selection of the Dallas ISD as a research site is supported by a number of factors. It is one of the largest, poorest, and most diverse in the country—and has a low postsecondary attainment rate as compared to the nation. The district has built a unique and comprehensive data collection system which allows this research project to be conducted. With support from the Bill and Melinda Gates Foundation, the district has also built a college readiness measurement model based upon national postsecondary success literature. Additionally, the Dallas ISD has explicitly stated that its goal is to prepare its students to be college and career ready—and it

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[1] According to the 2011 U.S. Statistical Abstract (Table 229), in 2008 the national percentage of adults 25 years and older with Bachelor degrees or higher is 27.7%, and the Texas percentage is 25.3%. The percent of Dallas ISD graduates (from 1998 to 2003) who had completed any certificate or Associate degree or higher is 15.2%.

welcomes this opportunity to look deeply into its student data systems to determine promising pathways to college success.

LIMITED COLLEGE RETENTION AND DEGREE ATTAINMENT RESEARCH

To tackle these issues information was gathered and analyzed in order to first assess the status of college readiness goals. How many high school graduates complete college, and how long does completion take? What characterizes students who attend college yet don't graduate, as compared to those who do?   What types of colleges do students attend? What information do we have about high schools and their success in preparing students for future postsecondary success?

Few of the nation's 14,000 public school districts have answered the questions posed above. The districts that have addressed some of these questions include Chicago (Roderick, Nagaoka and Allensworth 2006; Roderick, Nagaoka and Coca, et al. 2009, Allensworth 2006), Boston (Sum, et al. 2008), New York (Garvey 2009), and Denver (Buckley and Muraskin 2009). There are limitations to these studies: Chicago only studied students who graduated in 2002 and 2003, and Boston only those who graduated in 2000; New York concentrated on students who attended one state university system; and none focused on high school graduates who did not attend college. While Denver's 2009 study considered students who had graduated from 2002 to 2007, it did not include detailed information about the students. With the exception of the Consortium on Chicago School Research's (CCSR) twenty-year relationship with Chicago Public Schools, these research studies were conducted by external organizations with limited access to district student information.

The findings of the previous studies primarily concern college enrollment and persistence experiences, and include analyses of gender and ethnicity. CCSR's studies delved deeper and found high correlations between: low high school GPAs and ACT scores and college access and success; limited AP and advanced high school coursework and access to more selective colleges; widely varying college access and success rates from different high schools in the same district; and an increased need for high school guidance and support for first-generation college students.

While research from a public school district perspective is limited, postsecondary data are obtainable. Nationally, college retention and degree attainment data are available from the National Student Clearinghouse (NSC). The NSC, incorporated in 1993 as a non-profit organization then focused on tracking student loan data, has become the national repository for student-level college-going information. It currently has records for 92 percent of U.S. college students attending 3,300 colleges (including online and technical colleges). The Dallas ISD has NSC data on its graduates dating from 2000 to the present. In Texas, the Texas Higher Education Coordinating Board (THECB) also tracks student information, but only makes it available to public school districts aggregated at the high school level. This study uses student-level NSC data, combined with Dallas ISD student information, to answer questions regarding Dallas ISD graduates from 1998 to 2009.

A significant limitation that has previously hindered similar postsecondary research is that nearly all public school districts collect student information, yet few have developed the data warehouse and business intelligence systems that allow them to organize and analyze massive amounts of data. Additionally, the lack of coordination between public school district and postsecondary systems that exists prevents in-depth analysis to identify issues that support and/or hinder student postsecondary achievement.

DALLAS ISD STUDY

This study addresses these significant issues through a longitudinal study of 75,033 Dallas ISD high school graduates from 1998 to 2009. The Dallas ISD is the fourteenth largest district in the country with a high percentage of students with low socioeconomic status (87 percent). Latinos are the fastest growing ethnic group in the U.S., and the majority of Dallas ISD students identify as Hispanic (67 percent). One third of all Dallas ISD students (K-12) are characterized as Limited English Proficient (LEP)—an indicator of first-generation college students—a group less likely to attend college and twice as likely to leave (Chen 2005).

Two unique characteristics make the Dallas ISD an ideal research site. One is its comprehensive data warehouse and another is its creation of a College Readiness Measurement Model (CRMM), a requirement of its $3.77 million grant from the Bill and Melinda Gates Foundation (BMGF). In addition to the research questions stated above, this study uses information stored in the Dallas ISD data warehouse, and conducted correlation and

inferential statistical research to see how well indicators included in the CRMM predict college success. The following two sections describe the data warehouse and the CRMM and its definition of college readiness.

DALLAS ISD DATA WAREHOUSE

In response to a 2007 Dallas Achieves Commission report, which detailed more than 100 recommendations to achieve college and career readiness for all district students (Dallas Achieves Commission 2007), the Dallas ISD created 11 work teams focused on specific issues like academic rigor, teacher capacity-building, and parent and community engagement. Underlying all these work team efforts was the goal to efficiently and effectively organize and make accessible data from more than 90 different data systems spread throughout the district. Aided by a $5 million grant in 2007 from the Michael and Susan Dell Foundation (MSDF), the district's Performance Management and Analytics (PM&A) department created, populated, and manages an enormous data warehouse.

The data warehouse is a repository for all available student, teacher, and administrative information. Student information includes grades, state (TAKS) and national (AP, ACT, SAT) test scores, and demographics. Teacher and administrative data focuses on personnel and financial information. The data warehouse was primarily built to provide information on each student. Teachers have the ability to access information available for an individual student in their class(es). Each student's profile contains historical data to help the teacher design and implement appropriate interventions that promote student success.

Teachers and administrators gain access to information stored in the data warehouse primarily through dashboards. A dashboard is a web-based business intelligence reporting tool that enables the user to view and interact with data from multiple systems. The Dallas ISD dashboards were designed to enable the user to track student progress throughout each school year.

COLLEGE READINESS DEFINITION

As the data warehouse creation project moved forward in 2008, the BMGF granted the district $3.77 million to identify metrics that could be incorporated into the dashboards to measure district students' college readiness and postsecondary success. Ultimately, the Dallas ISD and the BMGF seek a predictive college readiness

model that will lead to implementation of appropriate interventions to aid student success. To satisfy the BMGF grant, the Dallas ISD developed a college readiness measurement model. The district's project team involved members from the Chief of Staff's PM&A and Evaluation and Accountability departments, the Teaching and Learning division's College and Career Readiness, Core Curriculum and Instruction, and Student Services departments, the Dallas Education Foundation, and non-district consultants and advisors, including Dr. Dean Spitzer (Spitzer 2007), the Consortium on Chicago School Research (CCSR), and Dr. David T. Conley.

The resulting model, the College Readiness Measurement Model (CRMM) is built on a definition of college readiness. The definition of college readiness increasingly recognized by parties across the country—including the Annenberg, Gates, and Dell family foundations—was developed by the University of Oregon's Dr. David Conley. Conley is co-chair of the Validation Committee for the Common Core State Standards Initiative (Common Core), and his Educational Policy Improvement Center (EPIC) has worked with several large school districts, as well as the state of Texas to develop the Texas College and Career Readiness Standards for the THECB.

In 2010, Conley proposed a comprehensive definition of college readiness. This definition—adopted by the Dallas ISD—is:

> "the level of preparation a student needs in order to enroll and succeed—without remediation—in a credit-bearing course at a postsecondary institution that offers a baccalaureate degree or transfer to a baccalaureate program, or in a high-quality certificate program that enables students to enter a career pathway with potential future advancement. Succeed is defined as completing the entry-level courses or core certificate courses at a level of understanding and proficiency that makes it possible for the student to consider taking the next course in the sequence or the next level of course in the subject area or of completing the certificate" (Conley, 2010).

COLLEGE READINESS MEASUREMENT MODEL

The resulting CRMM is primarily built on **student-level** indicators identified by Conley (college-ready key cognitive strategies, college-ready content knowledge, college-ready academic behaviors, and college context skills and awareness) (Conley, 2003, 2005, 2007, and 2010) and Search Institute's Developmental Asset Profile's student well-being measures. Two other layers of indicators are aggregated at the **high school-level** (school college-going culture and college admission/enrollment indicators) and the **college-level** (progress in college indicators). Other researchers have identified the attainment of a high GPA in college-preparation high school courses—especially AP

classes—as a primary indicator of college success (Boser & Burd 2009; Callan, Finnery, Kirst, Usdan, & Venezia 2006; Conley 2005, 2007, 2010; Roderick, Nagaoka, Coca, & Moeller 2009; Shoenberg 2008).

The Dallas ISD CRMM contains seven key indicators, presumed to be most predictive of college success. This research study will include Dallas ISD high school student GPAs, and AP, SAT, and ACT scores. The model is illustrated below and each key set of indicators subsequently explained.

FIGURE 1 DALLAS ISD COLLEGE READINESS MEASUREMENT MODEL

Dallas ISD
College Readiness Measurement Model

Student's progress toward college success

College

Progress in College Indicators
College Enrollment, GPA, Remedial Courses, Graduation

High School

School's College-Going Culture
SAT/ACT/AP Taken, Enrolled or Graduated College

College Admission/Enrollment Indicators
Completed College Applications., FAFSA

Student's CR Content Knowledge
TAKS, SAT, ACT, AP, EOC

Student's CR Cognitive Strategies
Problem Solving, Research, Reasoning

Student's CR Academic Behaviors
Study Skills, Time Management, Attitudes

Student's College Context Skills & Awareness
Attitude about College Admission, Financial Aid

Student

Student's Physical, Social and Emotional Well-Being

KEY: Data Exists �■   Data Accessible ■   Data Needed ■   Feedback ━ ━ ━

STUDENT LEVEL INDICATORS

KEY COGNITIVE STRATEGIES

Key cognitive strategies are central to Conley's model and are defined as patterns of thinking that lead to an individual's development of appropriate situational behavior. Essentially, it is evidenced by the mind's capacity to be both open and disciplined. Conley has identified five kinds of knowledge and skills embedded in these key cognitive strategies. They include problem formulation (the thinking involved in starting a task); research (gathering and evaluating information); interpretation (making meaning of the information gathered); communication (the ability to create an original response to the problem); and precision/accuracy (completing consistently precise and accurate work products) (Conley 2010).

COLLEGE READY CONTENT KNOWLEDGE

Key cognitive strategies and key content knowledge are the two most important of Conley's dimensions. Aspects of key academic skills and knowledge are writing (expository, descriptive, and persuasive being most important in college) and research (identify and utilize appropriate strategies). Conley also identifies the need for high levels of high school achievement in English, math, science, social studies, world languages, and the arts in order for a student to be college ready.

ACADEMIC BEHAVIORS

Essentially the academic behaviors central to college success are self-monitoring and study skills. These behaviors include time management, awareness of self-mastery, and the appropriate selection and use of learning strategies.

COLLEGE CONTEXT SKILLS AND AWARENESS

This dimension is embodied in The College Board's suggestions for creating a college-going culture within home and school (2006). Implicit are an understanding of the college admission process, aspects of the college environment, knowledge about tuition and financial aid, and college academic expectations.

Of Conley's four dimensions, only content knowledge is readily measured within the Dallas ISD and other school districts. Typically, content knowledge assessments—measured through standardized state tests—satisfy government accountability standards. Other measures include high school GPA, AP, SAT, and ACT scores.

Academic behaviors and college context skills and awareness may be measured with student self-assessment instruments. The most critical dimension, key cognitive strategies, is the most difficult to measure. Conley's EPIC research and development team has created C-PAS, which measures actual student and teacher work products with a complex hand-scored rubric. It is in its fourth year of testing in selected New York City public schools. In the future, working in conjunction with EPIC, the Dallas ISD seeks to use specially designed student self-assessment items as measures of key cognitive strategies.

STUDENTS' PHYSICAL, SOCIAL, AND EMOTIONAL WELL-BEING

The CRMM was developed in conjunction with the district's Teaching and Learning division. In an early stage of development, discussions focused on the need to include student-level well-being factors. The Dallas ISD's Student Services department had conducted several years of training on Search Institute's Developmental Asset Profile (DAP). Given the district's investment, the DAP was chosen as the well-being assessment. The DAP is an individual or group assessment that measures young people's strengths across eight asset categories in five context areas: personal, social, family, school, and community. The 58-item survey is administered to secondary students annually. As with other CRMM indicators, DAP data are securely stored in the data warehouse.

HIGH SCHOOL-LEVEL INDICATORS

In 2009 Conley released a BMGF-funded report highlighting 38 schools that successfully prepared underrepresented students for higher education (Conley 2009). They include alternative, charter, comprehensive, early college, magnet, and private secondary schools.

The information that EPIC researchers gleaned from site visits allowed them to validate Conley's conceptual model and operationalize the concepts. The key themes uncovered in the project were the importance for secondary schools to: create and maintain a college-going culture; emphasize key cognitive strategies; have high expectations for students and design scaffolded interventions to aid them in meeting them; create an aligned core academic program; fully engage students, particularly during the senior year; implement mandatory college-focused courses, especially for first-generation college-goers; create assignments and grading policies aligned with college practices; promote self-management skill development; prepare and support students during the complex college application process; and build partnerships with postsecondary institutions (Conley 2009).

In the Dallas ISD, the current CRMM contains two sets of indicators derived from Conley's 2009 research: measures of high school campus college-going culture and college admission enrollment indicators. Samples of metrics used to examine the school's college-going culture include: campus SAT, ACT, and AP participation, graduates enrolled in college, the number of advanced courses offered, and opportunities to visit colleges. In collaboration with the Counseling Services department, the PM&A team designed and developed a system for counselors to collect college admission and enrollment-related data. Data includes student college application status, number of college applications submitted per student, the college of acceptance, the student's Exit TAKS, Preliminary SAT (PSAT), SAT, and ACT scores, the number of dual credit and AP classes taken and currently enrolled in, financial aid and college applications completed, and transcript and check or waiver submissions. This information will be useful for future studies—much of this information has not been systematically collected and is not in the data warehouse for the years outlined in this study.

COLLEGE-LEVEL INDICATORS

PROGRESS IN COLLEGE INDICATORS

Future Dallas ISD plans call for measuring a student's progress during the first years of college by tracking information such as remedial course enrollment, college grade point average, and use of accessible college support systems and resources. This study uses existing NSC data to examine college enrollment, retention, and degree attainment. It is expected that data sharing agreements with THECB and individual colleges will yield additional information in the future.

FOCUS OF STUDY

The lack of research exploring the differences between urban public high school graduates who do and don't attend college, as well as the lack of research on postsecondary student academic performance, prevents in-depth analysis to identify issues that support and/or hinder student postsecondary achievement. Public school districts need to be prepared to meet national, state, and local objectives for their graduates' postsecondary success through an understanding of factors that significantly affect that success. This study examines a model,

based on the literature, which outlines potentially significant indictors of postsecondary success, to answer the following questions:

1. What, if any, are the significant differences between Dallas ISD high school graduates who attend, persist, and graduate from postsecondary institutions and those who do not?

2. Do any indicators contained in the Dallas ISD College Readiness Measurement Model predict postsecondary student success for Dallas ISD graduates from 1998 to 2009? If so, are there any correlations between the indicators and measures of college success?

FINDINGS

WHAT PERCENTAGE OF DALLAS ISD GRADUATES COMPLETES COLLEGE?

COLLEGE DEGREES COMPLETED

This section examines college degree attainment for all 75,033 Dallas ISD high school graduates from 1998 to 2009. However, of the 36,139 high school graduates from 1998 to 2003—who had six years to complete a college degree at the time of this research—15.2%, or 5,493, completed college degrees (see Table 1). Of all high school graduates (1998 to 2009) during this time period, 9.2% completed college degrees. The following figures and table show first college degree attainment in three ways: by ethnicity, by percent, and by number.

FIGURE 2 COLLEGE ENROLLMENT AND GRADUATION BY ETHNICITY

FIGURE 3 COLLEGE DEGREE ATTAINMENT
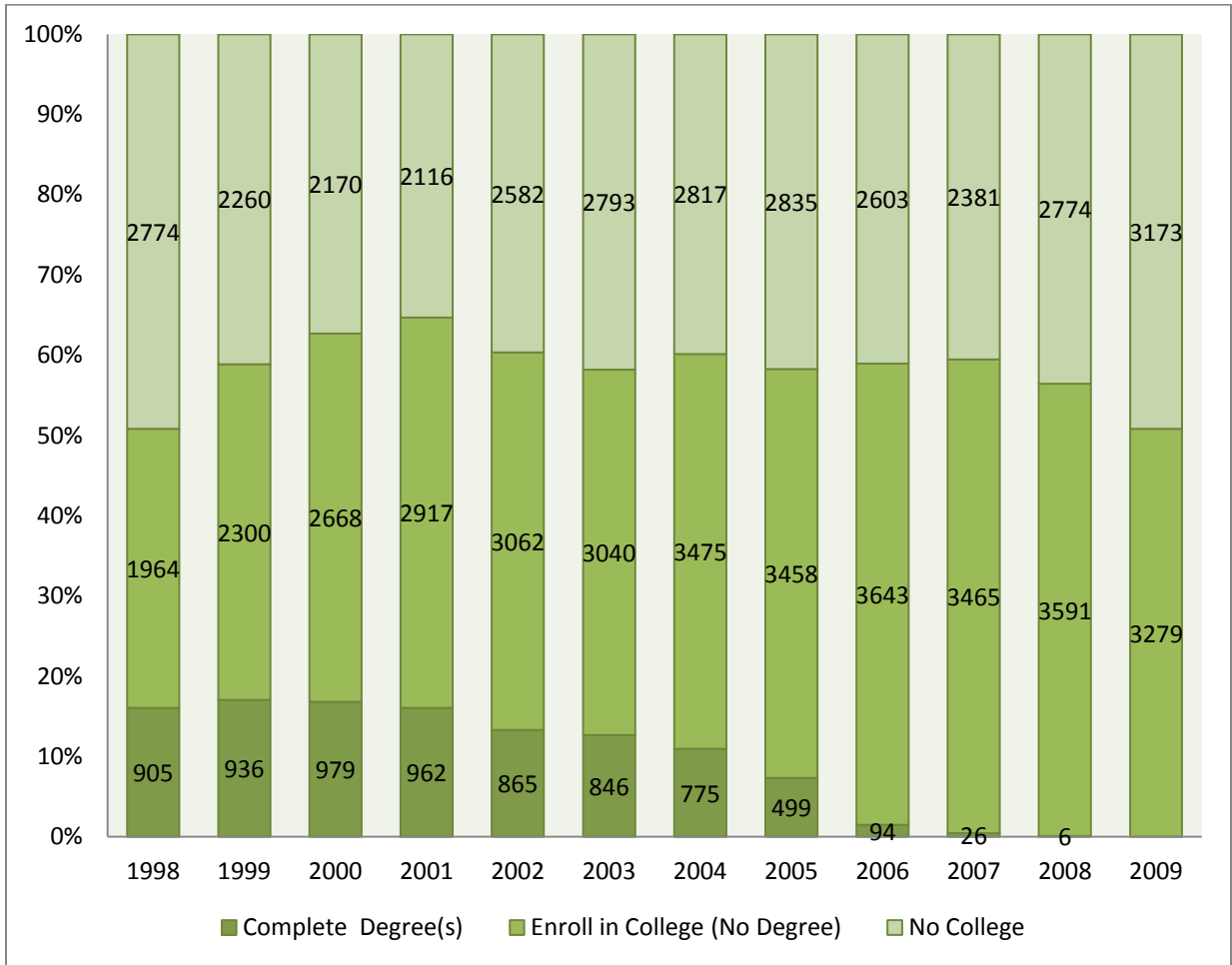
TABLE 1 FIRST COLLEGE DEGREE ATTAINMENT BY YEAR

	Students Who Complete Degree(s)	Students Who Enroll in College (No Degree)	No College	Total
1998	905	1964	2774	5643
1999	936	2300	2260	5496
2000	979	2668	2170	5817
2001	962	2917	2116	5995
2002	865	3062	2582	6509
2003	846	3040	2793	6679
2004	775	3475	2817	7067
2005	499	3458	2835	6792
2006	94	3643	2603	6340
2007	26	3465	2381	5872
2008	6	3591	2774	6371
2009	0	3279	3173	6452
Total (1998 to 2009)	**6893**	**36862**	**31278**	**75033**
	9.2%	*49.1%*	*41.7%*	*100.0%*
1998 to 2003	**5493**	**15951**	**14695**	**36,139**
	15.2%	*44.1%*	*40.6%*	*100.0%*

FIGURE 4 FIRST COLLEGE DEGREE EARNED: 2 YEAR, 4 YEAR, GRADUATE/PROFESSIONAL
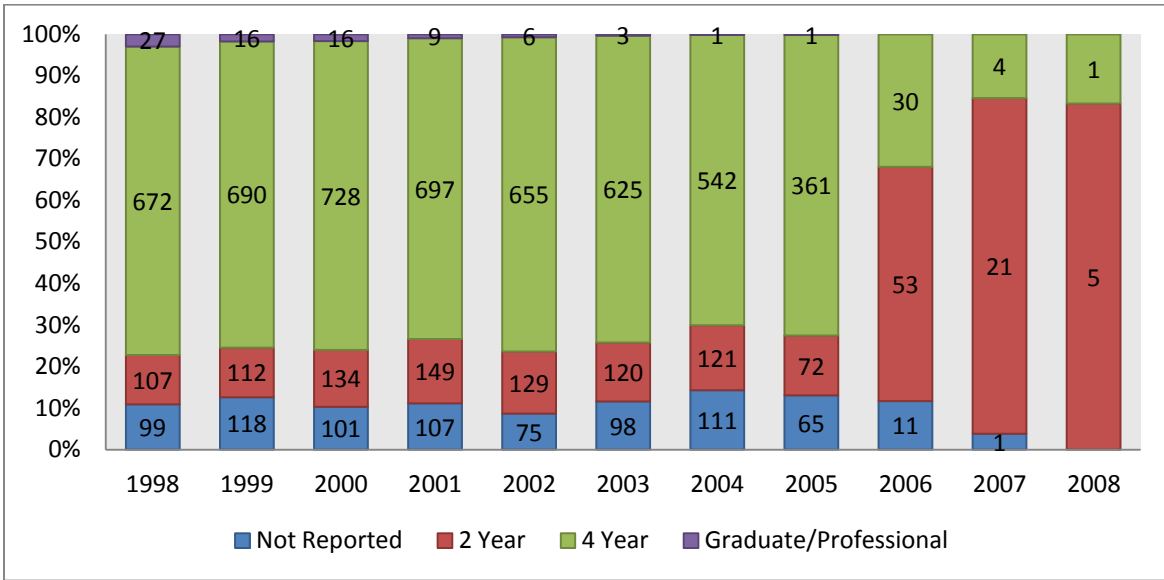
TABLE 2 FIRST COLLEGE DEGREE EARNED: DEGREE TYPE

	Not Reported	2 Year	4 Year	Graduate/Professional	Total
1998	99	107	672	27	905
1999	118	112	690	16	936
2000	101	134	728	16	979
2001	107	149	697	9	962
2002	75	129	655	6	865
2003	98	120	625	3	846
2004	111	121	542	1	775
2005	65	72	361	1	499
2006	11	53	30	0	94
2007	1	21	4	0	26
2008	0	5	1	0	6
Total	**786**	**1023**	**5005**	**79**	**6893**
	11.4%	*14.9%*	*72.6%*	*1.1%*	*100.0%*

Of the highest degrees earned by Dallas ISD graduates, 9.4% are graduate/professional and 72% are four-year degrees. The following figure and table show the highest degrees earned.

FIGURE 5 HIGHEST COLLEGE DEGREE EARNED: 2 YEAR, 4 YEAR, GRADUATE/PROFESSIONAL
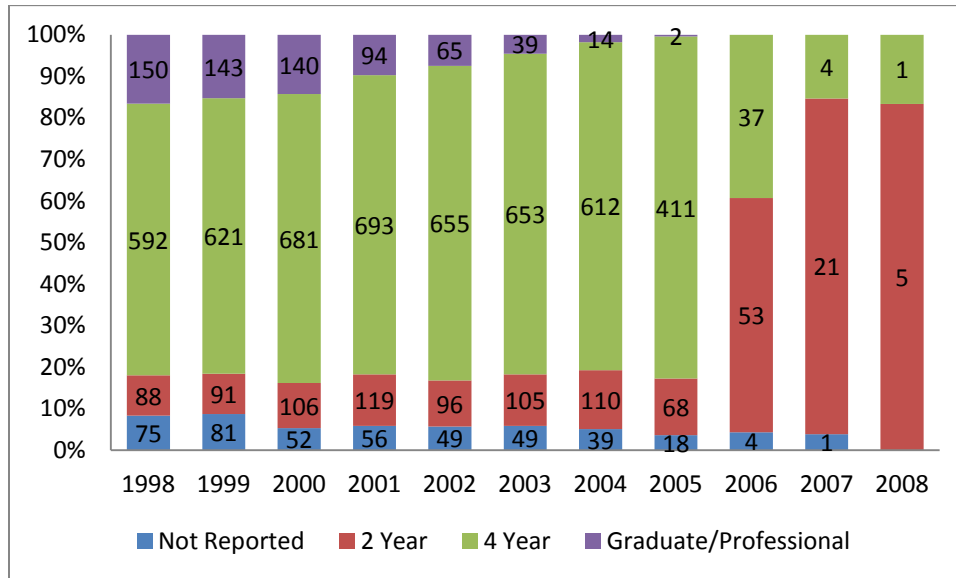
TABLE 3 HIGHEST COLLEGE DEGREE EARNED: DEGREE TYPE

	Not Reported	2 Year	4 Year	Graduate/Professional	Total
1998	75	88	592	150	905
1999	81	91	621	143	936
2000	52	106	681	140	979
2001	56	119	693	94	962
2002	49	96	655	65	865
2003	49	105	653	39	846
2004	39	110	612	14	775
2005	18	68	411	2	499
2006	4	53	37		94
2007	1	21	4		26
2008		5	1		6
Total	**424**	**862**	**4960**	**647**	**6893**
	6.2%	*12.5%*	*72.0%*	*9.4%*	*100.0%*

MEAN YEARS TO GRADUATE

For Dallas ISD graduates from 1998 to 2003, the mean years to graduate from college is 4.9 (with a standard deviation of 1.7). As shown in Table 4, the average number of years to graduate college is decreasing.

FIGURE 6 MEAN YEARS TO GRADUATE COLLEGE

	1998	1999	2000	2001	2002	2003	2004	2005
Not Reported	4.2	4.2	4.3	4.8	4.5	4.7	4.4	4.2
2 Year	5.2	4.7	4.5	4.5	4.1	3.6	3.5	3.6
4 Year	5.1	5.2	5.2	5.2	5.1	4.7	4.5	4.3
Graduate/Prof	5.9	5.4	5.3	5.6	5.2	3.3	5	4
Average	5	5	5	5	4.9	4.5	4.4	4.2
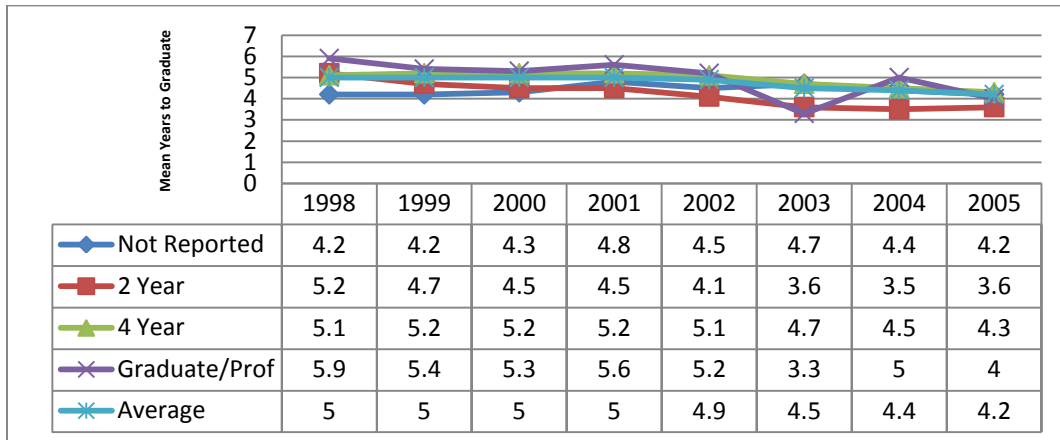
TABLE 4 MEAN YEARS AND STANDARD DEVIATION TO GRADUATE COLLEGE (FIRST DEGREE)

	Not Reported		2 Year Certificate /A.A./A.S.		4 Year B.A./B.S.		Graduate/Professional M.A./M.S./Ph.D./ J.D./M.D.		Average	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1998	4.2	1.5	5.2	2.6	5.1	1.9	5.9	2.4	5	2
1999	4.2	1.6	4.7	2.3	5.2	1.7	5.4	2.1	5	1.8
2000	4.3	1.5	4.5	2.2	5.2	1.7	5.3	2.4	5	1.8
2001	4.8	1.3	4.5	2	5.2	1.5	5.6	2.1	5	1.6
2002	4.5	1.3	4.1	1.9	5.1	1.4	5.2	1.6	4.9	1.5
2003	4.7	1	3.6	1.6	4.7	1.3	3.3	2.5	4.5	1.4
2004	4.4	0.9	3.5	1.4	4.5	1.1	5	0	4.4	1.2
2005	4.2	0.7	3.6	1.1	4.3	0.8	4	0	4.2	0.9
2006	3.7	0.5	2.9	0.8	3.8	0.8			3.3	0.9
2007	4	0	2.4	0.8	3	0			2.5	0.8
2008			1.4	0.5	1	0			1.3	0.5
Average	**4.3**	**1.1**	**3.7**	**1.6**	**4.3**	**1.4**	**5.0**	**2.2**	**4.1**	**1.3**

COLLEGE DEGREE ATTAINMENT BY HIGH SCHOOL

The following table details the number and types of degrees attained by high school graduates. It is sorted by the highest ratio of college graduates to all high school graduated between 1998 and 2008.

TABLE 5 COLLEGE DEGREE ATTAINMENT BY HIGH SCHOOL

High School	Total Campus Graduates	Number Enrolled Any College	Students with One Degree	Students with Two Degrees	Students with Three Degrees*	Number Enrolled Any College/ Total Campus Graduates	College Graduates/ Number Enrolled Any College	College Graduates/ Total Campus Graduates
TAG Magnet	487	450	165	38	3	92.4%	45.8%	42.3%
Science Magnet	1016	891	230	30	2	87.7%	29.4%	25.8%
Washington (Arts Magnet)	1924	1587	406	65	1	82.5%	29.7%	24.5%
Health Magnet	1409	1205	268	51	1	85.5%	26.6%	22.7%
Law Magnet	1014	845	163	26	1	83.3%	22.5%	18.7%
Education Magnet	572	465	96	9	1	81.3%	22.8%	18.5%
Hillcrest	2823	1814	391	66	2	64.3%	25.3%	16.3%
Business Magnet	1395	1109	194	27	0	79.5%	19.9%	15.8%
White	4393	2834	518	61	4	64.5%	20.6%	13.3%
Wilson	2926	1765	305	32	3	60.3%	19.3%	11.6%
Bryan Adams	4454	2530	414	63	4	56.8%	19.0%	10.8%
Skyline	9522	6424	889	133	6	67.5%	16.0%	10.8%
Carter	4009	2510	335	50	4	62.6%	15.5%	9.7%
Lincoln	2669	1607	197	34	4	60.2%	14.6%	8.8%
Kimball	3119	1722	180	18	2	55.2%	11.6%	6.4%
Jefferson	2732	1211	142	11	0	44.3%	12.6%	5.6%
North Dallas	2878	1392	130	11	0	48.4%	10.1%	4.9%
South Oak Cliff	2817	1456	117	13	1	51.7%	9.0%	4.7%
Manns	153	64	7	0	0	41.8%	10.9%	4.6%
Seagoville	2123	1074	79	16	1	50.6%	8.9%	4.5%
Middle College	360	255	15	1	0	70.8%	6.3%	4.4%
Adamson	2486	1220	102	6	1	49.1%	8.9%	4.4%
Sunset	3705	1837	140	17	1	49.6%	8.6%	4.3%
Roosevelt	1579	765	55	11	1	48.4%	8.8%	4.2%
Spruce	2566	1105	91	10	1	43.1%	9.2%	4.0%
Molina	4098	2195	148	14	0	53.6%	7.4%	4.0%
Smith	1899	910	66	3	0	47.9%	7.6%	3.6%
Madison	1263	593	42	2	0	47.0%	7.4%	3.5%
Pinkston	1525	591	41	10	0	38.8%	8.6%	3.3%
Samuell	2948	1251	89	5	0	42.4%	7.5%	3.2%
Combined**	44	17	1	0	0	38.6%	5.9%	2.3%
Conrad	125	61	0	0	0	48.8%	0.0%	0.0%
Total	**75033**	**43755**	**6016**	**833**	**44**	**58.3%**	**15.8%**	**9.2%**

* One White graduate completed 4 degrees ** Includes Buckner, Evening Academy, Hospital/Homebound, SCGC, and Village Redirec tions

The following figure shows the selectivity rating of colleges attended by district graduates. Selectivity ratings are based on U.S. News and World Report rankings.

FIGURE 7 SELECTIVITY RATING FOR COLLEGES ATTENDED
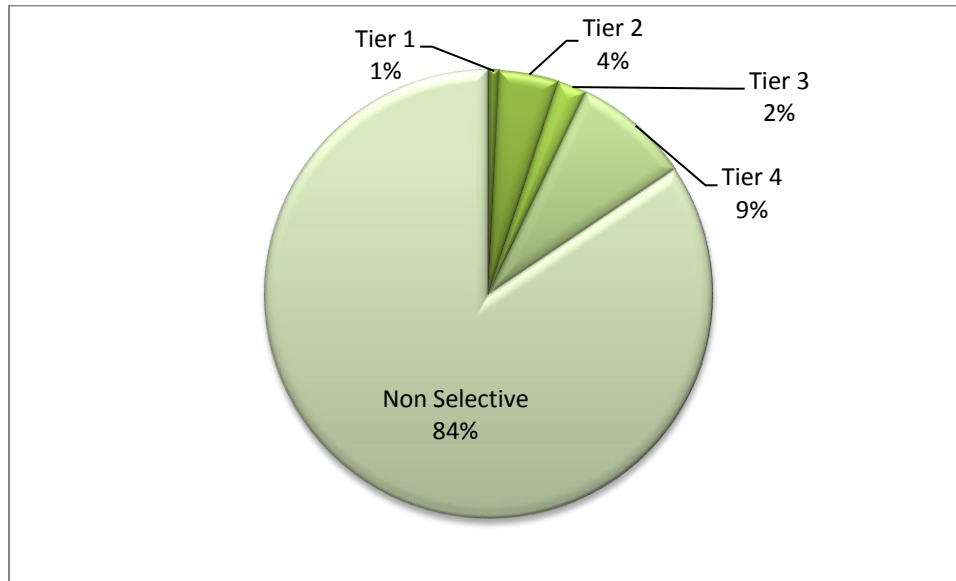
The following tables show which colleges students initially enrolled in and received degrees from. Totals for colleges and universities that enrolled or graduated fewer than 20 students were aggregated. A total of 7,815 degrees was awarded to 6,893 Dallas ISD graduates. Of the 6,893 students who received degrees, 6,016, or 87.3%, were awarded 1 degree; 833, or 12.1%, were awarded 2 degrees; 43, or 0.6%, were awarded 3 degrees; and 1 student was awarded 4 degrees. Appendices B and C show listings of colleges with either initial enrollments or degrees awarded that equal or exceed 20 Dallas ISD graduates.

TABLE 6 INITIAL COLLEGE ENROLLMENT: TOP 30 COLLEGES

College	Initial Enrollment	Percent of Total
Eastfield College, DCCCD	5534	*12.6%*
El Centro College, DCCCD	5312	*12.1%*
Mountain View College, DCCCD	5220	*11.9%*
Brookhaven College, DCCCD	3261	*7.5%*
Cedar Valley College, DCCCD	2654	*6.1%*
Richland College, DCCCD	2298	*5.3%*
Prairie View A&M University	982	*2.2%*
University of Texas at Arlington	866	*2.0%*
University of Texas at Austin	854	*2.0%*
University of North Texas	784	*1.8%*
Texas Woman's University	747	*1.7%*
Texas A&M - Commerce	692	*1.6%*
Texas Southern University	671	*1.5%*
University of Texas at Dallas	579	*1.3%*
Texas A&M University	566	*1.3%*
DeVry University	539	*1.2%*
Navarro College, Corsicana	532	*1.2%*
Southern Methodist University	498	*1.1%*
North Lake College, DCCCD	466	*1.1%*
Stephen F. Austin State University	445	*1.0%*
University of Phoenix	406	*0.9%*
ITT Technical Institute	388	*0.9%*
Collin College	340	*0.8%*
Austin Community College	262	*0.6%*
Baylor University	258	*0.6%*
University of Houston	255	*0.6%*
Tyler Junior College	246	*0.6%*
Langston University, OK	222	*0.5%*
Texas Tech University	193	*0.4%*
North Central Texas College, Corinth	185	*0.4%*
Other Colleges and Universities	7500	*17.1%*
Total Initial Enrollments (1998 to 2009)	**43755**	***100.0%***

TABLE 7 COLLEGES DEGREES AWARDED: TOP 30 COLLEGES

College	Total Degrees Awarded	Percent of Total
University of North Texas	837	*10.7%*
University of Texas at Dallas	545	*7.0%*
University of Texas at Austin	465	*6.0%*
Southern Methodist University	398	*5.1%*
University of Texas at Arlington	356	*4.6%*
Texas A&M - Commerce	339	*4.3%*
Texas Woman's University	336	*4.3%*
Prairie View A&M	332	*4.2%*
Texas A&M University	317	*4.1%*
ITT Technical Institute	171	*2.2%*
Baylor University	141	*1.8%*
Stephen F. Austin State University	118	*1.5%*
University of Houston	113	*1.4%*
Texas Tech University	104	*1.3%*
Texas Southern University	97	*1.2%*
University of Phoenix	97	*1.2%*
Texas State University	95	*1.2%*
Mountain View College, DCCCD	87	*1.1%*
Bryman College/Everest College	87	*1.1%*
Northwood University, Cedar Hill	79	*1.0%*
Dallas Baptist University	66	*0.8%*
Austin College	65	*0.8%*
Sam Houston State University	57	*0.7%*
Richland College, DCCCD	56	*0.7%*
Brookhaven College, DCCCD	53	*0.7%*
Texas Christian University	53	*0.7%*
University of Arkansas - Pine Bluff	52	*0.7%*
Grambling State University, LA	48	*0.6%*
Navarro College, Corsicana	43	*0.6%*
El Centro College, DCCCD	40	*0.5%*
Other Colleges and Universities	2168	*27.7%*
Total Degrees Awarded (1998 to 2009)	**7815**	***100.0%***

The following two figures show the number of degrees earned at two or four year colleges, and public or private institutions. Most degrees earned are four year degrees at public institutions.

FIGURE 6 COLLEGE DEGREES: 2 OR 4 YEAR

Year	4 Year	2 Year
1998	679	226
1999	669	267
2000	683	296
2001	647	315
2002	547	318
2003	612	234
2004	535	240
2005	364	135
2006	48	46
2007	6	20
2008	1	5
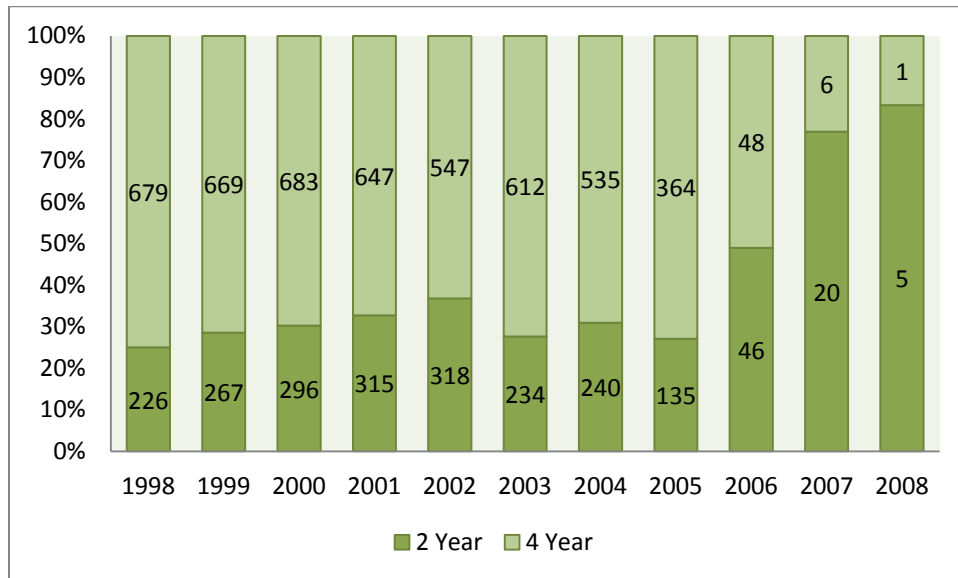
FIGURE 8 COLLEGE DEGREES: PUBLIC OR PRIVATE

Year	Private	Public
1998	261	644
1999	277	659
2000	255	724
2001	245	717
2002	236	629
2003	221	625
2004	230	545
2005	186	313
2006	25	69
2007	6	20
2008	0	6
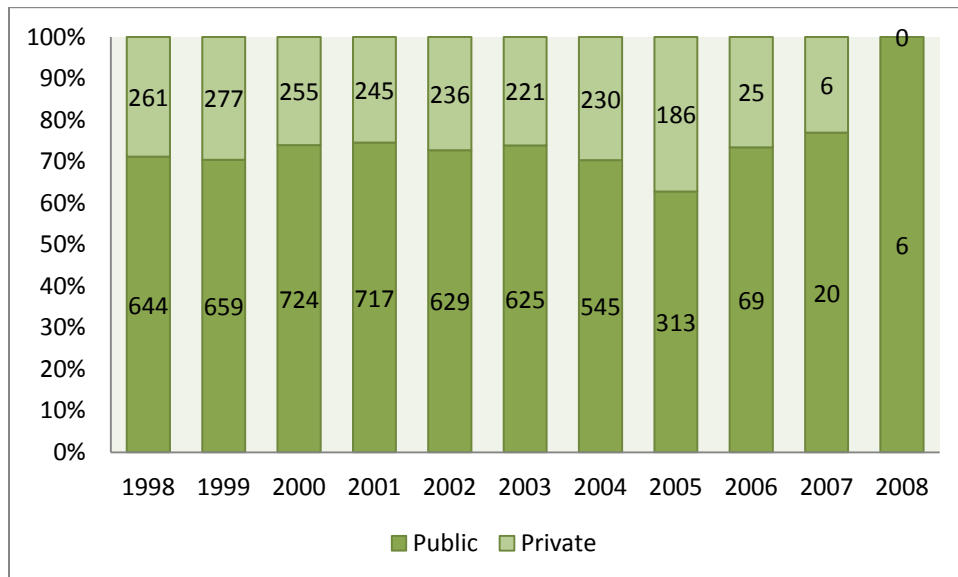
What Are the College Enrollment Patterns of Dallas ISD Graduates?

Current College Enrollment

The following section shows college enrollment patterns for Dallas ISD graduates. The figure below shows

Dallas ISD students enrolled in fall 2009 in at least one college course. Note the tendency for college enrollment to

decrease over time as students either graduate from or cease enrollment in college.

FIGURE 9 FALL 2009 COLLEGE ENROLLMENT STATUS

Year	Not Enrolled Fall 2009	Enrolled Fall 2009	College Grad/Not Enrolled
2009	3202	3250	0
2008	3525	2840	6
2007	3635	2211	26
2006	4270	1976	94
2005	4953	1340	499
2004	5268	1024	775
2003	5037	796	846
2002	5003	641	865
2001	4586	447	962
2000	4457	381	979
1999	4208	352	936
1998	4450	288	905
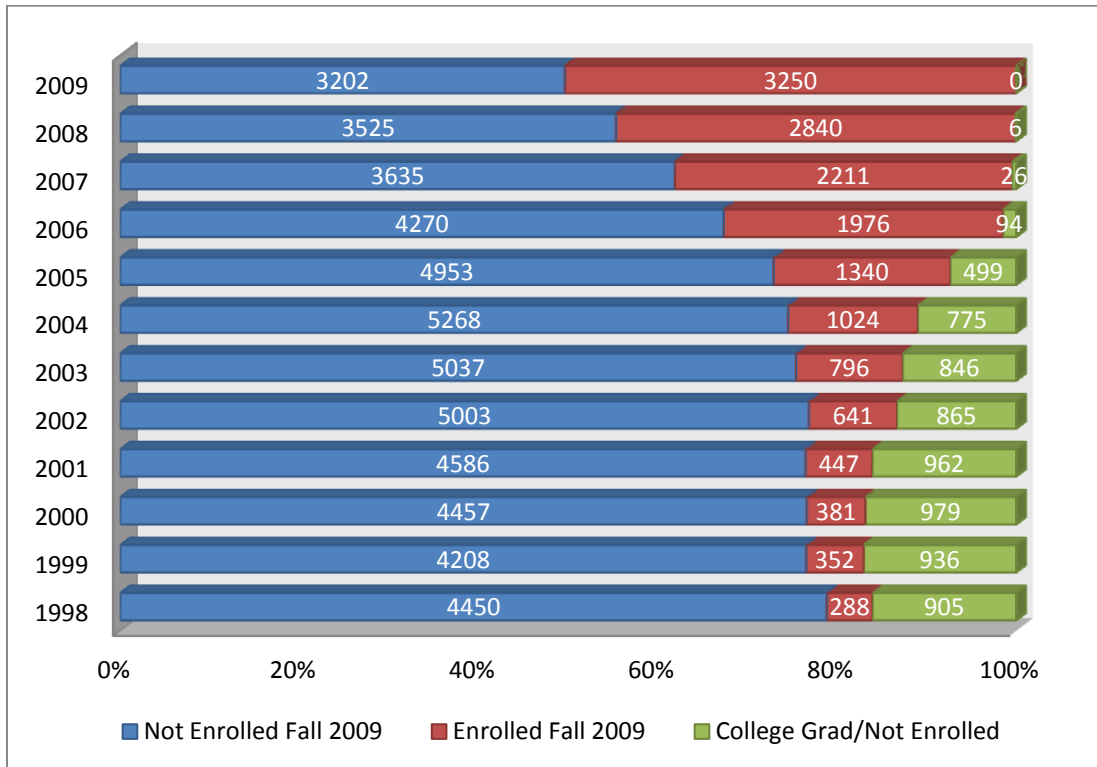
FULL- AND PART-TIME STATUS

The following two figures show full- and part-time enrollment status for all Dallas ISD students (enrolled in college from 1998 and 2008 and within two years of high school graduation). Figure 11 shows a slight decrease in full-time enrollment from 62.6% to 58.4% and a corresponding increase in part-time enrollment from 4.2% to 6%.

FIGURE 10 ENROLLMENT STATUS: FULL- OR PART-TIME
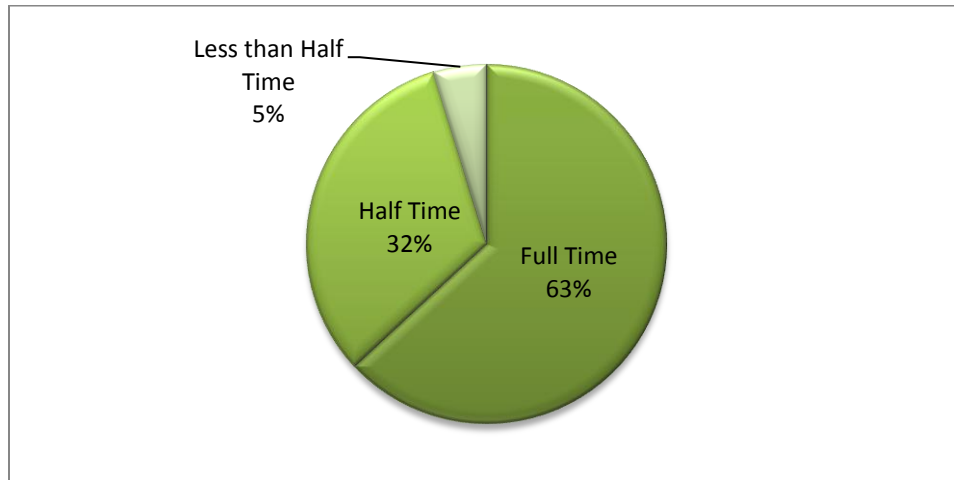
FIGURE 11 ENROLLMENT STATUS: FULL- OR PART-TIME BY YEAR

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Full Time	62.6%	62.3%	65.3%	66.9%	65.2%	65.4%	64.7%	59.6%	60.7%	58.4%
Half Time	33.3%	33.6%	31.3%	28.9%	30.5%	30.7%	30.1%	34.6%	33.4%	35.6%
Less than Half Time	4.2%	4.1%	3.3%	4.2%	4.4%	3.9%	5.3%	5.8%	5.9%	6.0%
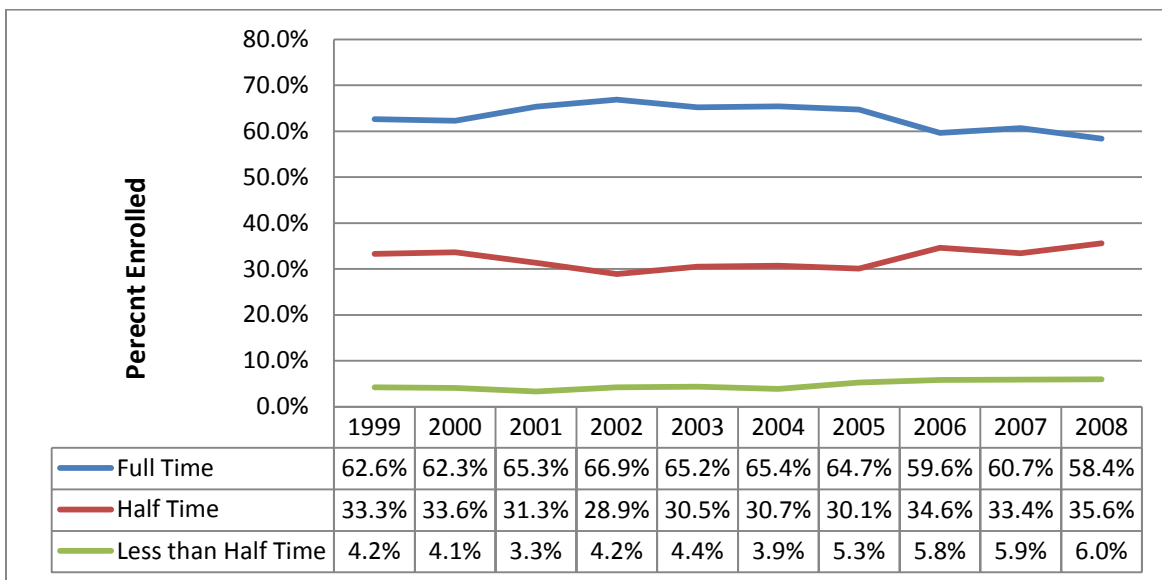
TIMING OF COLLEGE ENROLLMENT

The figure below shows Dallas ISD graduates' timing of college enrollment within two years of high school graduation. The relative increases in college enrollment follow a consistent pattern for high school graduates from 2000 through 2008.

FIGURE 12 TIMING OF COLLEGE ENROLLMENT WITHIN TWO YEARS OF HIGH SCHOOL GRADUATION

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Enroll Fall After High School	806	1747	2070	2131	2095	2572	2445	2273	2104	2430
Enroll within I Year of High School	900	2168	2467	2589	2519	3037	2840	2634	2557	2853
Enroll within 2 Years of High School	1972	2616	2909	2937	2983	3419	3181	3042	2928	3310
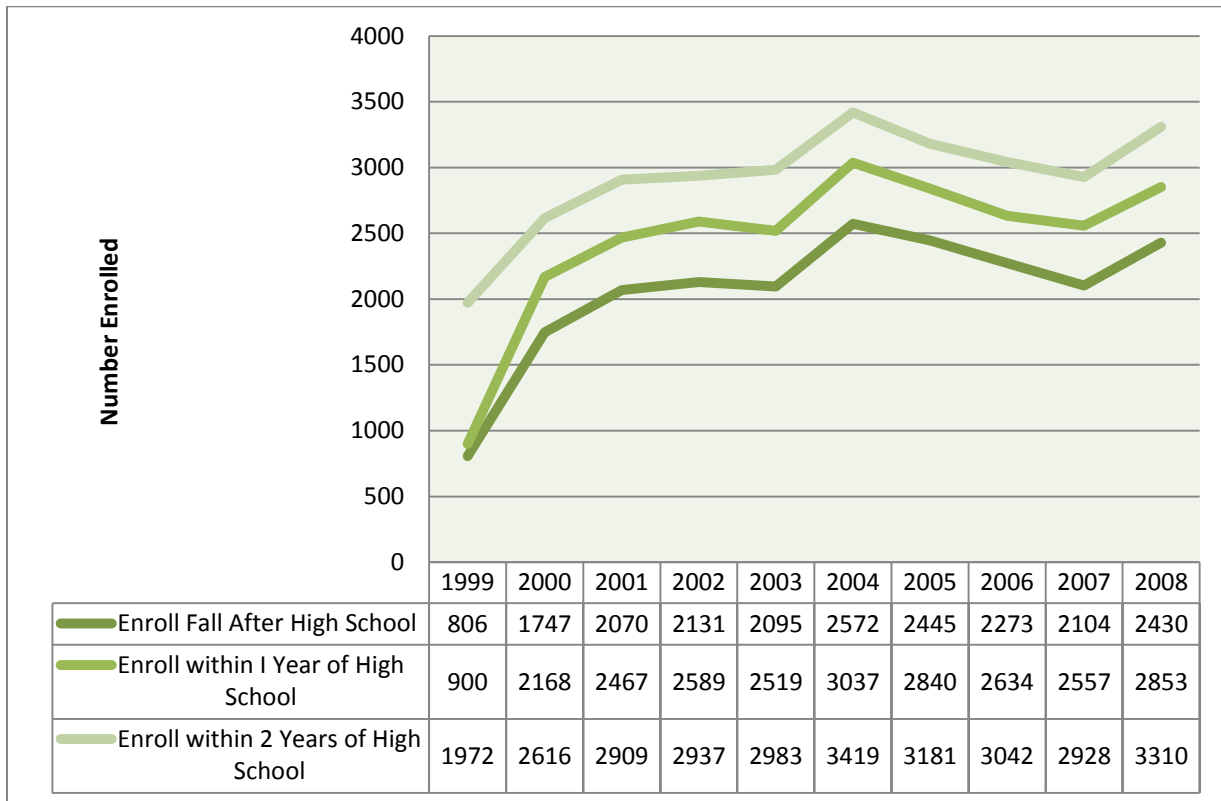
FRESHMAN TO SOPHOMORE RETENTION

The figure below shows November 2010 NSC data for the percent of students enrolled in college the first year after high school who returned for a second year by institution type; the second year is not necessarily consecutive to the first year. The average freshman to sophomore retention rate is 74%.

FIGURE 13 FRESHMAN TO SOPHOMORE RETENTION RATE
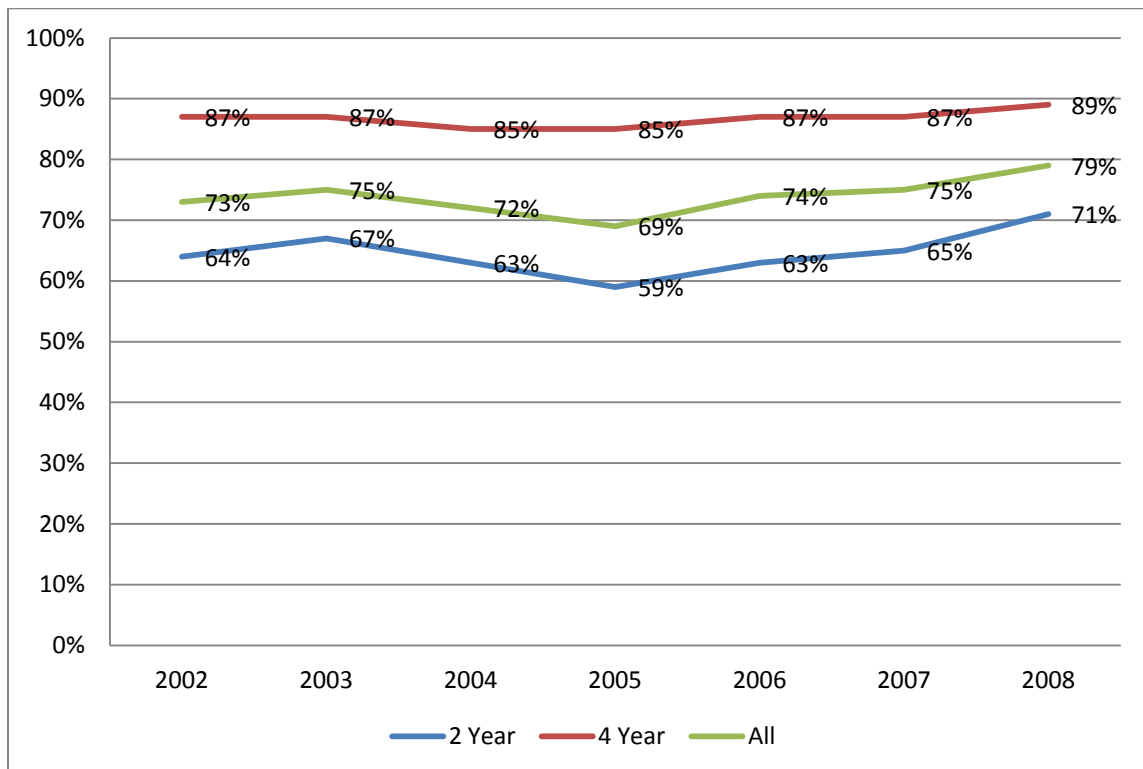
COMPARISON OF INITIAL ENROLLMENT

The data revealed a significant difference between the initial enrollment patterns of all students who enrolled in college and of those who eventually graduated from college. The figure below shows that a greater number of college graduates initially enrolled in four-year colleges.

FIGURE 14 INITIAL ENROLLMENT: ALL AND COLLEGE GRADUATES
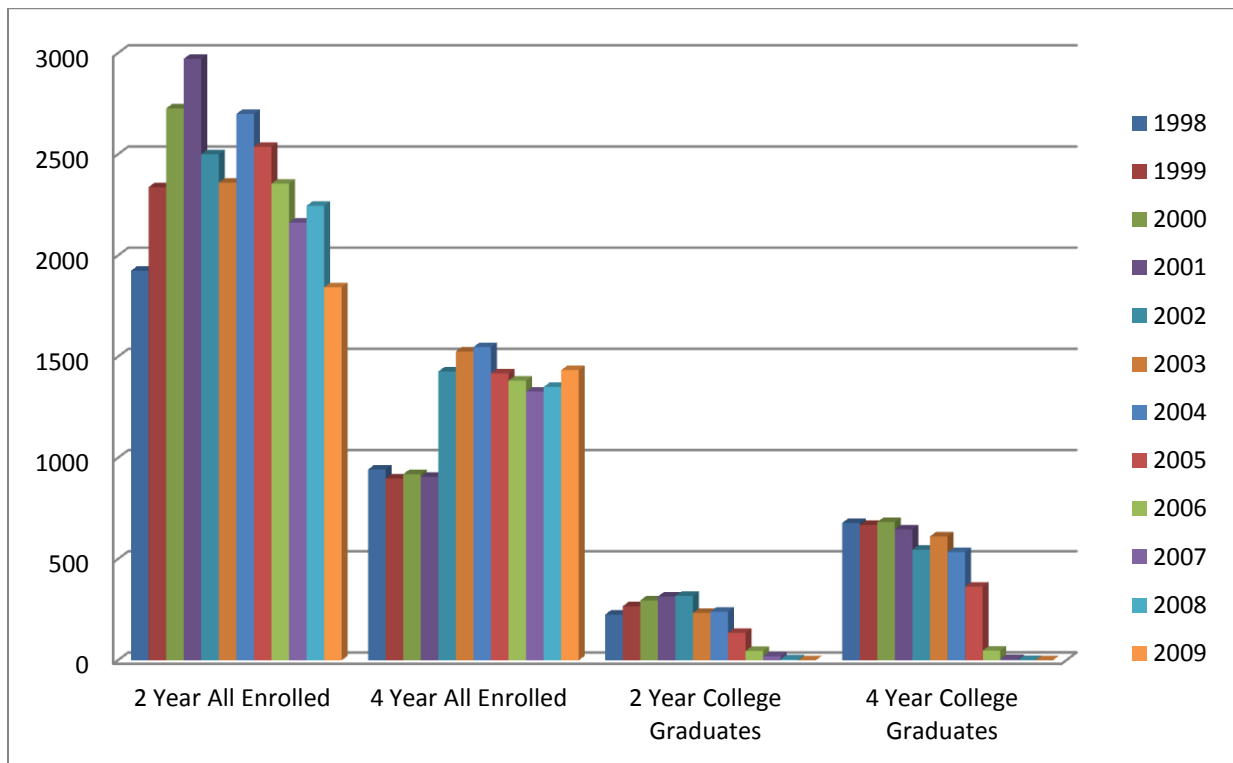
What Are the Characteristics of Dallas ISD Graduates Who Attend College?

Regression analysis showed certain student characteristics to be significantly related to subsequent college success. This section shows those significant variables: the age at high school graduation; AP course taking analysis; ACT and SAT exam analysis; ethnicity; gender; and LEP and socioeconomic status of all Dallas ISD high school graduates from 1998 to 2009. The figures compare the number and percent of high school graduates who enrolled in and graduated from college.

Age at High School Graduation

The table below shows the average age of students at their high school graduation and their college enrollment status. The maximum high school graduation age of college graduates is the youngest of all categories.

TABLE 8 AGE AT HIGH SCHOOL GRADUATION

Did Not Enroll in College				
Number of Students	Mean Age at High School Graduation	Standard Deviation	Minimum Age	Maximum Age
31278	18.7	0.9	16	26
Enrolled in College				
Number of Students	Mean Age at High School Graduation	Standard Deviation	Minimum Age	Maximum Age
43755	18.4	0.6	15	25
Graduated from College				
Number of Students	Mean Age at High School Graduation	Standard Deviation	Minimum Age	Maximum Age
6893	18.4	0.6	16	23

29

ADVANCED PLACEMENT EXAM ANALYSIS

The relationship between students taking Advance Placement (AP) exams and college enrollment and completion was found to be significant. The figure and table below show the increase in the number of Dallas ISD students taking AP exams and a reduction in the students' exam pass rate. This pattern of an increasing number of students taking AP exams and resultant lower pass rates follows national trends.

FIGURE 15 ADVANCED PLACEMENT EXAMS TAKEN AND PASSED

	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09
Number of AP Exams Taken	5070	6535	7546	8195	9366	9414	9345	5909
Number of AP Exams Passed	1778	2144	2242	2441	2886	2756	2417	1507
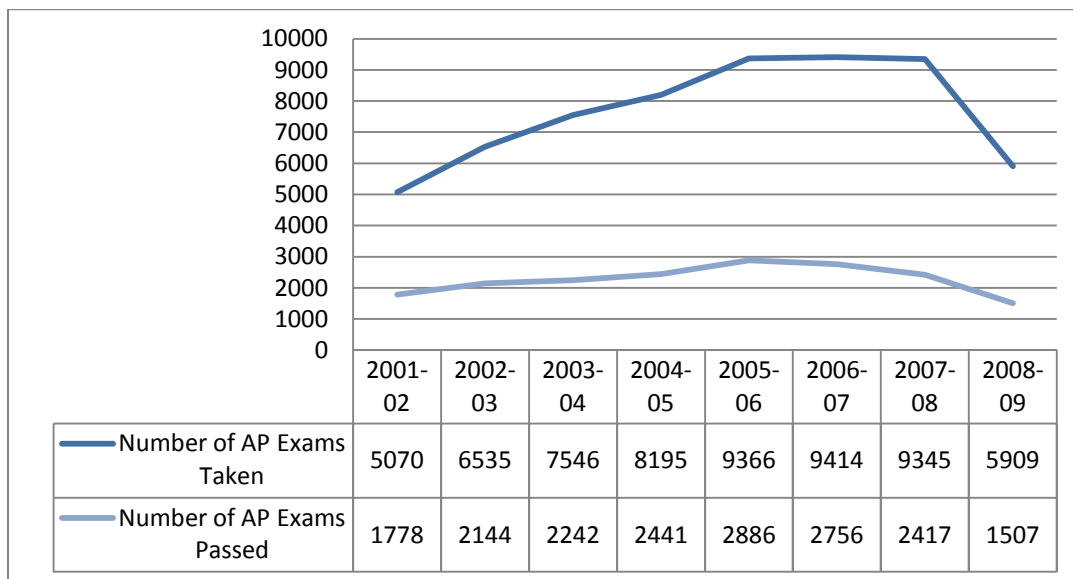
TABLE 9 ADVANCED PLACEMENT ANALYSIS

School Year	Students Taking AP Exams	Number of AP Exams Taken	Number of AP Exams Passed	AP Exam Pass Rate (%)	Mean Number of AP Exams Per Student
2001-02	1144	5070	1778	*35.1%*	4.43
2002-03	1657	6535	2144	*32.8%*	3.94
2003-04	2067	7546	2242	*29.7%*	3.65
2004-05	2114	8195	2441	*29.8%*	3.88
2005-06	2327	9366	2886	*30.8%*	4.02
2006-07	2310	9414	2756	*29.3%*	4.08
2007-08	2724	9345	2417	*25.9%*	3.43
2008-09	2810	5909	1507	*25.5%*	2.10

ACT AND SAT EXAM ANALYSIS

Regression analysis indicated a significant relationship between students who took ACT and SAT exams and future college enrollment and graduation. The figures below examine mean exam scores for the ACT composite and SAT verbal and math exams.

FIGURE 16 ACT COMPOSITE SCORE ANALYSIS
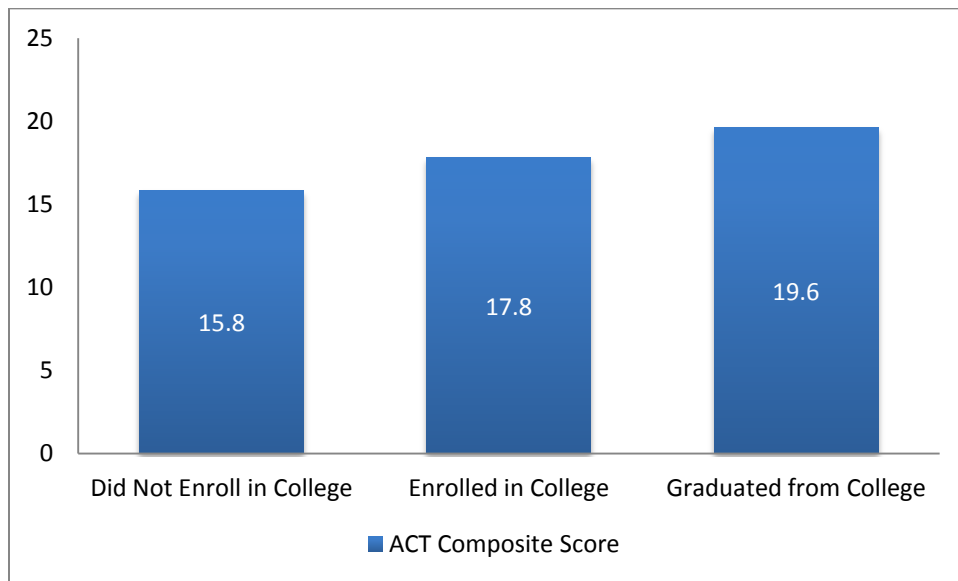
FIGURE 17 SAT SCORE ANALYSIS
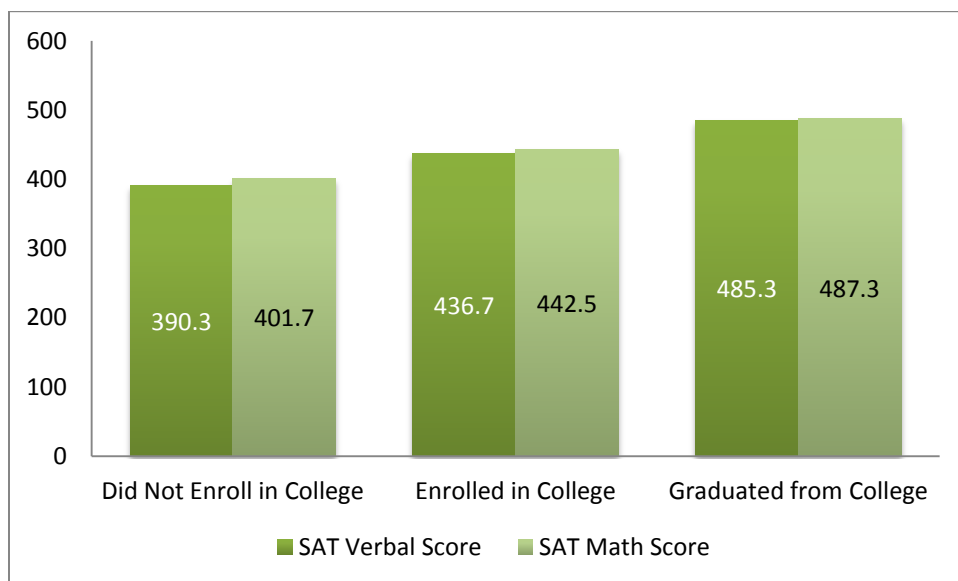
As illustrated below, with regard to race and ethnicity a smaller percentage of Hispanics enroll in and graduate from college as compared to other groups. African American students complete a higher percentage of four year and graduate/professional degrees; Hispanic students complete a higher percentage of two year degrees (although 67.8% of Hispanic students complete a 4 year degree). A greater percentage of Asian students graduated from college (24.9%), as compared to White (22.8%), African American (9.5%), American Indian (8.2%), and Hispanic (5.2%) students

FIGURE 18 RACE AND ETHNICITY ANALYSIS

	Hispanic	African American	White	Asian	American Indian
Total HS Grads	34627	31090	7584	1337	280
No College	16669	11958	2149	330	107
Enroll College	17958	19132	5435	1007	173
Graduate College	1828	2975	1731	333	23
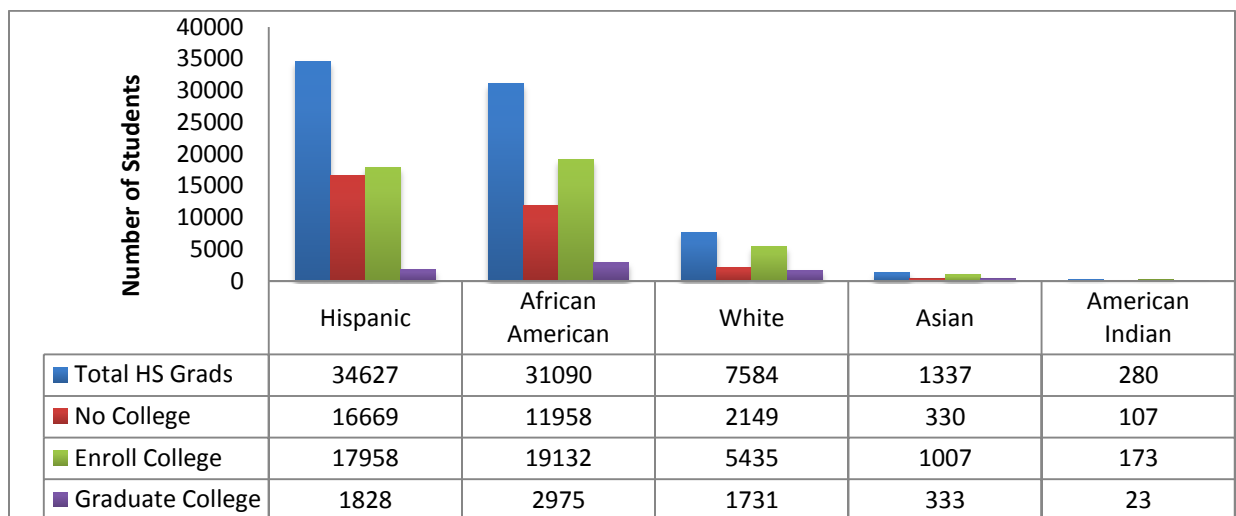
FIGURE 19 HIGHEST COLLEGE DEGREE ATTAINMENT BY RACE AND ETHNICITY

32
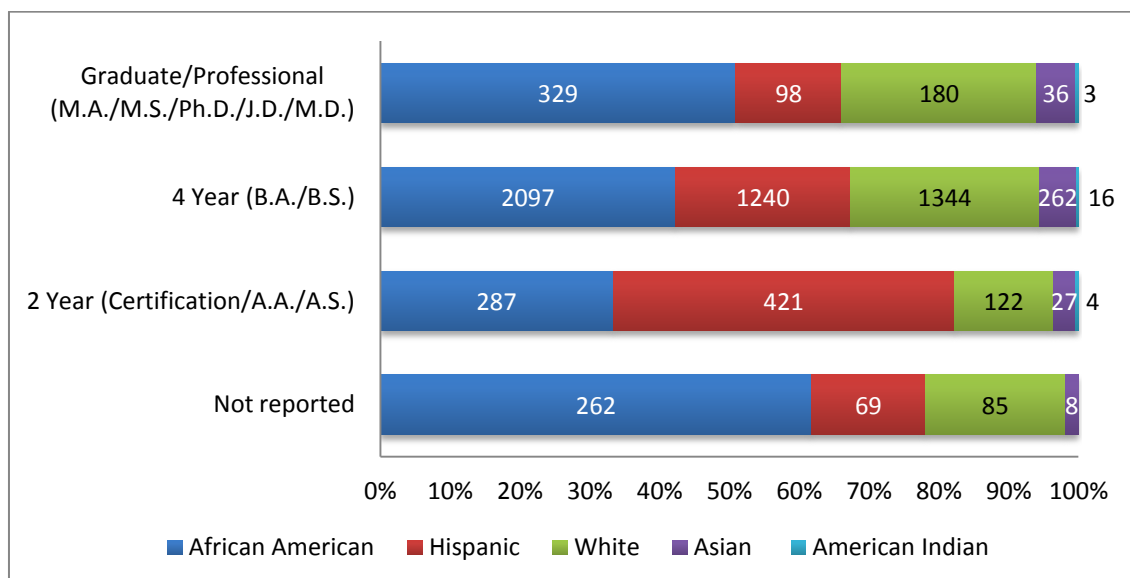
GENDER

Females comprise 54.8% of all Dallas ISD high school graduates from 1998 to 2009, and 64.3% of all college graduates. A larger percent of females enroll in college (60.4%) as compared to males (55.8%), and graduate from college (10.8%) as compared to males (7.2%).

FIGURE 20 GENDER ANALYSIS

	Female	Male
Total HS Grads	41062	33859
No College	16250	14963
Enroll College	24812	18896
Graduate Collge	4432	2461
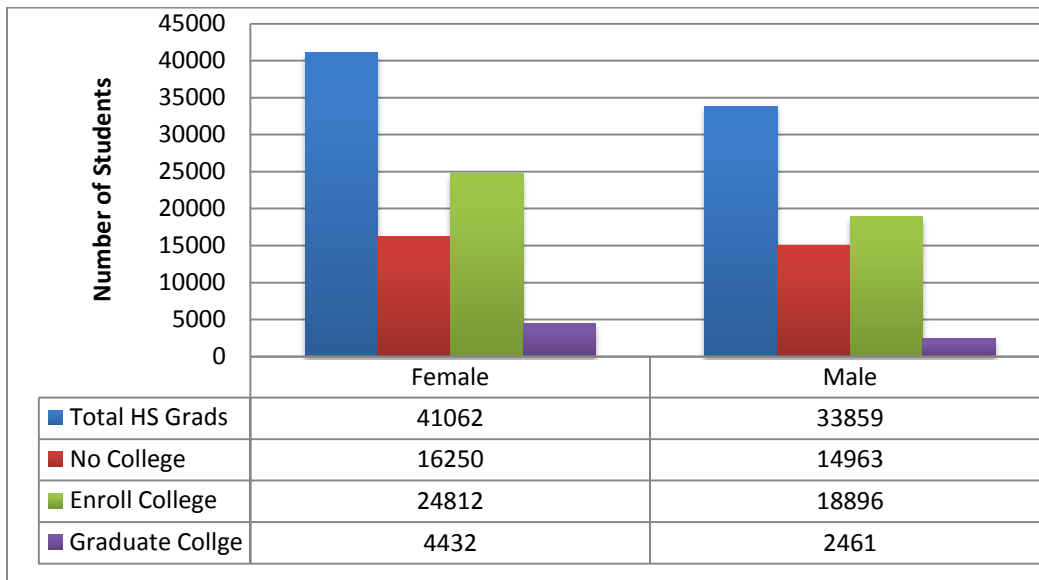
FIGURE 21 HIGHEST COLLEGE DEGREE ATTAINMENT BY GENDER

	Female	Male
Graduate/Professional (M.A./M.S./Ph.D./J.D./M.D.)	445	202
4 Year (B.A./B.S.)	3249	1711
2 Year (Certification/A.A./A.S.)	475	387
Not reported	263	161

33
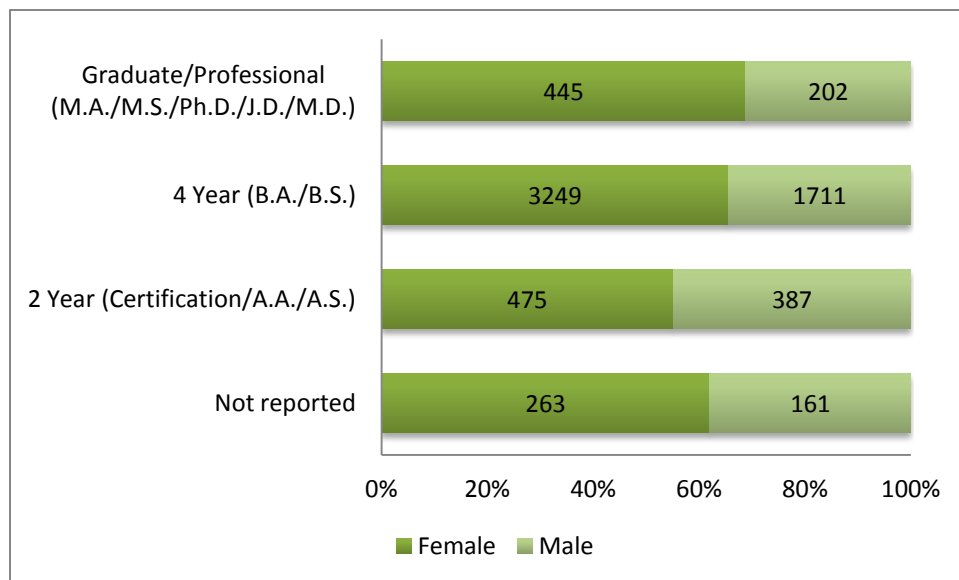
LIMITED ENGLISH PROFICIENCY STATUS

One third of all Dallas ISD students (grades K-12) during this period were characterized as LEP. Students who were characterized as LEP at high school graduation (7,885) account for 10.5% of all Dallas ISD graduates. Of the 305 LEP college graduates, 63.3% completed 4 year degrees.

FIGURE 22 LEP STATUS ANALYSIS

	Non-LEP	Exited LEP	LEP
Total HS Grads	47424	19724	7885
No College	17715	8609	4954
Enroll College	29709	11115	2931
Graduate College	5417	1171	305
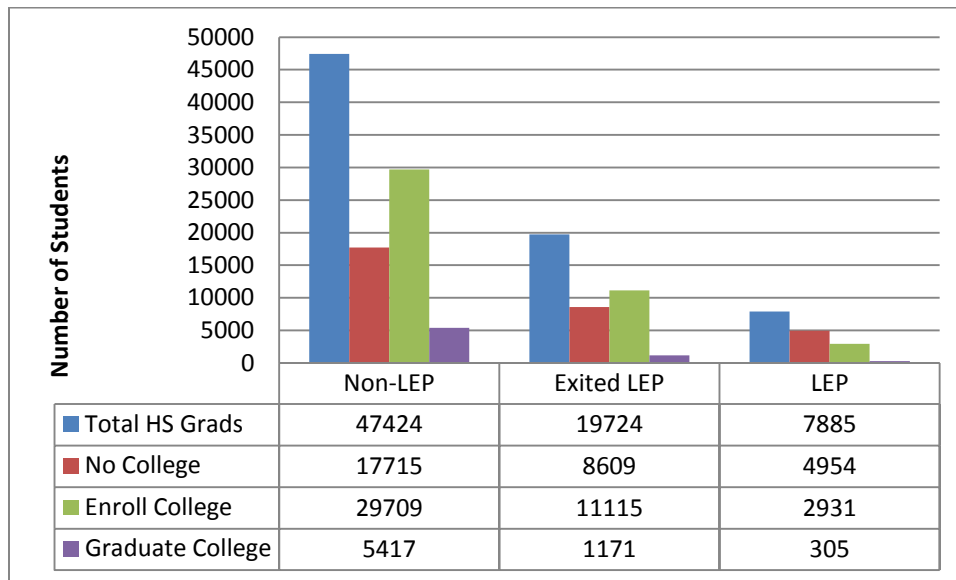
FIGURE 23 HIGHEST COLLEGE DEGREE ATTAINMENT BY LEP STATUS

34
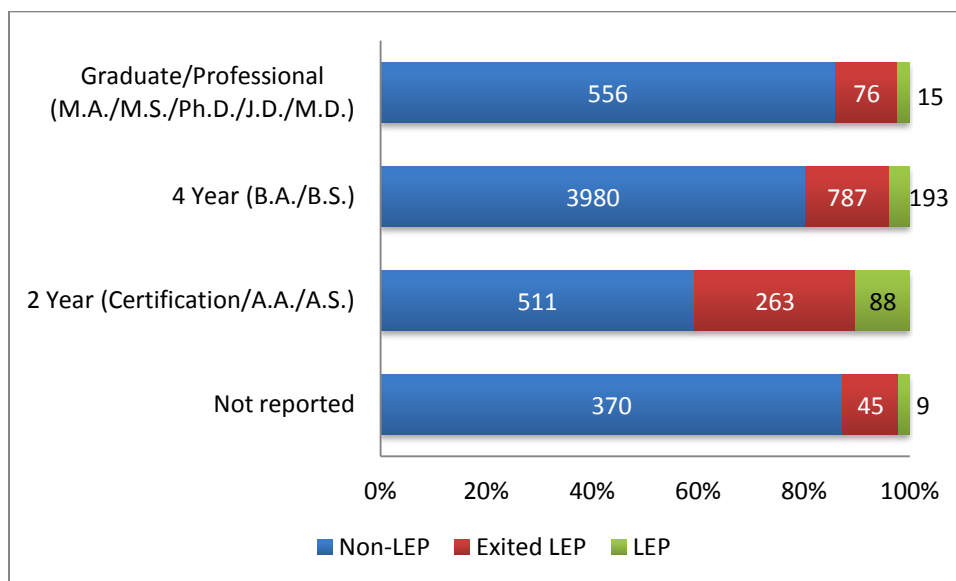
SOCIOECONOMIC STATUS

More than 80 percent of all Dallas ISD students (K-12) are characterized as having low socioeconomic status. Of the 75,033 high school graduates from 1998 to 2009, 35,859 students or 47.8% were characterized as having low socioeconomic status. Of the 2,023 low SES college graduates, 68.4% completed 4 year degrees.

FIGURE 24 SOCIOECONOMIC STATUS ANALYSIS

	Low SES	Not Low SES
Total HS Grads	35859	38811
No College	16442	14660
Enroll College	19417	24151
Graduate College	2023	4834
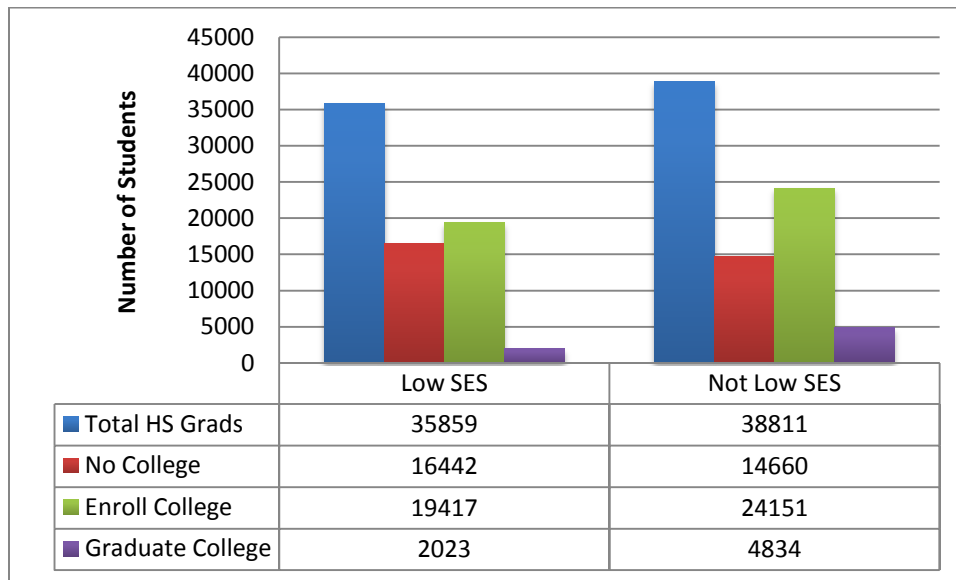
FIGURE 25 HIGHEST COLLEGE DEGREE ATTAINMENT BY SOCIOECONOMIC STATUS
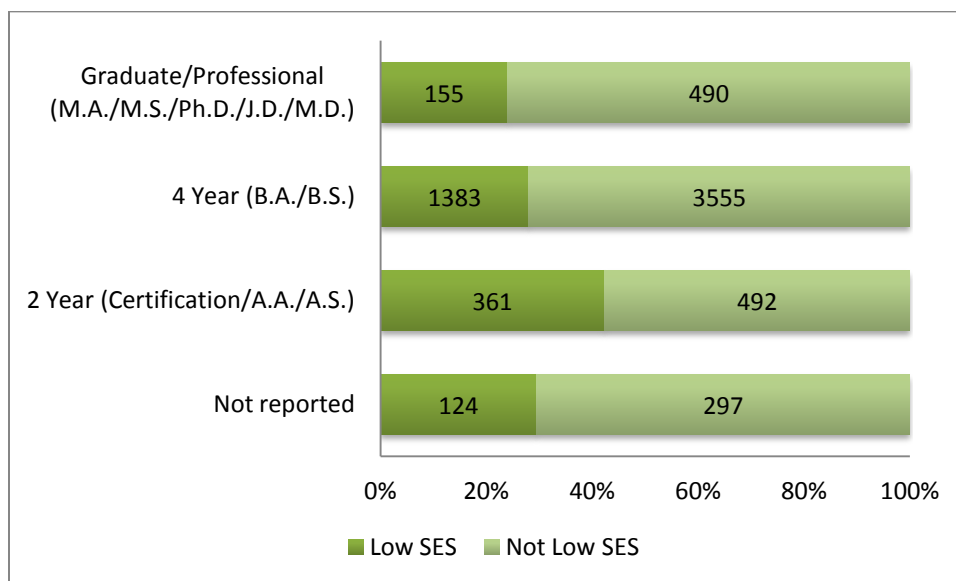
What Did the Statistical Analyses Reveal as Significant Indicators?

This section contains results of logistic regression analyses for 1998 to 2009 Dallas ISD graduates who enrolled in college, and college graduates (1998 to 2003)[2].   The dependent variables of college enrollment and graduation were regressed on the independent variables (see Appendix A for independent variables). Three sets of logistic regression analyses were conducted: for all enrolled or college graduated students, and also for those who had ACT composite or SAT verbal and math scores so that those students who did not take either or only one SAT or ACT exam would not be excluded.

Significant Variables for Dallas ISD Students Enrolled in College

A positive regression coefficient means that the explanatory variable increases the probability of the outcome, while a negative regression coefficient means that the variable decreases the probability of the outcome (p < .05).

ALL ENROLLED GRADUATES

Of all Dallas ISD graduates enrolled in college the following variables were significant with <u>positive</u> regression coefficients:

- African American
- Asian
- Recommended or Distinguished graduation plan
- Senior Year GPA
- Attend magnet school
- Enrolled in AP courses

The following variables were significant with <u>negative</u> regression coefficients:

- Hispanic and Hispanic female
- American Indian female
- LEP
- Low SES
- Age at graduation

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[2] The years 1998 to 2003 were selected due to the average years to graduate (4.9 years) and standard deviation (1.7 years) for that time period.

<u>ALL ENROLLED GRADUATES WITH SAT SCORES</u>

Of Dallas ISD graduates with SAT scores the following variables were significant with <u>positive</u> regression coefficients:

- African American
- Attend magnet school
- Senior Year GPA
- Enrolled in AP courses
- SAT verbal and math scores

The following variables were significant with <u>negative</u> regression coefficients:

- LEP
- Low SES
- Age at graduation

<u>ALL ENROLLED GRADUATES WITH ACT SCORES</u>

Of Dallas ISD graduates with ACT scores the following variables were significant with <u>positive</u> regression coefficients:

- African American
- Attend magnet school
- Senior Year GPA
- Enrolled in AP courses
- ACT composite scores

The following variables were significant with <u>negative</u> regression coefficients:

- LEP
- Low SES
- Age at graduation

SIGNIFICANT VARIABLES FOR DALLAS ISD STUDENTS GRADUATED FROM COLLEGE

A positive regression coefficient means that the explanatory variable increases the probability of the outcome, while a negative regression coefficient means that the variable decreases the probability of the outcome ($p < .05$).

<u>ALL COLLEGE GRADUATES</u>

Of all Dallas ISD graduates who graduated from college the following variables were significant with <u>positive</u> regression coefficients:

- Hispanic female
- Distinguished graduation plan
- Enrolled in talented and gifted program
- Attend magnet school
- Senior Year GPA
- Enrolled in AP courses

The following variables were significant with <u>negative</u> regression coefficients:

- African American
- Hispanic
- LEP
- Low SES
- Recommended graduation program

ALL COLLEGE GRADUATES WITH SAT SCORES

Of Dallas ISD college graduates with SAT scores the following variables were significant with <u>positive</u> regression coefficients:

- Distinguished graduation plan
- Enrolled in talented and gifted program
- Enrolled in magnet school
- Senior Year GPA
- SAT verbal and math scores

The following variables were significant with <u>negative</u> regression coefficients:

- Hispanic
- Low SES

ALL COLLEGE GRADUATES WITH ACT SCORES

Of Dallas ISD college graduates with ACT scores the following variables were significant with <u>positive</u> regression coefficients:

- Enrolled in talented and gifted program
- Enrolled in magnet school
- Senior Year GPA
- ACT composite score

The following variables were significant with <u>negative</u> regression coefficients:

- Hispanic
- Low SES

DISCUSSION

The goal of this study was to evaluate potential early indicators of future college success to determine actionable responses by Dallas ISD administrators and teachers. The study revealed very strong relationships between rigorous secondary academic achievement—through participation in Recognized and Distinguished graduation plans, Advanced Placement courses, SAT or SAT exams, and magnet courses—and future college success. Secondary students' decisions to pursue rigorous academic work are dependent upon their previous achievement and the recommendations of those who advise them. Through implementation of Dallas Achieves Commission recommendations the district focused on increasing academic rigor, and this report supports the continuation of this emphasis.

While considerable light has been shed on college-going patterns of Dallas ISD graduates with this study, additional research could reveal significant information to improve students' academic performance. The current study does not include variables not measured for all students before 2009, but that are explicit in the CRMM. The following list of information would improve the district's knowledge of its effectiveness to achieve its mission:

- Search Institute Developmental Assets Profile (DAP) scores to measure Physical, Social and Emotional Well-Being. Search Institute measures are: (Category View) Support, Empowerment, Boundaries and Expectations, Constructive use of time, Commitment to learning, Positive values, Social competencies, Positive identity; and (Context View) Personal, Social, Family, School, and Community;
- Secondary student survey answers as proxies for key cognitive strategies, academic behaviors, and college context skills and awareness;
- Teacher survey answers as proxies for student key cognitive strategies;
- Teacher surveys coordinated with DAP inventory information;
- Analysis of student secondary course taking patterns;
- Counseling department information on college admission/enrollment indicators, including FAFSA preparation while still in high school (newly available to Dallas ISD directly from the College Board in 2010); and

▪ Information from the Texas Workforce Commission and the U.S. military related to former Dallas ISD students.

An area for further investigation is the lower percentage of enrollment in and graduation from college by Dallas ISD Hispanic students, as compared to other ethnicities during the period of this study. Influential factors may include first generation college barriers (lower levels of college context skills and awareness) and language barriers.

Dr. David Conley advised the district to concentrate on building and/or deepening relationships with higher education institutions that its graduates attend. Because 66% of Dallas ISD graduates initially enroll in Dallas County Community College District (DCCCD) colleges, the district has negotiated a data sharing agreement with DCCCD. This will allow the Dallas ISD and the DCCCD to share information on concurrently and formerly enrolled students. Agreements like this with the Texas Higher Education Coordinating Board, the Texas Workforce Commission, and the military, for example, would yield valuable information on Dallas ISD graduates.

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APPENDIX A THE METHODS AND PROCEDURES

METHODS

Data from Dallas ISD databases were merged with data from the NSC from 1998 to 2009, and analyzed using SPSS. To answer the research questions, descriptive, correlation, and logistic regression analyses of high school graduates who attend, persist, and graduate from college were conducted.

INDEPENDENT VARIABLES

The independent variables in this study are associated with 75,033 Dallas ISD students who graduated from high school between 1998 and 2009. The student-level variables include high school graduation school and year, gender, race and ethnicity, age at high school graduation, social economic status (SES) status (based on U.S. Department of Agriculture criteria for receipt of free or reduced lunch), Limited English Proficiency (LEP) status, Special Education (SPED) status, talented and gifted (TAG) status, graduation plan (Minimum, Recommended, or Distinguished), grade point average at high school graduation, number of Advanced Placement (AP) exams, and ACT (from 1998) and SAT (from 2001) exam scores. The source for student-level variables is the dw_students (deltademo) file from the Dallas ISD Evaluation & Accountability department.

DEPENDENT VARIABLES

The dependent variables are measures of college success. This study includes the following dependent variables: college enrollment, attendance within one and two years of high school graduation, and completion of a college degree by Dallas ISD high school graduates from 1998 to 2009. The National Student Clearinghouse (NSC) data files from 1998 through fall 2009 were used.

APPENDIX B LISTING OF COLLEGES INITIAL ENROLLMENT (N>20)

College	Initial Enrollment	Percent of Total
Eastfield College, DCCCD	5534	12.6%
El Centro College, DCCCD	5312	12.1%
Mountain View College, DCCCD	5220	11.9%
Brookhaven College, DCCCD	3261	7.5%
Cedar Valley College, DCCCD	2654	6.1%
Richland College, DCCCD	2298	5.3%
Prairie View A&M University	982	2.2%
University of Texas at Arlington	866	2.0%
University of Texas at Austin	854	2.0%
University of North Texas	784	1.8%
Texas Woman's University	747	1.7%
Texas A&M – Commerce	692	1.6%
Texas Southern University	671	1.5%
University of Texas at Dallas	579	1.3%
Texas A&M University	566	1.3%
DeVry University	539	1.2%
Navarro College, Corsicana	532	1.2%
Southern Methodist University	498	1.1%
North Lake College, DCCCD	466	1.1%
Stephen F. Austin State University	445	1.0%
University of Phoenix	406	0.9%
ITT Technical Institute	388	0.9%
Collin College	340	0.8%
Austin Community College	262	0.6%
Baylor University	258	0.6%
University of Houston	255	0.6%
Tyler Junior College	246	0.6%
Langston University, OK	222	0.5%
Texas Tech University	193	0.4%
North Central Texas College, Corinth	185	0.4%
Grambling State University, LA	177	0.4%
Northwood University, Cedar Hill	174	0.4%
Midwestern State University, Wichita Falls	150	0.3%
Bryman College/Everest College	148	0.3%
Dallas Baptist University	143	0.3%
Central Texas College, Killeen	126	0.3%

Sam Houston State University	121	*0.3%*
Texas State University	121	*0.3%*
University of Arkansas - Pine Bluff	118	*0.3%*
Austin College	101	*0.2%*
University of Texas at San Antonio	101	*0.2%*
Tarrant County Community Colleges	98	*0.2%*
Dillard University, LA	89	*0.2%*
Texas Christian University	86	*0.2%*
Ashford University	85	*0.2%*
Blinn College	85	*0.2%*
Houston Community College	83	*0.2%*
Huston-Tillotson University, Austin	82	*0.2%*
Texas State Technical College, Waco	72	*0.2%*
Abilene Christian University	68	*0.2%*
Florida A&M University	63	*0.1%*
Clark Atlanta University, GA	61	*0.1%*
Kilgore College	59	*0.1%*
Howard University, D.C.	54	*0.1%*
Angelo State University, San Angelo	53	*0.1%*
Cisco College	53	*0.1%*
Our Lady of the Lake University, San Antonio	50	*0.1%*
Lamar University, Beaumont	49	*0.1%*
Wiley College, Marshall	48	*0.1%*
Tarleton State University	47	*0.1%*
New York University	43	*0.1%*
University of Kansas	42	*0.1%*
Rice University	41	*0.1%*
Southern University, LA	38	*0.1%*
Lone Star College	37	*0.1%*
McMurry University, Abilene	35	*0.1%*
Morehouse College, GA	35	*0.1%*
St. Edward's University, Austin	35	*0.1%*
Alcorn State University, MS	33	*0.1%*
Jackson State University, MS	33	*0.1%*
Paris Junior College	31	*0.1%*
Southwestern University, Georgetown	31	*0.1%*
St. Mary's University, San Antonio	31	*0.1%*
University of Tulsa. OK	28	*0.1%*
Howard Payne University, Brownwood	27	*0.1%*
University of Arkansas - Fayetteville	27	*0.1%*

Louisiana State University	26	*0.1%*
Texas A&M - Corpus Christi	26	*0.1%*
East Texas Baptist University, Marshall	25	*0.1%*
Oklahoma State University	25	*0.1%*
Southern Arkansas University, Magnolia	25	*0.1%*
University of Texas at Tyler	25	*0.1%*
West Texas A&M University, Canyon	25	*0.1%*
Argosy University	24	*0.1%*
Capella University	24	*0.1%*
Clarendon College	24	*0.1%*
Coastline Community College, CA	24	*0.1%*
Community College of the Air Force	24	*0.1%*
Johnson and Wales University	24	*0.1%*
Stanford University	24	*0.1%*
University of Maryland	24	*0.1%*
Hendrix College, AK	23	*0.1%*
Philander Smith College, AK	23	*0.1%*
Boston University	22	*0.1%*
McLennan Community College, Waco	22	*0.1%*
South Plains College, Levelland	22	*0.1%*
Texas A&M - Galveston	22	*0.1%*
Barton Community College, KS	21	*0.0%*
Kansas State University	21	*0.0%*
Southwestern Assemblies of God University, Waxahachie	21	*0.0%*
Miami Dade College, FL	20	*0.0%*
San Antonio College	20	*0.0%*
Other Colleges and Universities	3582	*8.2%*
Total Initial Enrollments	**43755**	***100.0%***

APPENDIX C LISTING OF COLLEGES DEGREES AWARDED (N>20)

College	Total Degrees Awarded	Percent of Total
University of North Texas	837	10.7%
University of Texas at Dallas	545	7.0%
University of Texas at Austin	465	6.0%
Southern Methodist University	398	5.1%
University of Texas at Arlington	356	4.6%
Texas A&M - Commerce	339	4.3%
Texas Woman's University	336	4.3%
Prairie View A&M	332	4.2%
Texas A&M University	317	4.1%
ITT Technical Institute	171	2.2%
Baylor University	141	1.8%
Stephen F. Austin State University	118	1.5%
University of Houston	113	1.4%
Texas Tech University	104	1.3%
Texas Southern University	97	1.2%
University of Phoenix	97	1.2%
Texas State University	95	1.2%
Mountain View College, DCCCD	87	1.1%
Bryman College/Everest College	87	1.1%
Northwood University, Cedar Hill	79	1.0%
Dallas Baptist University	66	0.8%
Austin College	65	0.8%
Sam Houston State University	57	0.7%
Richland College, DCCCD	56	0.7%
Brookhaven College, DCCCD	53	0.7%
Texas Christian University	53	0.7%
University of Arkansas - Pine Bluff	52	0.7%
Grambling State University, LA	48	0.6%
Navarro College, Corsicana	43	0.6%
El Centro College, DCCCD	40	0.5%
Midwestern State University, Wichita Falls	40	0.5%
Collin College	38	0.5%
Community College of the Air Force	38	0.5%
Dillard University, LA	36	0.5%
New York University	32	0.4%

Florida A&M University	31	*0.4%*
Langston University, OK	31	*0.4%*
Rice University	29	*0.4%*
Clark Atlanta University, GA	26	*0.3%*
Tarleton State University	25	*0.3%*
Abilene Christian University	24	*0.3%*
Howard University, D.C.	22	*0.3%*
Eastfield College, DCCCD	21	*0.3%*
St. Edward's University, Austin	21	*0.3%*
University of Tulsa. OK	21	*0.3%*
Morehouse College, GA	20	*0.3%*
Southwestern University, Georgetown	20	*0.3%*
Other Colleges and Universities	1693	*21.7%*
Total Degrees Awarded	**7815**	***100.0%***