

Predicting Post-Secondary Success

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The Social and Economic Sciences Research Center (SESRC) at Washington State University is a recognized leader in the development and conduct of survey research.

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Acknowledgements

The authors wish to acknowledge the contributions of staff from the School District. In particular, we would like to express our thanks to the Assistant Superintendent, for the leadership and guidance they provided for the study. The work could not have been completed without the assistance of District experts in school transcript and enrollment data for providing the data and answering questions about it.

Thanks also to Institutional Research Staff at the three local community and technical colleges and three baccalaureate institutions for providing additional college outcome data to support this project.

PLEASE NOTE:

The School District has approved the release of this report with *fictionalized data*. The methods and conclusions in this report are shared as an example of how districts can use transcript and college outcome data to better serve students and prepare them for college. However, while generally representative, the numbers reported *do not* reflect the experiences of the School District's graduates.

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Background and Introduction

PLEASE NOTE:

The School District has approved the release of this report with *fictionalized data*. The methods and conclusions in this report are shared as an example of how districts can use transcript and college outcome data to better serve students and prepare them for college. However, while generally representative, the numbers reported *do not* reflect the experiences of the School District's graduates.

A School District in Washington State (the "District") contracted with Washington State University's Social and Economic Sciences Research Center (WSU-SESRC) to understand the relationship between high school courses and grades of their Class of 2002 graduates and their enrollment and success in college. This study is one part of a larger systematic assessment of the District's effectiveness.

Specifically, the District sought to understand how student characteristics and high school preparation in math, science and English contribute to college enrollments, success in college, persistence from the freshman to the sophomore year of college, and completion of credentials at a community or technical college.

By analyzing the high school preparation and post-secondary activity of students, the District expects to better target course counseling and teaching interventions to enable more graduates to be successful in college. The analysis may also be useful for future conversations about the District's graduation requirements in math, science and English.

This report presents the results of these analyses. The text and figures that follow address the following five questions:

1. Which students attended college in the year after graduation?
2. What are the high school characteristics of students that best predicted student grades at a four-year college or university?
3. What courses best predicted persistence in college?
4. Of the graduates attending a Community or Technical College (CTC) in Washington immediately after high school, which were most likely to earn a one-year or two-year credential within two years?
5. What were the characteristics of students who successfully transferred from a CTC to a four-year institution?

Population/Sample

This study focuses on the graduates from the District's high schools in 2002. When the study started, the Class of 2002 cohort was the most recent group for which complete data on their first two years of college enrollment was available. During the course of the study, data for the 2004-2005 school year was released and these data were included in the analysis.

The study population is comprised of the 1,213 graduates of the Class of 2002 who completed at least one course at a high school in the District in all four years. Graduates with any transfer or correspondence courses, except for Running Start (RS)¹, were excluded from the analysis.

Data Sources

This project brought together data from the following sources:

- District data on the Class of 2002 (modified for this public report)
 - Graduates' demographic data.
 - Graduates' high school transcript records.
- High school graduate follow up data on enrollments
 - The Graduate Follow-up Study, sponsored by the Office of the Superintendent of Public Instruction. These files include statewide student-level data on college attendance patterns at two-year and four-year institutions.²
 - National Student Clearinghouse (NSC) college enrollment data.³
- Additional data from local colleges and universities
 - Three local Community and Technical Colleges provided additional data on graduates from the District who were enrolled on their campuses. These three colleges enroll the vast majority of graduates from the District who choose to enroll at a two-year college. Data elements included type of enrollment (transfer or workforce/vocational) and degree attainment.
 - Cumulative GPA earned by graduates from the District attending UW, WWU, and WSU.

¹ Running Start (RS) is a statewide program that allows high school students to enroll in courses at a local community college for both high school and college credit.

² For more information about the GFS, please see <http://www.sesrc.wsu.edu/gfs>. The GFS matches to enrollment records at public 4-year universities in Washington, Oregon, and Idaho as well as Washington's public 2-year colleges. It also includes several private universities in Washington, apprentice programs, and many private vocational schools.

³ For more information about NSC data, please see <http://www.sesrc.wsu.edu/nsc/>

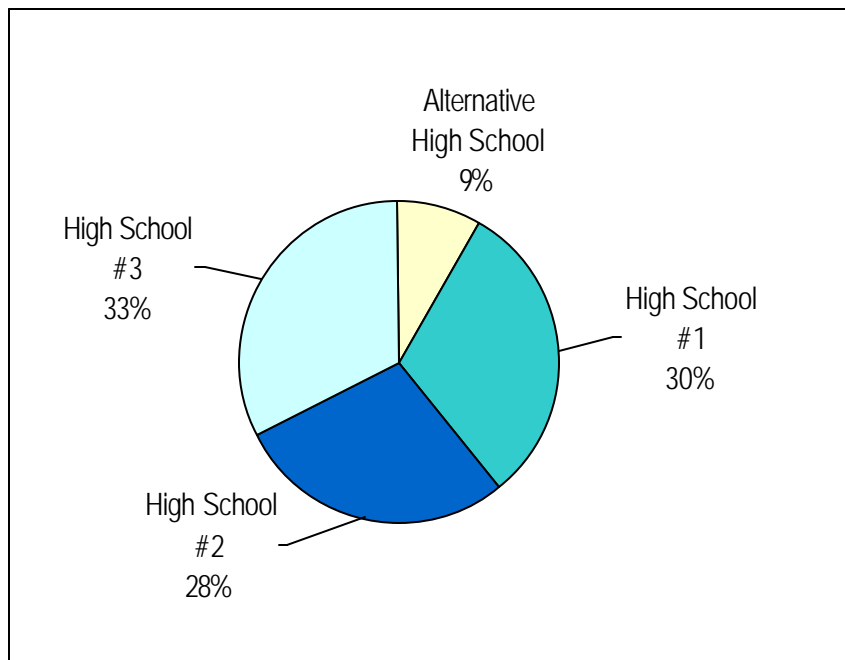
High School Demographic Data

Each of the research questions was analyzed by graduates' course taking history (highest level course taken in math, science and English and their cumulative GPA in each subject area) and by their demographic characteristics (gender, ethnicity, graduating high school, and participation in an English Language Learner (ELL) program or Special Education (SPED) program).⁴

Findings

- Most of the students graduated from High School 1, High School 2, and High School 3. A much smaller number received diplomas from the Alternative High School.⁵
- Just over half of the graduates in the sample were male. (52%)
- In terms of race and ethnicity, 85% of graduates were Caucasian, and 10% were Asian American. Only 4% were African American (N=20), Hispanic (N=30), or Native American (N=4). These traditionally disadvantaged ethnic groups were combined in the analysis as "Other Minority".

Figure 1 - Percent of Graduates by High School
(Total N=1,213)



⁴ See Appendix for the differences in key demographic variables by high school. (Removed from this draft)

⁵ Please keep in mind that the data have been divided into "High Schools" for demonstration purposes only. The results do not reflect the reality of any single high school in Washington.

Figure 2 - Percent of Graduates by Gender
(Total N=1,213)

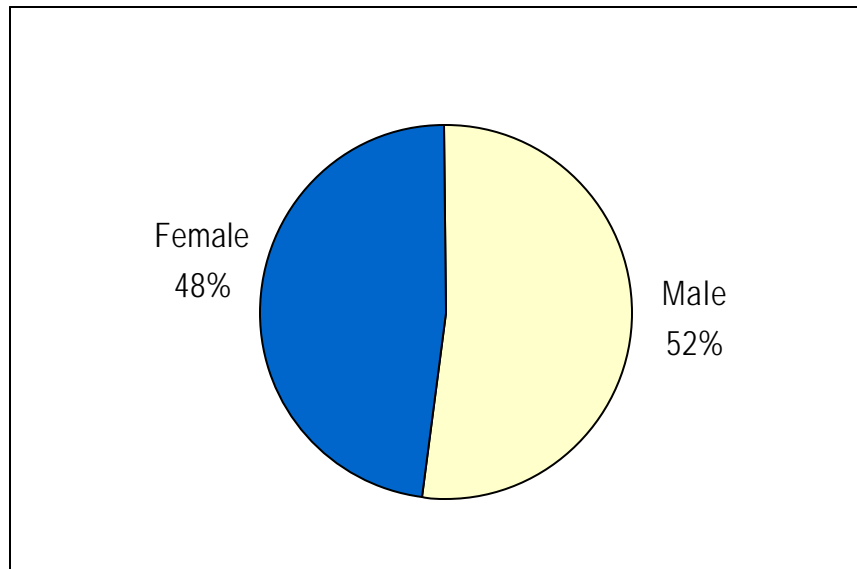
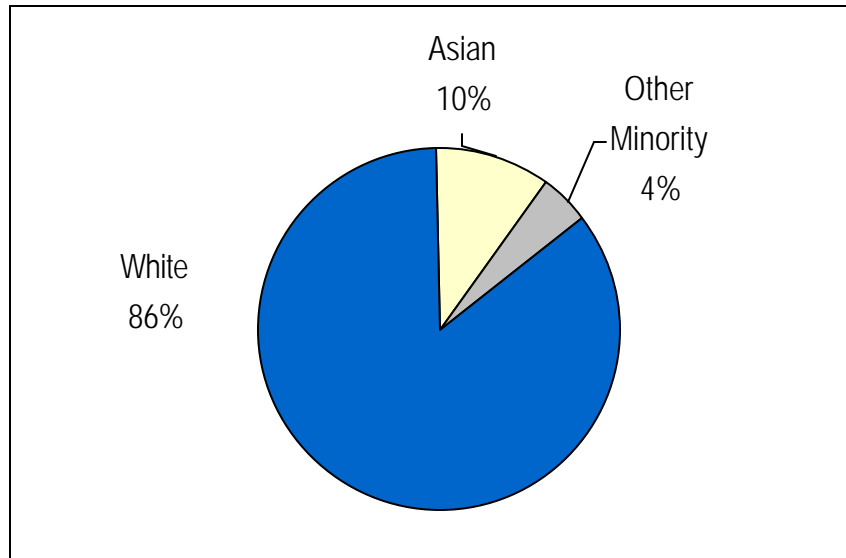


Figure 3 - Percent of Graduates by Ethnicity
(Total N=1,213)



Transcript Data

To facilitate analyzing four years of transcript information for each graduate, District staff classified the math, science and English courses taken by graduates into one of 5 levels. Levels 1 through 4 reflected a typical grade level course for Freshman through Senior years, with Level 5 reflecting courses taken by the more “advanced-track” students. Broadly speaking, the levels correspond to:

LEVEL	Math Course	Science Course	English Course
1	Algebra	Freshman Science	Freshman English
2	Geometry	Biology	Sophomore English
3	Algebra II	Chemistry	Junior English
4	Pre-Calculus/Trig	Physics	Senior English
5	Calculus/AP	AP Science	Honors/AP English
RS	Running Start Math	Running Start Science	Running Start English

Findings

- Roughly one-third of graduates (32%) stopped taking math at Algebra II (Level 3) and one-third (35%) stopped at Pre-Calculus (Level 4). Approximately one in six (15%) took Calculus and 2% participated in a RS math course.
- Roughly one-third of graduates (36%) stopped taking science at Chemistry (Level 3) and one-third (34%) stopped at Physics (Level 4). One in six (16%) took an AP-level science course, and 2% participated in a RS science course.
- In English, two-thirds (68%) stopped taking English at Senior English (Level 4). Fourteen percent (14%) took an honors or AP-level course, and 7% participated in a RS English course.

Figure 4 - Percent of Graduates by Highest Level Achieved in Math
(Total N=1,213)

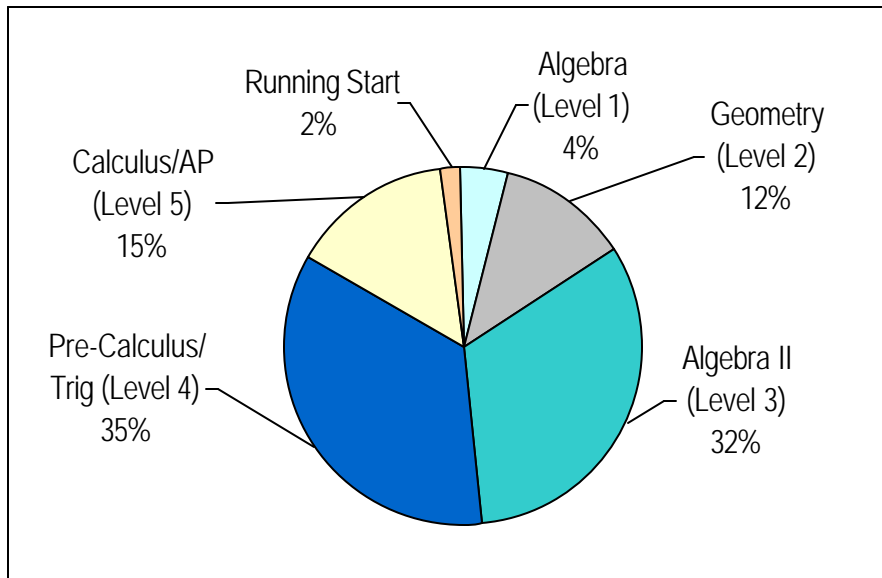


Figure 5 - Percent of Graduates by Highest Level Achieved in Science
(Total N=1,213)

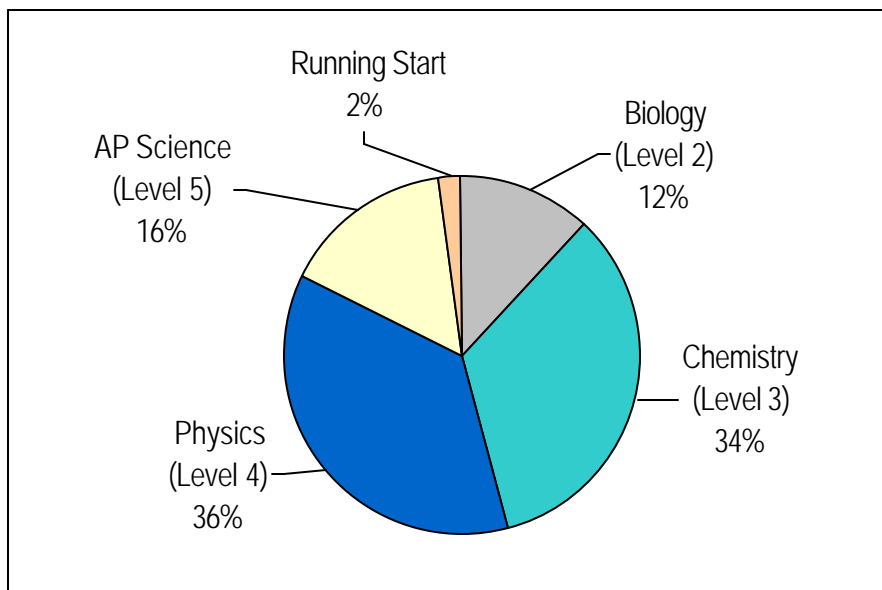
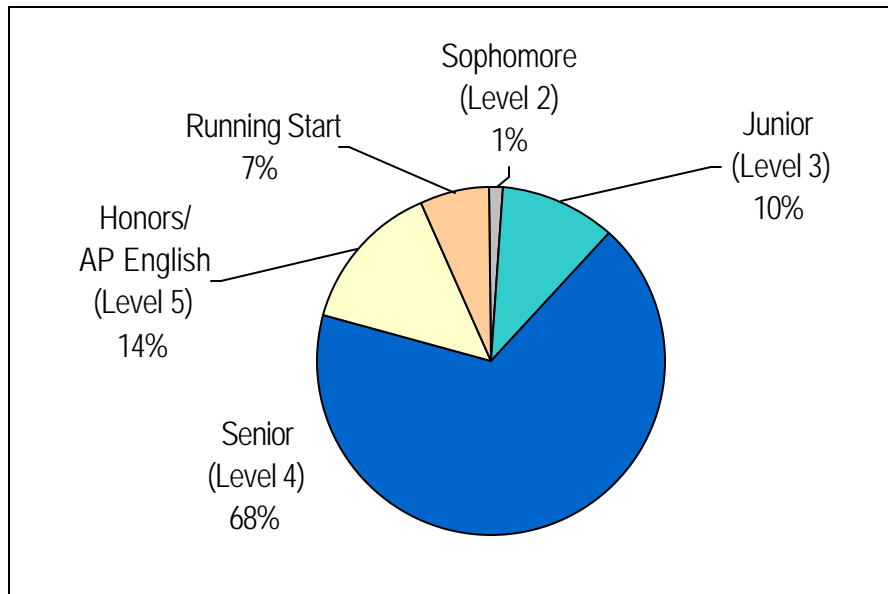


Figure 6 - Percent of Graduates by Highest Level Achieved in English
(Total N=1,204)



High School Graduate Follow-up Data

Data from the National Student Clearinghouse (NSC) and OSPI’s Graduate Follow-up Study (GFS) were used to explore the college enrollments of District graduates. The NSC provides information about enrollments at public and private colleges and universities nationwide, covering approximately 90% of all higher education nationally. Because previous WSU-SESRC research has identified areas where NSC counts are incomplete, data from the GFS was included to provide more accurate enrollment estimates for Washington’s public colleges and universities.

Data from Local Colleges and Universities

Three local Community and Technical Colleges agreed to provide additional data on District graduates enrolled on their campuses. The vast majority of graduates from the District who attended a two-year college enroll at one of these three colleges. Data elements included type of enrollment (transfer or vocational program focus) and degree attainment.

Similarly, Washington’s three largest public universities agreed to participate. Each of the universities provided information about the students’ overall grade point average (GPA) at their institution.

Limitations of the Data

- Enrollment in college in the year after graduation is defined as taking at least one course between July 2002 and June 2003. It does not mean that the student was enrolled full-time in college or that they attended for more than one academic quarter.
- Previous WSU-SESRC research suggests that while the GFS and NSC data provide excellent coverage when combined, it is still imperfect. NSC states that their databases

cover institutions that enroll 90% of all college students in the country. However, a comparison of GFS and NSC results where the datasets overlap suggests that NSC data excludes up to 50% of enrollments at some institutions.⁶ GFS is limited in that it only includes students for whom the district has an SSN, and its coverage is best among public institutions of higher education in Washington.

- While the level and GPA of math, science, and English taken by a student were very tightly correlated, they were particularly related for math and science. In other words, students who earned good grades and progressed to higher levels of math were also very likely to earn good grades in their science courses and take higher level science courses. Because of this, the regression results only used information about a student's math courses and grades, and it was assumed that those results reflected their background in science as well.
- It was difficult to disentangle the cause and effect between high school courses and grades and graduates' post-secondary outcomes. Students who got good grades also typically completed higher levels of math, science and English and also were more likely to enroll and succeed in college. The slight differences between groups may have had more to do with the quality of teaching or household factors than the courses taken and grades earned.

Structure of Report

Each research topic is explored in a separate section. Broad summary statements are followed by more specific findings. These findings are supported by figures within the report or in the appendix.

Data for each research question are presented in three charts.

- The first chart looks at the relationship between the highest level of math, science and English taken and the outcome.
- The second chart in the sequence looks at the relationship between grades earned in math, science and English and the outcome.
- The third chart looks at the relationship between the graduates' gender, ethnicity, high school, and SPED status and the outcome.

Finally, logistic regression methods were used to tease out the strongest contributors for each outcome.⁷

⁶ NSC coverage is especially poor at technical colleges in Washington.

⁷ For more logistic regression details, see Appendix A.

Research Question #1: College Attendance

The first question addressed in this study is: “Which students attended college in the first year after graduation?”

Not all students enrolled in college immediately after earning their high school diploma. The District was interested in understanding what factors increased the likelihood that a student would enroll. Specific sub-questions include:

- What are the differences between those who enrolled in college versus those who did not?
- What are the differences between those who enrolled in a two-year versus four-year college?
- Of those who enrolled in a community or technical college, what were the differences between those who enrolled in a vocational-related program versus those who were focused on transferring to a four-year college?
- What are the differences between those who enrolled in a public versus private college?
- What are the differences between those who enrolled in a college located in Washington versus an out-of-state college?

Each of these questions will be treated in order below.

What are the differences between those who enrolled in college versus those who did not?

Students included in this analysis

This question includes all graduates and groups them into two categories: those who attended a two-year or four-year college in the first year after graduation and those who did not. (N=1,213)

Findings

- Overall, 69% of graduates attended a college in the first year after graduation.
- There is little difference in the percentage of graduates that went to college among those who stopped at Level 3 (Algebra II or Junior English) versus level 4 or level 5 in both math and English. However those that stopped at the Freshman or Sophomore grades (Levels 1 or 2) enrolled at much lower rates.
- In science, students who stopped at Chemistry (Level 3) are much less likely to attend college than those who completed Physics (Level 4) or higher.
- 83% of RS students enrolled in college compared to 68% of non-RS students.

- GPA in math has a weaker relationship with enrollment than GPA in science.
- English GPA appears to be the subject with the strongest predictive validity, with a 7 to 9 percentage point increase for every grade point.
- Consistent with national trends, females were more likely than males to attend college (71% to 68%)
- Asian-American students were the most likely to attend college (84%). Non-Asian minorities were the least likely to attend college (59%).
- High School graduates from High School 1, High School 2, and High School 3 were more likely to attend college than graduates from Alternative High School.
- 60% of SPED graduates attended college in the first year post graduation.
- Overall, the regression model had an R² value⁸ of 8%. Regression results identified five factors that, holding all other variables constant, have a significant effect in predicting whether or not a graduate enrolled in college. These factors are all also noted above. They are:
 - Graduates enrolled in a RS science course are more likely to attend college.
 - Asian American graduates were more likely than Caucasian graduates to attend college.
 - A higher GPA in English corresponded with a higher probability of attending college.
 - Stopping at Algebra or Geometry levels in math decreased the odds that they went to college.
 - Graduating from Alternative High School was associated with not going to college as compared to students from High School 3.

⁸ The R² value is the percentage of variation in the research variable that is “explained” by the regression model. A higher percentage means the predictive power of the regression is better. In general, for this type of study, 10% is considered relatively weak and 60% is very strong.

Figure 7 - Percent of Graduates Attending College by Highest Level Achieved in Math, Science and English

(Total N=1,213): Dist Results: 69% attended college

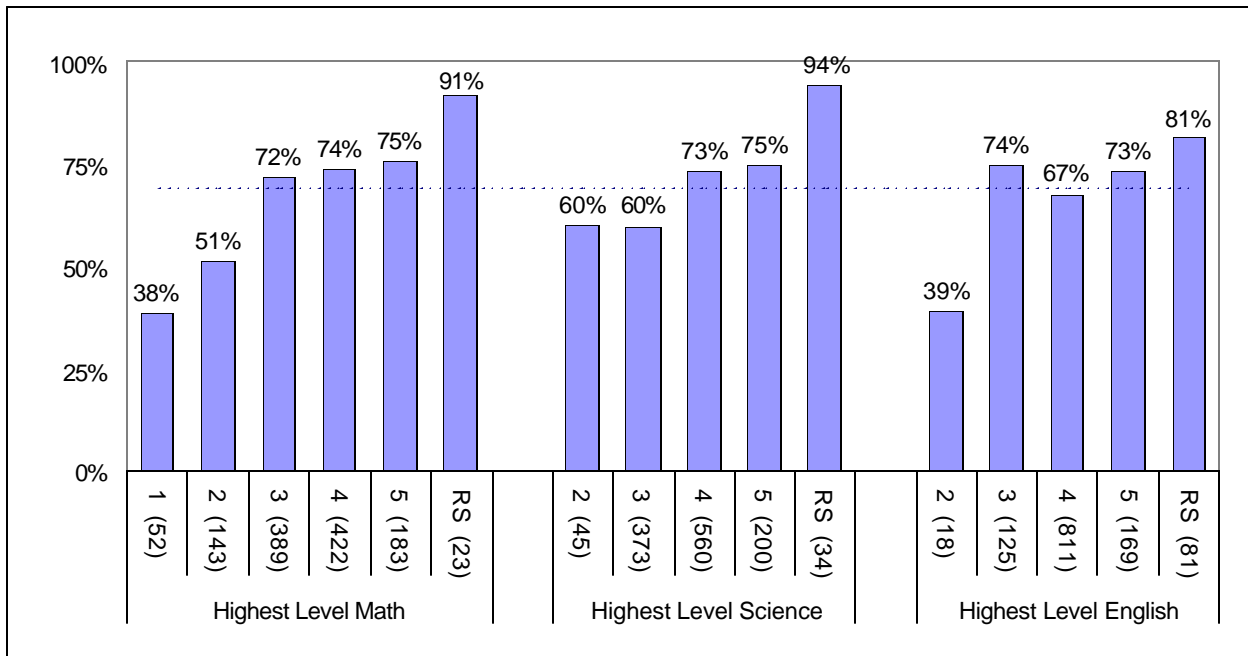


Figure 8 - Percent of Graduates Attending College by GPA in Math, Science and English

(Total N=1,213): Dist Results: 69% attended college

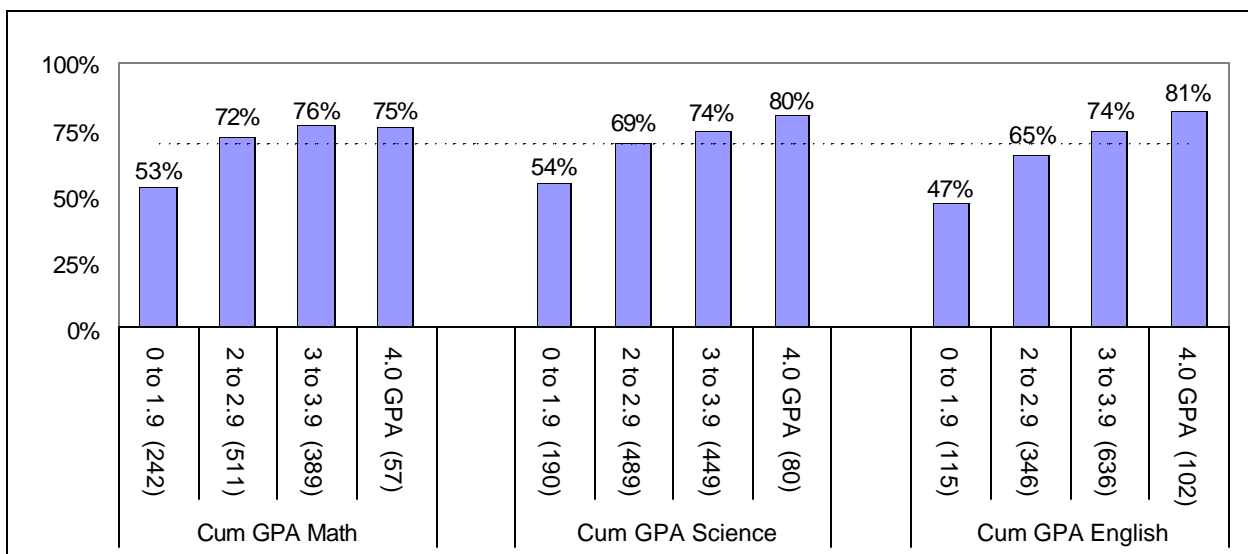
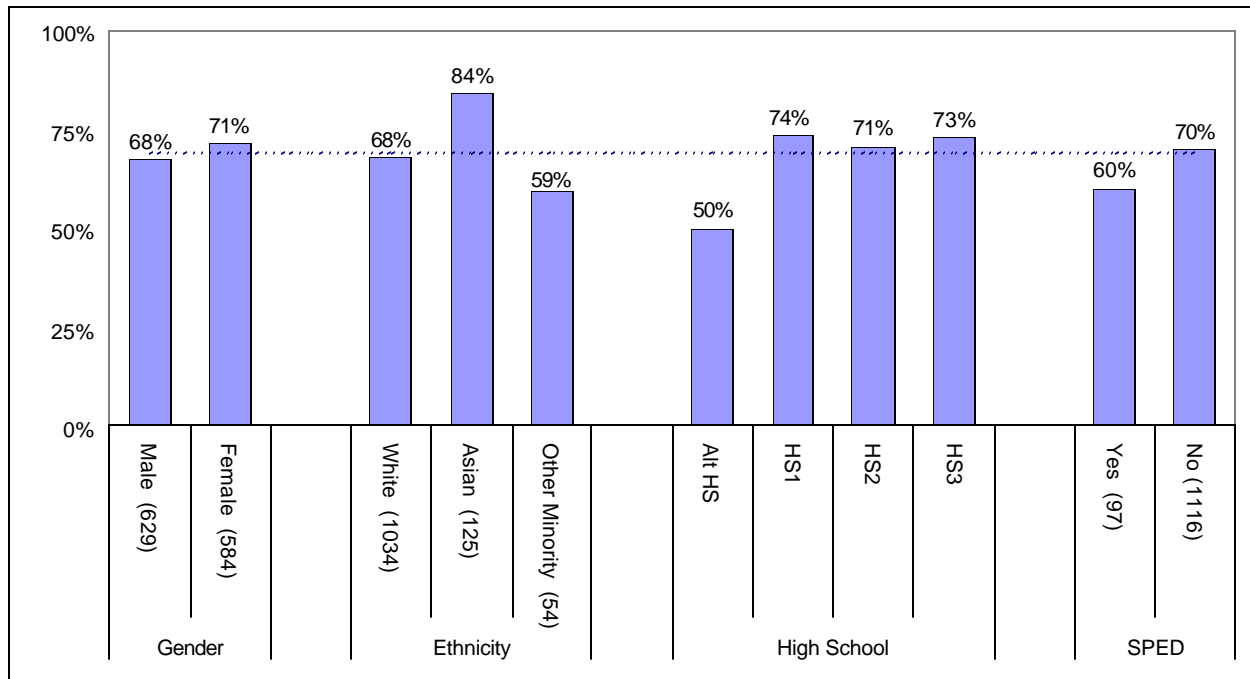


Figure 9 - Percent of Graduates Attending College by Student Characteristics

(Total N=1,213): Dist Results: 69% attended college



What are the differences between those who enrolled in a two-year versus four-year college?

Students included in this analysis

This question includes all graduates and divides those attending college into two categories: those who attended a two-year college in the first year after graduation and those who attended a four-year college. Those who attend both are counted as enrolled at a four-year. (N=1,213)

Findings

- Overall, of the 69% of graduates attending college, 42% of students enrolled at a four-year college and 27% enrolled at a two-year college.
- Of students attending college, the share attending a four-year institution rose with each successive level of math and science
- RS students were almost as likely to stay at the community or technical college (CTC) (39%) as continue into a four-year program (44%). This suggests that the comfort and familiarity of a known program had a big effect on students' decisions.
- As GPA in math, science, and English rose, the probability that the graduates attended a four-year college increased as well. It is particularly dramatic for grades in English with each grade point translating into a 20 to 35% increase in enrollment.

- Males were more likely than females to enroll at a two-year college (30 vs. 25%) and women were more likely to attend a four-year college (47 vs. 38%)
- Non-Asian minorities were more likely to attend a two-year college than a four-year college. (31 vs 28%)
- Of the larger high schools, High School 3 had the highest share of students attending college enrolled at a four-year college (53 vs. 20%).
- Of the 60% of SPED students attending college, four out of five went to a two-year college.
- Overall, the regression model had a respectable R2 value of 38%. Regression results identified five factors that, holding all other variables constant, have a significant effect in predicting whether or not a graduate enrolled at a two-year or four-year college. These factors are all also noted above. They are:
 - SPED graduates who went to college were much more likely to attend a two-year college than non SPED graduates.
 - Graduates of High School 1 and High School 2 were more likely to attend a two-year college than graduates of High School 3.
 - Higher GPAs in both math and English were associated with enrollments at four-year colleges.
 - Taking higher levels of math and AP English were also associated with four-year college enrollments.
 - However, enrollment in RS English was more likely to steer a graduate to a two-year college than a four-year college.

Figure 10 - Level of College Attended by Highest Level Achieved in Math, Science and English

(Total N=1,213): Dist Results: 42% at four-year and 27% at two-year

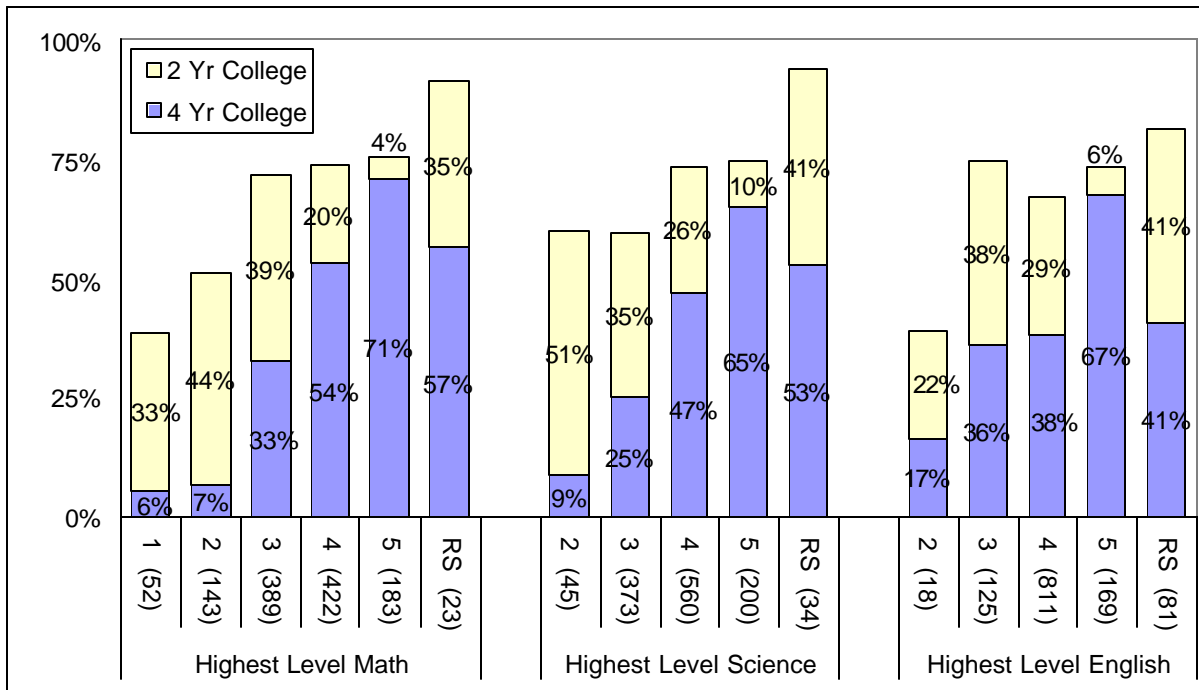


Figure 11 - Level of College Attended by GPA in Math, Science and English

(Total N=1,213): Dist Results: 42% at four-year and 27% at two-year

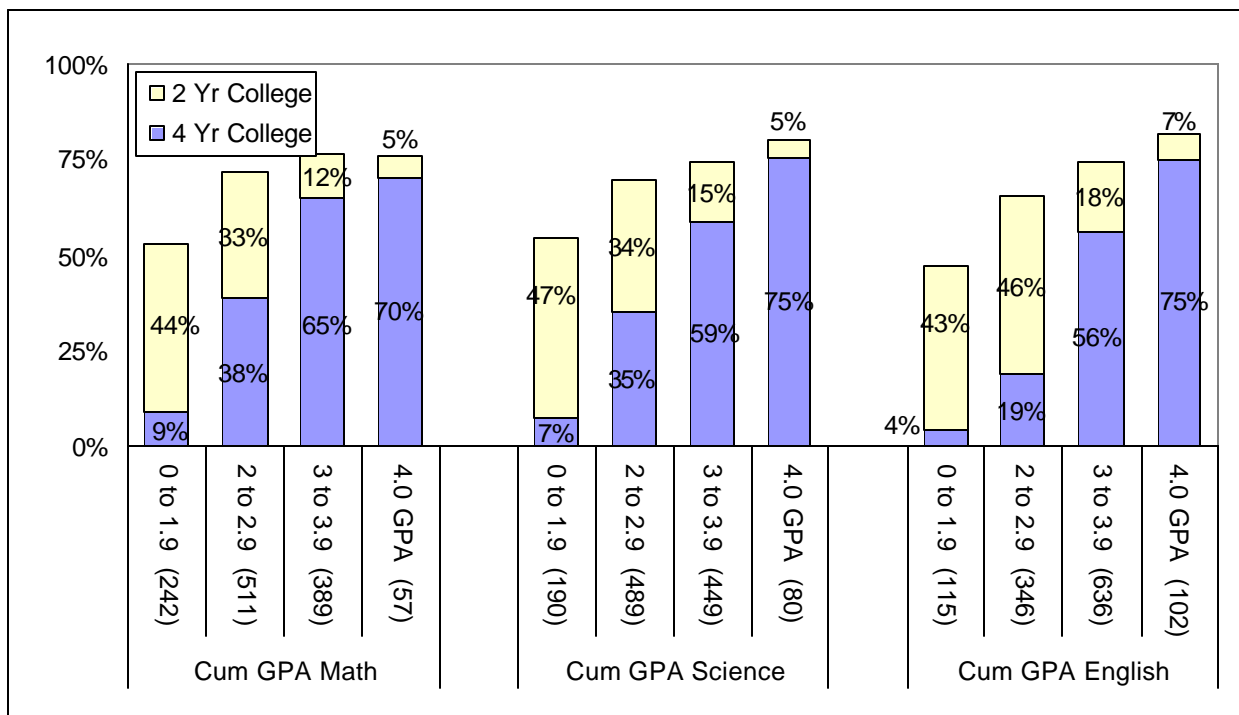
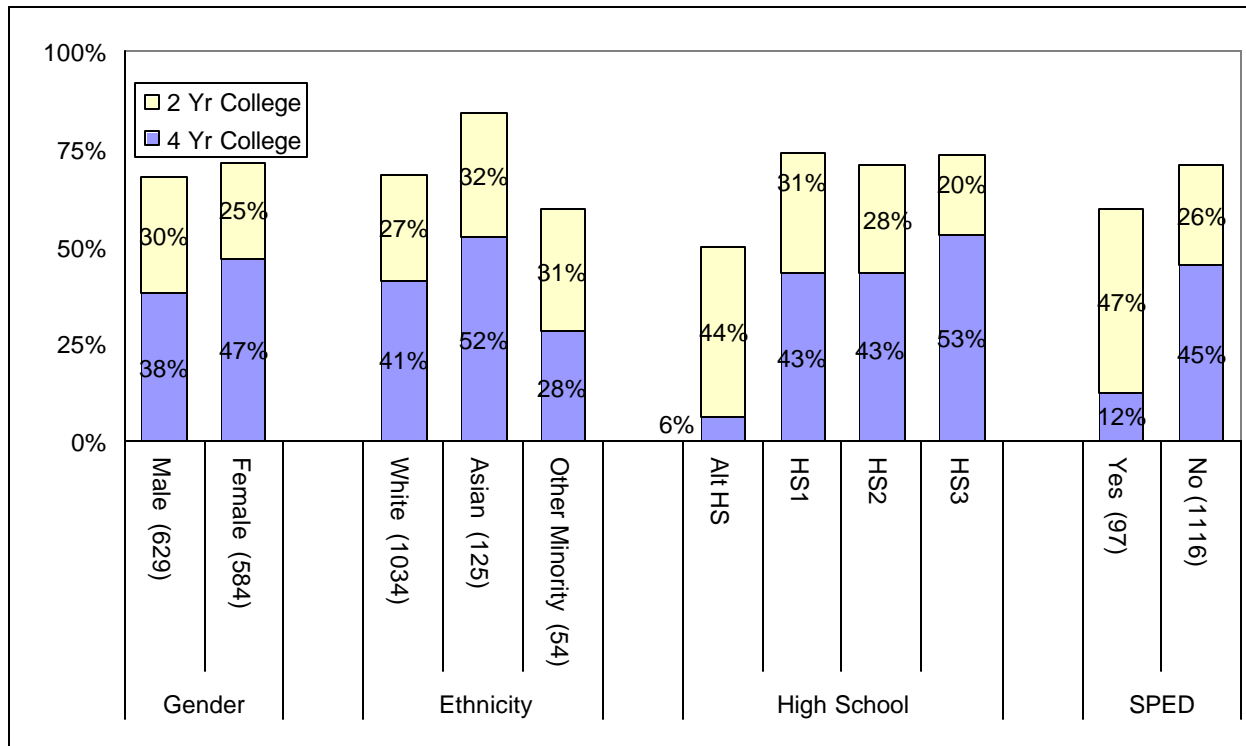


Figure 12 - Level of College Attended by Student Characteristics

(Total N=1,213): Dist Results: 42% at four-year and 27% at two-year



Of those who enrolled in a two-year college, what were the differences between those who enrolled in a vocational program versus a transfer program?

Students included in this analysis

This question includes all graduates attending one of three local community or technical colleges (N=253) and groups the graduates into three categories: those who said their goal was to transfer to a four-year college, those who were pursuing a vocational degree or certificate, and those who were attending for other reasons.

Note: Some numbers should be interpreted with caution because of small sample sizes.

Findings

- Of the graduates attending a local CTC, 71% enrolled in a transfer-related program, 23% were pursuing vocational training, and 6% were attending for other reasons, such as taking a class for personal interest or working on basic skills.
- In general, the share of graduates in transfer programs increased and the share in vocational programs decreased as the highest level taken increased.⁹

⁹ The charts suggest that math does not follow the trend, however, note that Level 5 numbers are based on only seven observations.

- RS students who remained at a CTC were no more or less likely to be in a transfer program than non-RS students.
- There was little difference in the type of enrollment based on math grades. Students earning a B average or better in science were more likely to enroll in a transfer program. High school grades in English were more predictive of transfer program enrollment.
- It was noted above that women were more likely to attend a four-year college than a two-year. In this section, the data suggest that women at a two-year college still had a four-year degree as their goal. Approximately three-quarters (76%) of females at a local CTC were in transfer programs and 18% in vocational programs compared to 66% and 27% respectively for males.
- Asian American graduates who enrolled at a CTC were more likely than other ethnic groups to enroll in a vocational program.
- Overall, the regression model had an R2 value of 13%. Regression results identified four factors that, holding all other variables constant, have a significant effect in predicting whether or not a graduate attending a community or technical college enrolled in a transfer or vocational program. They are:
 - Higher grades in English made it more likely that they were a transfer student.
 - Graduates from High School 2 were most likely to enroll in a transfer program.
 - Coming from a lower income family was associated with enrolling in a vocational training program.
 - Stopping at lower levels of math was also associated with enrolling in a vocational training program.

Figure 13 - Type of CTC Program by Highest Level Achieved in Math, Science and English

(Total N=253): Dist Results: 71% in transfer program and 23% in a vocational program

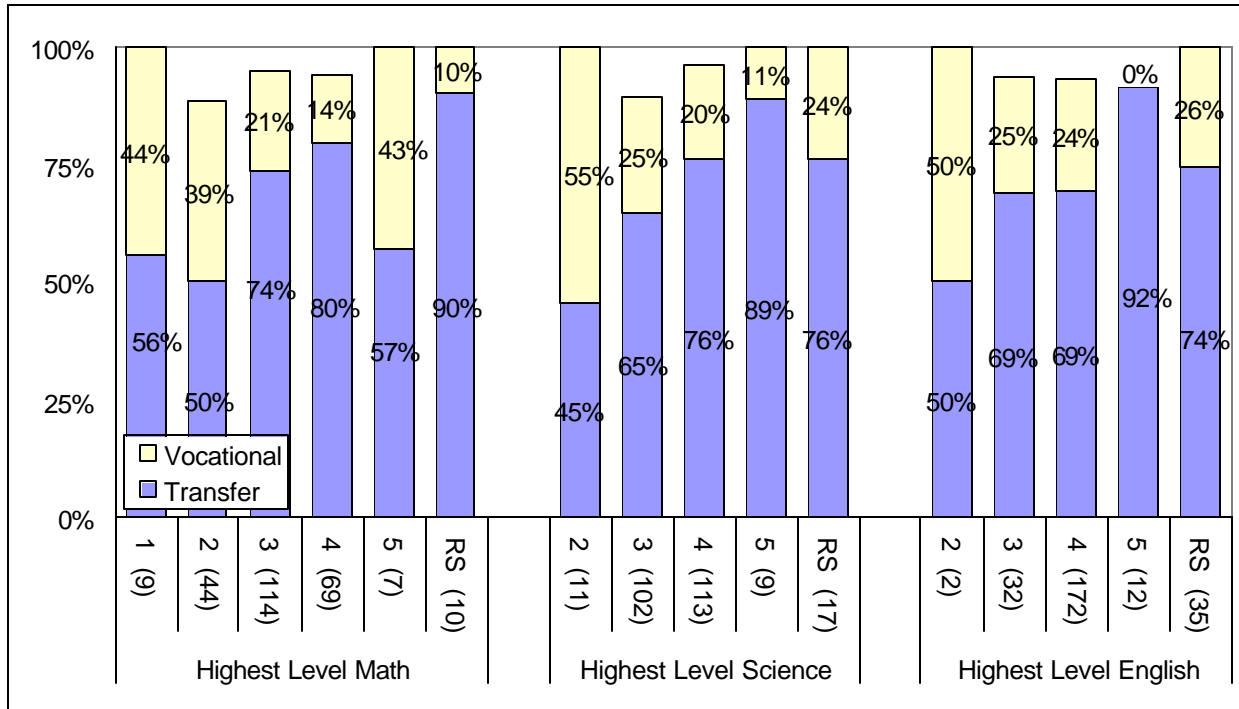


Figure 14 - Type of CTC Program by GPA in Math, Science and English

(Total N=253): Dist Results: 71% in transfer program and 23% in a vocational program

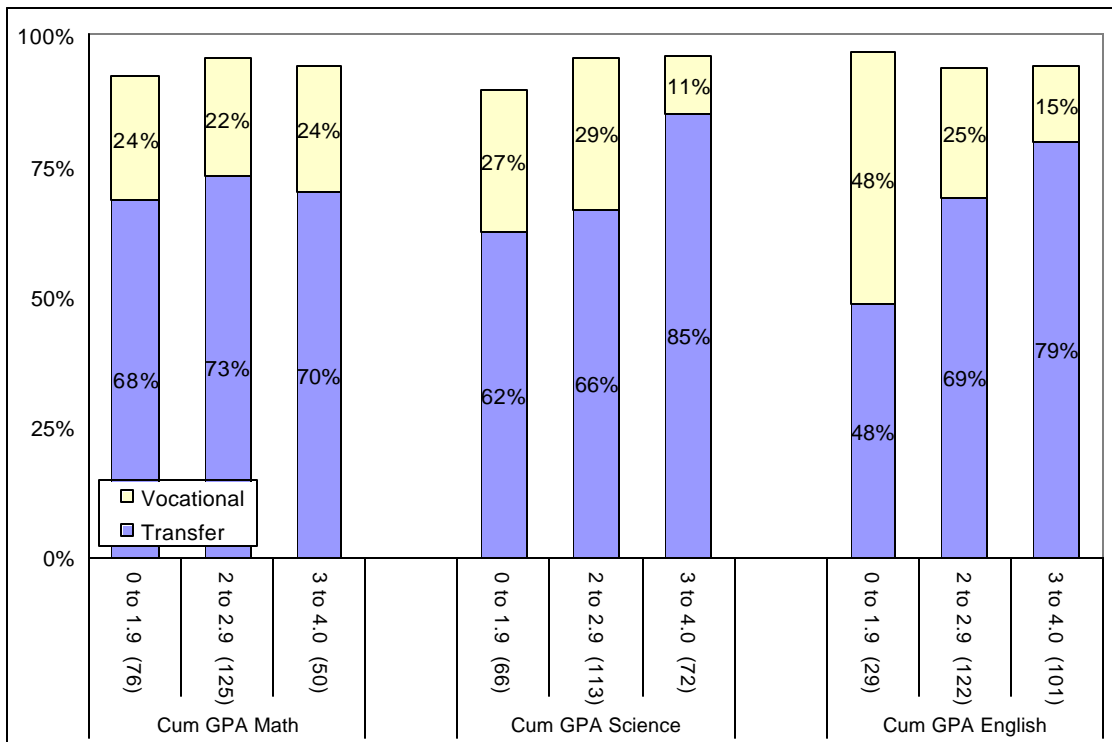
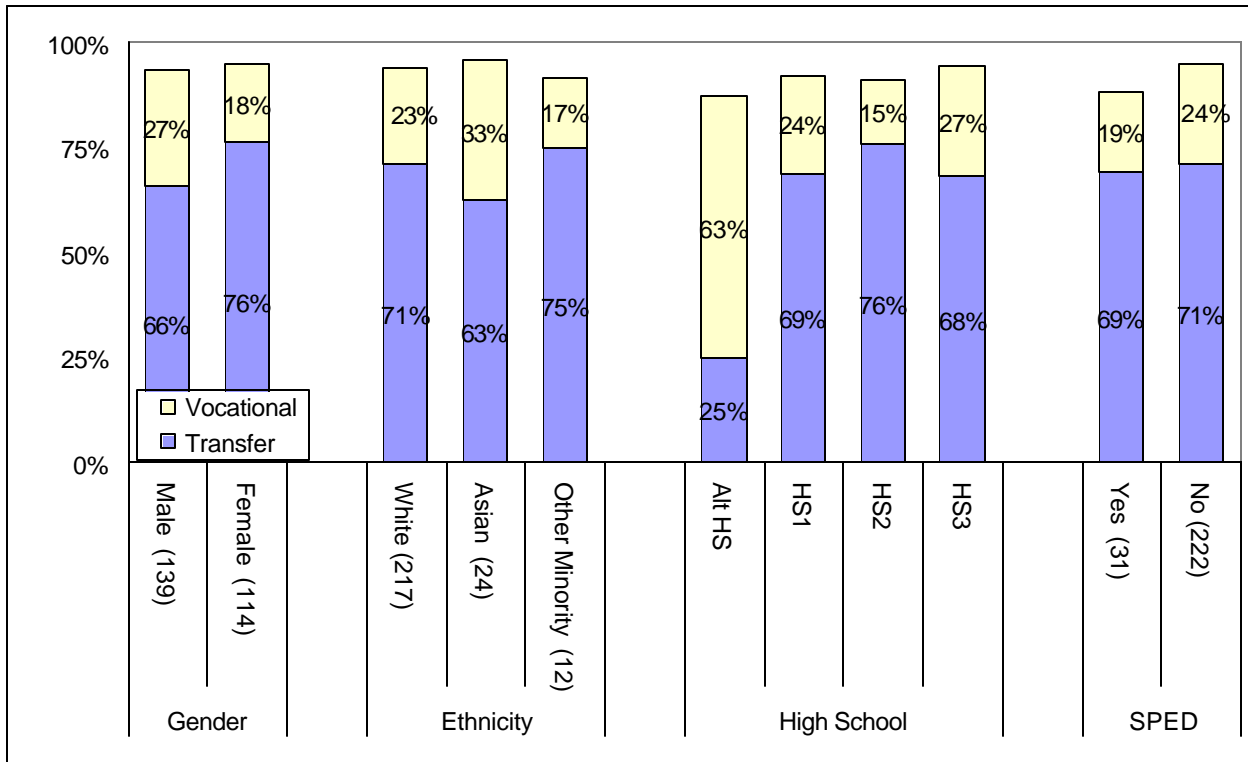


Figure 15 - Type of CTC Program by Student Characteristics

(Total N=253): Dist Results: 71% in transfer program and 23% in a vocational program



What are the differences between those who enrolled in a college located in Washington versus an out-of-state college?

Students included in this analysis

This question includes all graduates and groups those who went to college into two groups: those who attended a college in Washington State and those who attended college out-of-state. (N=1,213)

Findings

- Overall, of the 69% of graduates attending college, 60% of students enrolled at a college in Washington and 9% enrolled at a college out of state.
- The share of students attending a college outside of Washington increased to 20% of the students who took at least one Honors or AP (Level 5) course in math, science, or English.
- RS students were much more likely to stay in-state than enroll in an out-of-state institution. Of the 83% of RS students going to college, only 8% attended an institution outside of Washington.

- Similar to highest level, the students with higher GPAs were more likely to leave the state than those who had a lower GPA.
- Asian American graduates were more likely to stay in-state. Only 4% enrolled out-of-state compared to 9% of all graduates.
- Overall, the regression model had an R2 value of 8%. Regression results identified three factors that, holding all other variables constant, have a significant effect in predicting whether or not a graduate attended an in or out-of-state college in the first year after graduation. These factors are all also noted above. They are:
 - Taking AP English increased the likelihood of enrolling out-of-state.
 - A higher GPA in math also increased the likelihood of enrolling out-of-state.
 - Asian American graduates were more likely than Caucasian graduates to stay in-state.

Figure 16 - Location of College Attended by Highest Level Achieved in Math, Science and English
 (Total N=1,213): Dist Results: 60% in Washington and 9% out-of-state

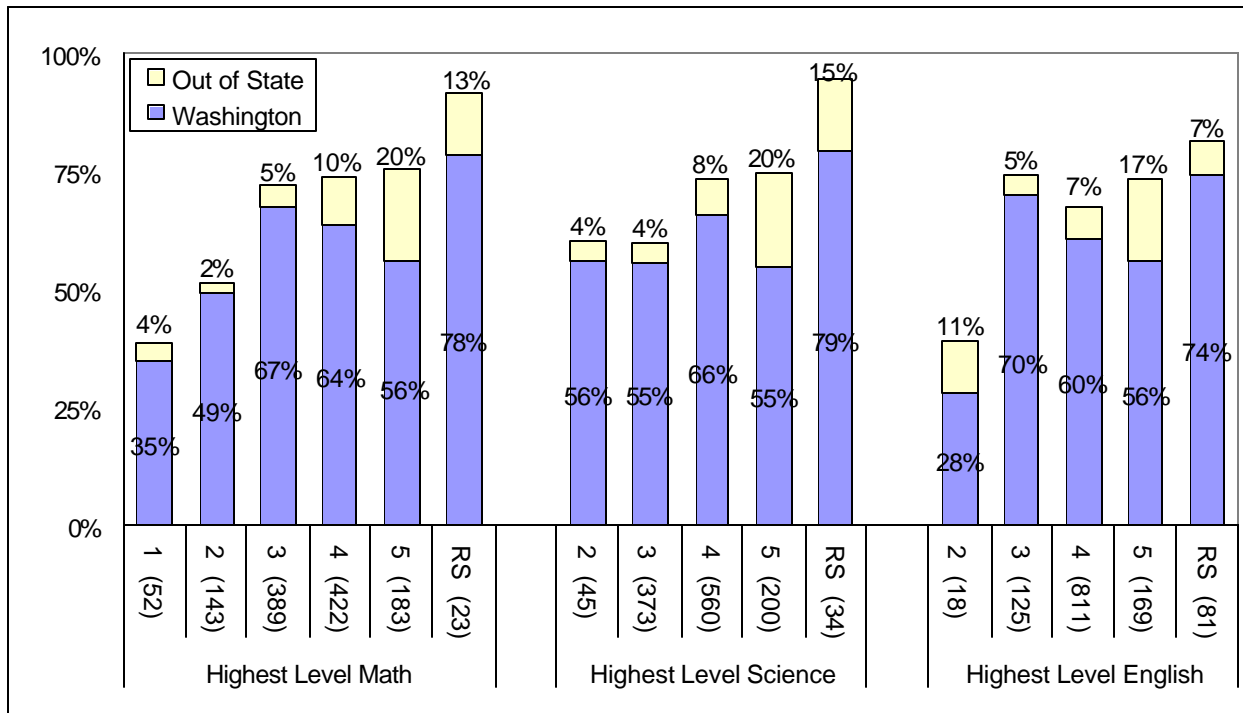


Figure 17 - Location of College Attended by GPA in Math, Science and English

(Total N=1,213): Dist Results: 60% in Washington and 9% out-of-state

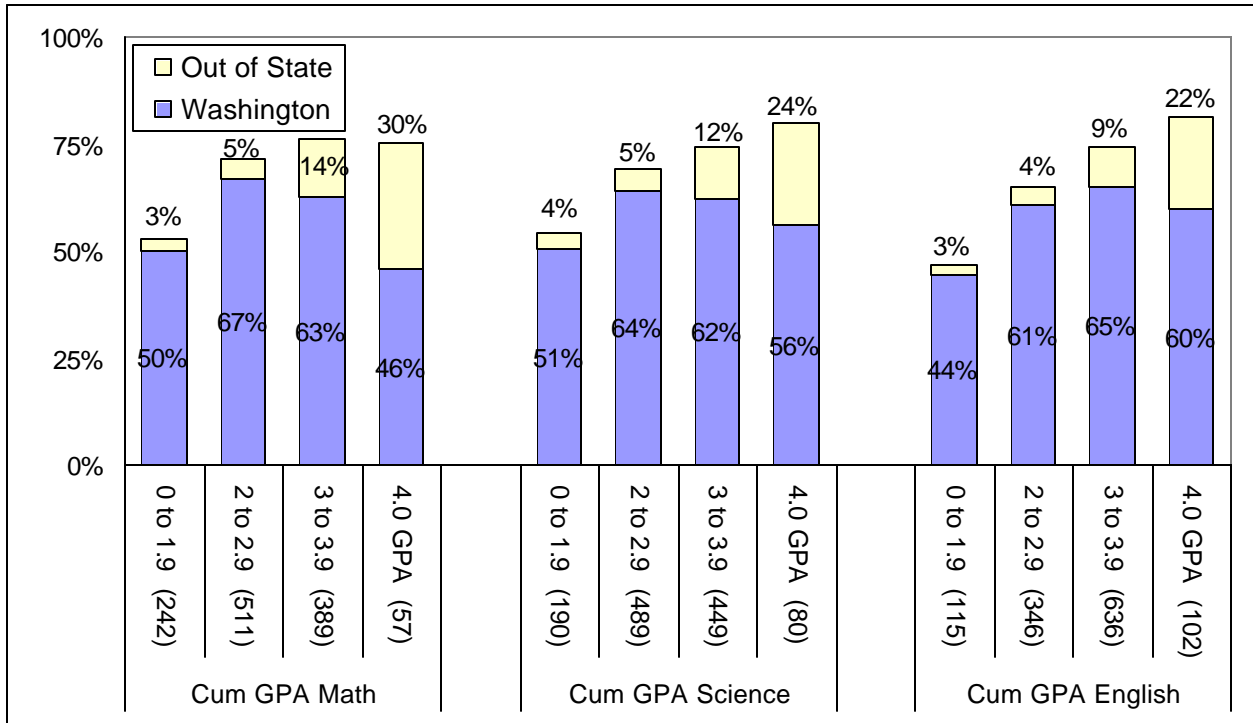
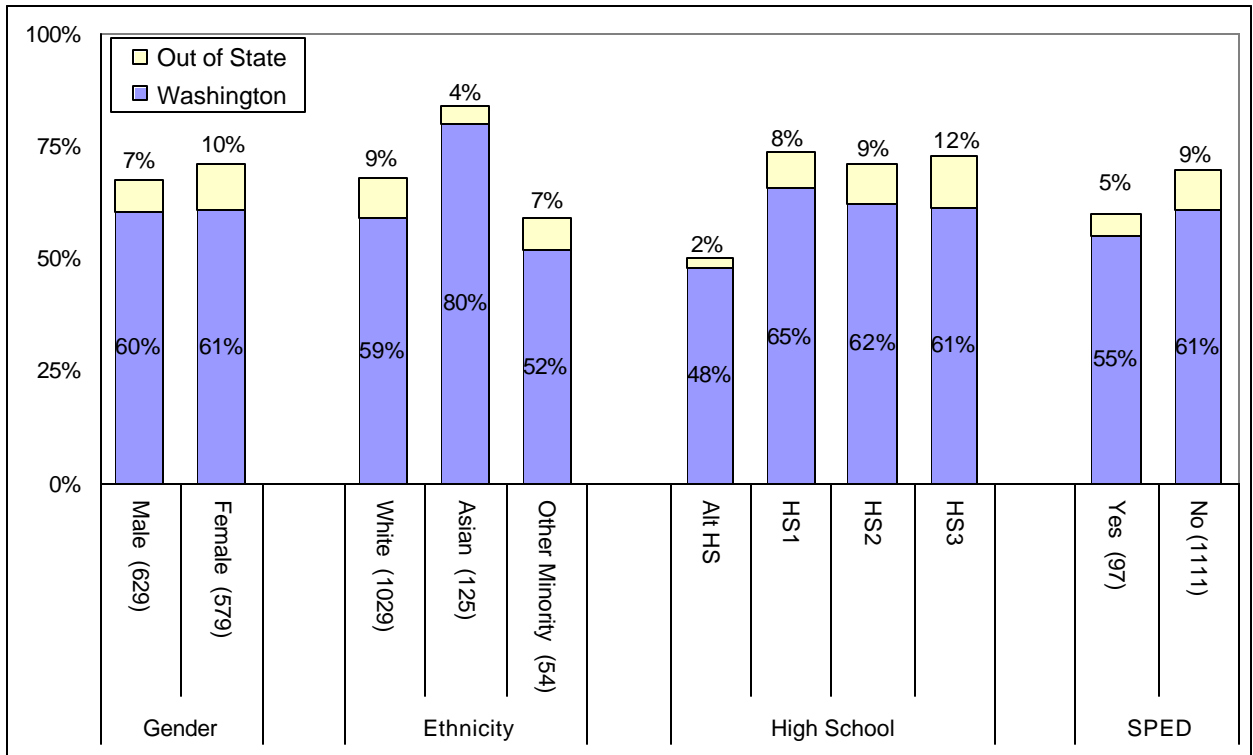


Figure 18 - Location of College Attended by Student Characteristics

(Total N=1,213): Dist Results: 60% in Washington and 9% out-of-state



What are the differences between those who enrolled in a public versus a private college?

Students included in this analysis

This question includes all graduates and groups those who went to college into two groups: those who attended a public college and those who attended a private college. (N=1,213)

Findings

- Since the majority of students who enrolled in an out-of-state college chose to attend a private college¹⁰, the findings in this section are very similar to the in-state/out-of-state results presented above.
- Overall, of the 69% of graduates attending college, 61% of students enrolled at a public college and 8% enrolled at a private college.
- The share of students attending private colleges increased to 20% of the students who took at least one Honors or AP (Level 5) course in math, science, or English.
- RS students were much more likely to attend a public college than a private college. Of the 83% RS students going to college, only 6% attended a private institution.
- Similar to highest level, the higher a students' GPA, the more likely they were to attend a private college.
- Overall, the regression model had an R2 value of 8%. Regression results identified three factors that, holding all other variables constant, have a significant effect in predicting whether or not a graduate attended a public or private college in the first year after graduation. These factors are all also noted above. They are:
 - Enrolling in a RS course is associated with enrolling in a public college; however RS science graduates were more likely to enroll in a private college.
 - Taking pre-calculus or calculus increased the likelihood of enrolling in a private college as did a higher GPA in math.
 - Asian American graduates were more likely than Caucasian graduates to attend a public college.

¹⁰ Of the 103 graduates who left the state for college, 91 (88%) enrolled at a private college.

Figure 19 - Type of College Attended by Highest Level Achieved in Math, Science and English

(Total N=1,213): Dist Results: 61% at a public college and 8% private

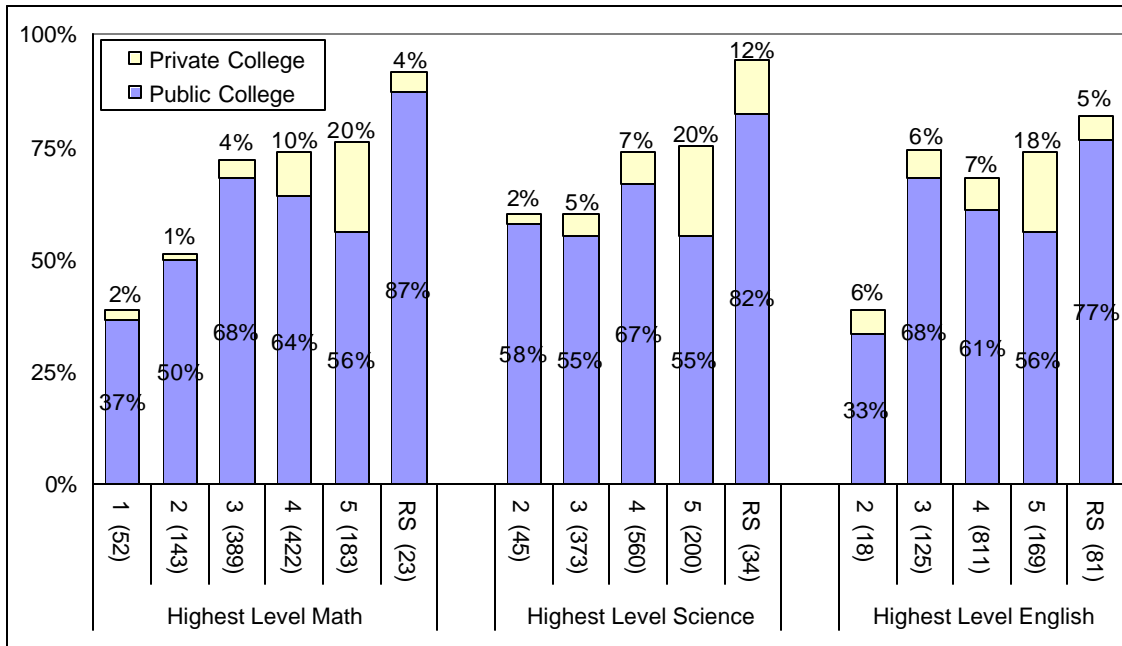


Figure 20 - Type of College Attended by GPA in Math, Science and English

(Total N=1,213): Dist Results: 61% at a public college and 8% private

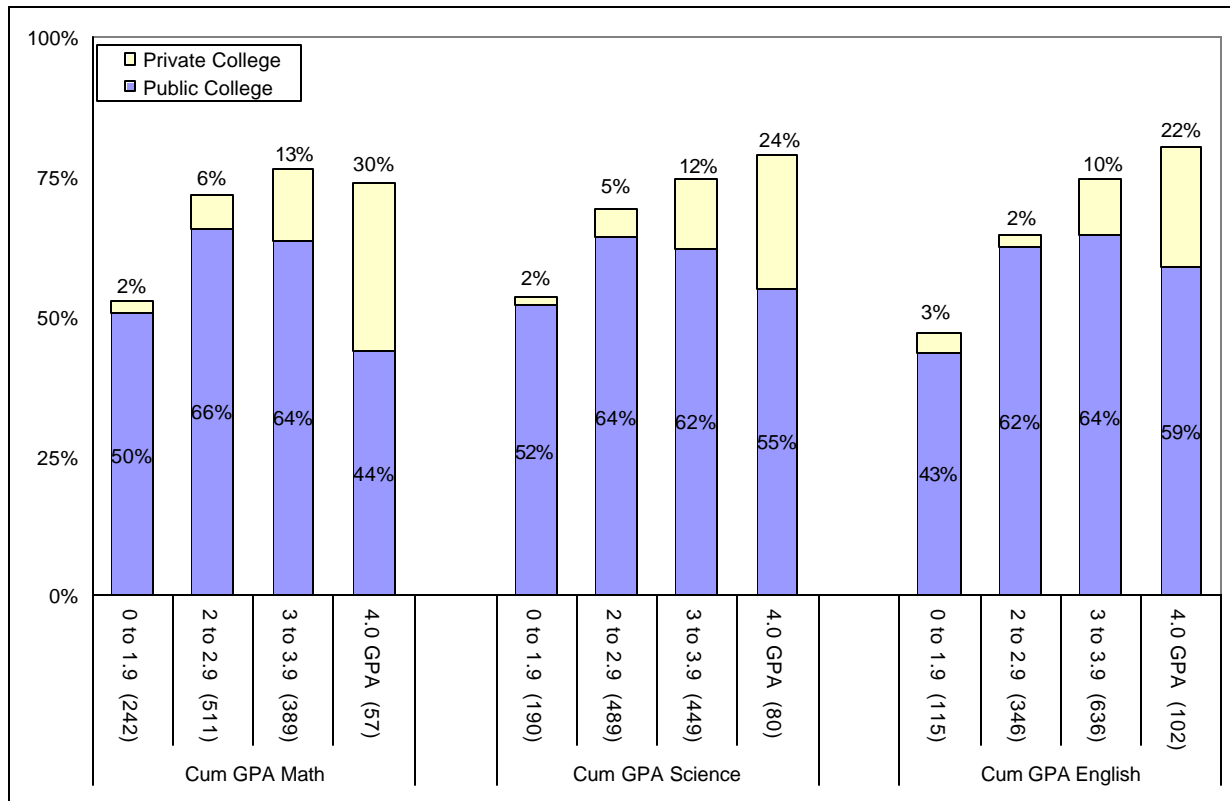
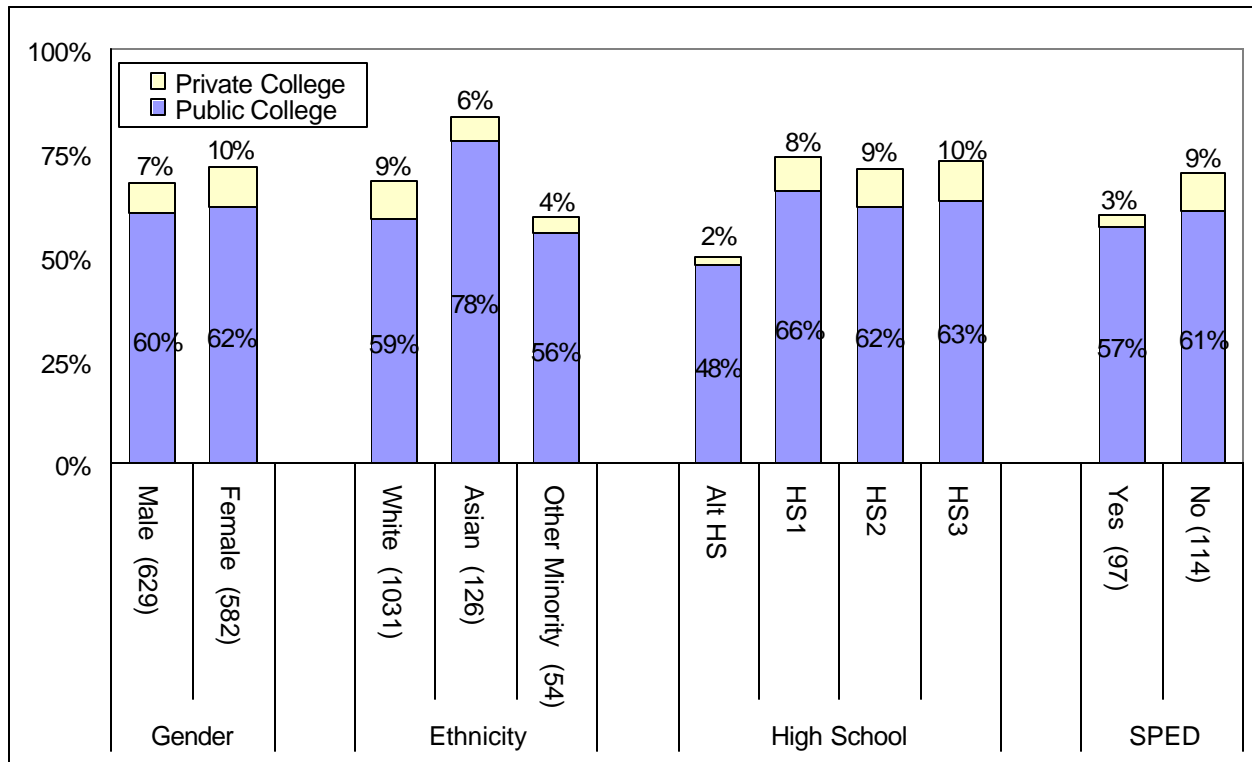


Figure 21 - Type of College Attended by Student Characteristics

(Total N=1,213): Dist Results: 61% at a public college and 8% private



Research Question #2: College Grades

The second question addressed in this study is: “What are the high school characteristics that best predict student grades at a four-year college or university?”

The grades earned by students attending a four-year college or university are a second measure of graduates’ post-secondary success. The District was interested in understanding what factors increased the likelihood that a student would earn a B average or better. Specific sub-questions include:

- What were the characteristics of those who earned a 3.0 or better at the university level?
- Is there a difference in GPA between students who enrolled directly from high school as compared to those who transferred from a community or technical college?

These questions are treated together below.

What are the characteristics of those who earned a 3.0 or better at the university level?

Students included in this analysis

This question only includes graduates attending UW, WSU, or WWU and groups them into two categories: those who had a GPA of 3.0 or better and those who did not. (N=400)

Findings

- Overall, 61 percent of the 400 students attending UW, WSU, or WWU earned at least a 3.0 GPA as of their last enrolled term.
- Apart from students enrolled in Honors and AP courses (Level 5), the highest level of courses taken did not correspond to college GPA. Approximately 75% of students who took at least one Honors and AP course had a GPA above 3.0 compared to between 50 and 60% of graduates who took lower levels of math, science and English.
- Grades were slightly better for former RS students. More than two-thirds (68%) had a GPA above 3.0 compared to 60% of non-RS students.
- GPA in math, science and English was by far the strongest predictor of GPA at a four-year college.
- Females were much more likely than males (67% compared to 55%) to have a GPA above 3.0.
- Non-Asian minority students attending UW, WSU, or WWU were much less likely than Asian American and Caucasian students to have a GPA above 3.0 (33% compared to approximately 61%).
- Graduates of High School 1 were more likely to have a B average or better (70% and 65% respectively) compared to High School 3 (57%) and High School 2 (55%).

- Students who attended a CTC before transferring into a four-year college were just as likely to have a GPA of 3.0 or better as students who enrolled directly at a four-year college.
- Overall, the regression model had a respectable R2 value of 20%. Regression results identified two factors that, holding all other variables constant, have a significant effect in predicting whether or not a graduate attending a four-year college has a GPA above 3.0. These factors are all also noted above. They are:
 - Higher grades in English are associated with a B average or better in college.
 - Similarly, higher grades in math are associated with a B average or better in college.
 - Note that whether or not the graduate transferred from a CTC did *not* have a statistically significant effect on the likelihood that they earned a 3.0 GPA.

Figure 22 - Percent of Graduates with Four-Year College GPA above 3.0 by Highest Level Achieved in Math, Science and English

(Total N=400): Dist Results: 61% of students at UW, WSU, or WWU earned a 3.0 GPA

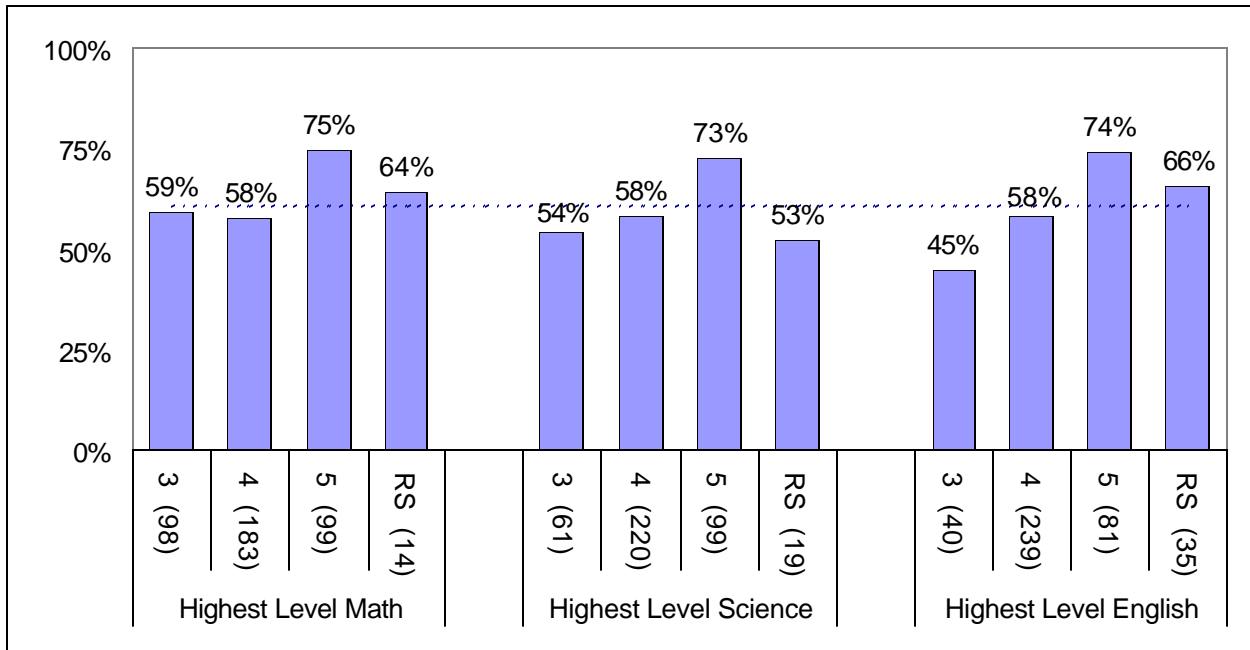


Figure 23 - Percent of Graduates with Four-Year College GPA above 3.0 by High School GPA in Math, Science and English

(Total N=400): Dist Results: 61% of students at UW, WSU, or WWU earned a 3.0 GPA

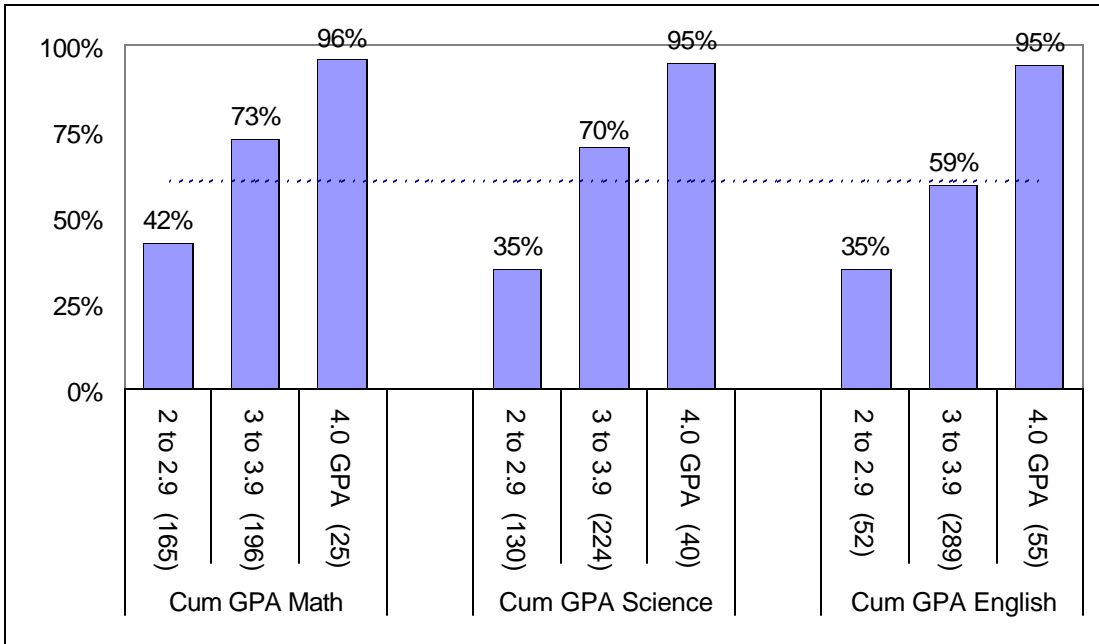
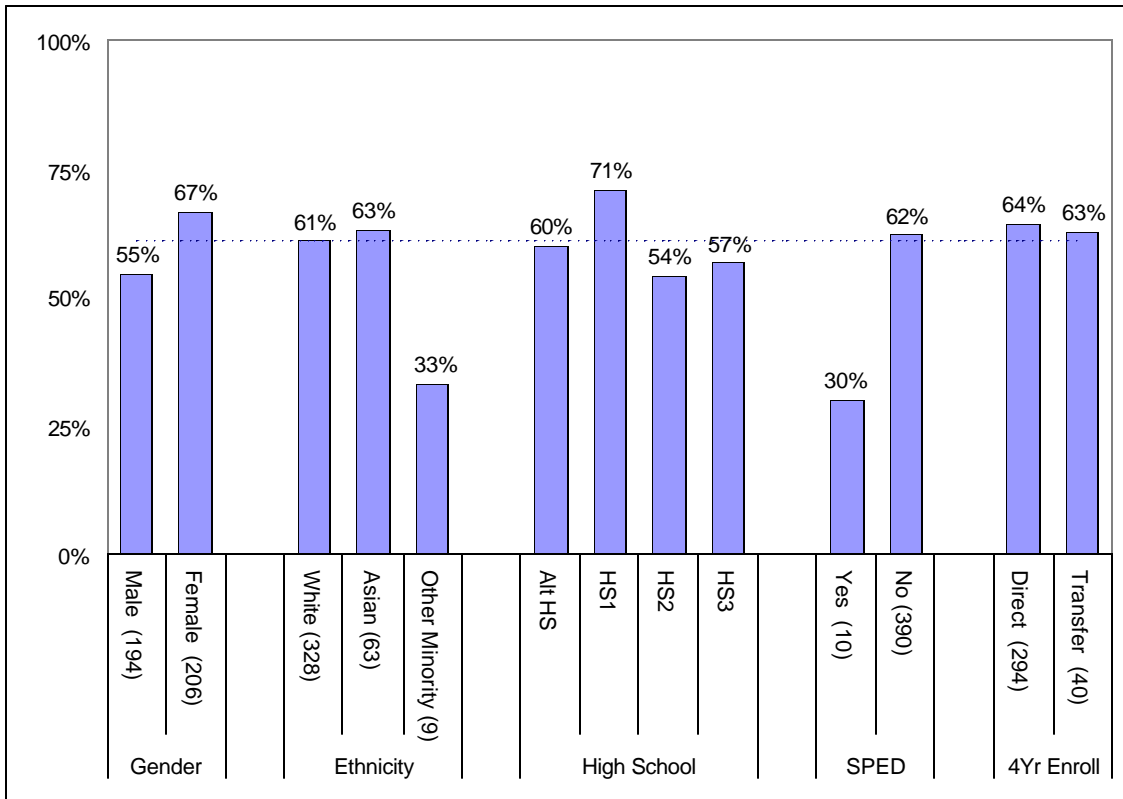


Figure 24 - Percent of Graduates with Four-Year College GPA above 3.0 by Student Characteristics

(Total N=400): Dist Results: 61% of students at UW, WSU, or WWU earned a 3.0 GPA



Research Question #3: College Persistence

The third question addressed in this study is: “What courses best predict persistence in college?”

Ideally, the District wanted to know how many of their graduates earned a Bachelor’s Degree (BA or BS). However, it was not practical to work with a graduating cohort from an earlier year. Nevertheless, since most attrition from college happens between the first and second year of college, eventually earning a college degree can be approximated by whether or not a student continues in college beyond one year. Specific sub-questions include:

- What are the differences between those who persisted from the freshman to the sophomore year of college and those who did not?
- What are the differences between those who started and persisted at a four-year university and those who did not?

Each of these questions will be treated in order below after a general discussion of the activities of District graduates in the first two years after graduation.

What were the college enrollment patterns in the first and second year after graduation?

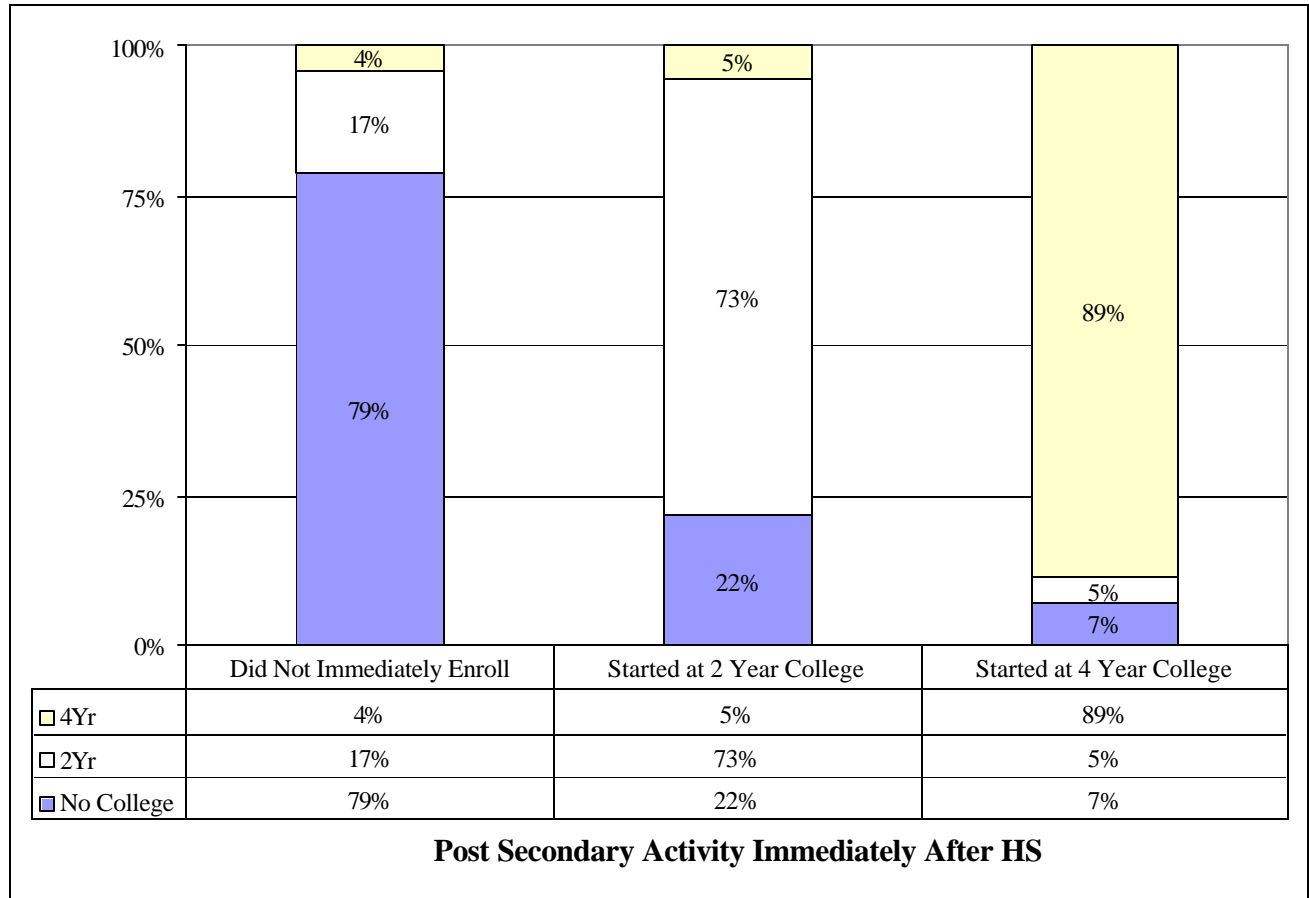
Students included in this analysis

This question includes all graduates and groups them into three groups as described below. (N=1,213)

Findings

- District graduates were classified into one of three categories based on what they did after they graduated: did not attend college (31%), enrolled in a two-year college (27%), or enrolled at a four-year college (42%). Each of these groups constitutes a column in Figure 25.
- There was little movement into, out of, or across levels of college between the first and second years.
 - Of the 370 graduates who did not enroll in college (left-most column), the vast majority (79%) were also not enrolled in the second year. Some (17%) enrolled in a two-year college the second year and a few (4%) enrolled in a four-year college the second year.
 - Of the 333 graduates who enrolled in a two-year college (center column), the vast majority (73%) remained enrolled in the second year. Some (22%) dropped out after the first year and some (5%) transferred to a four-year college the second year.
 - Of the 509 graduates who enrolled in a four-year college (right-most column), the vast majority (89%) remained enrolled in the second year. Some (7%) dropped out after the first year and some (5%) transferred to a two-year college the second year.

Figure 25 - Graduates' Activities in the First and Second Year after Graduation
 (Total N=1,213)



What were the differences between those who persisted from the freshman to the sophomore year of college and those who did not (regardless of the level of college)?

Students included in this analysis

This question includes all graduates who enrolled in college in the first year after graduation and groups them into two categories: those who enrolled in college in the second year and those who did not. (N=842)

Findings

- Overall, 87% of graduates who enrolled in college in the first year remained in college in the second year.
- Persistence rates were not dramatically different for graduates who stopped at different levels or by GPA in math or science.
- Persistence in college did increase noticeably when English grades improved.
- Persistence rates were higher for women and Asian Americans and were lower for SPED graduates.
- Overall, the regression model had an R² value of 5%. Regression results identified four factors that, holding all other variables constant, have a significant effect in predicting whether or not a graduate attending college was also enrolled in the second year. These factors are all also noted above. They are:
 - Asian American graduates were more likely than Caucasian graduates to stay in college.
 - Males were less likely to stay in college than female graduates.
 - Higher grades in English corresponded with a higher probability of staying in college.
 - SPED graduates who went to college were much more likely to leave college than non-SPED graduates.

Figure 26 - Persistence of College Enrollment Among Graduates who Enroll Directly in College by Highest Level Achieved in Math, Science and English

(Total N=842): Dist Results: 87% of students persisted from 1st to 2nd year

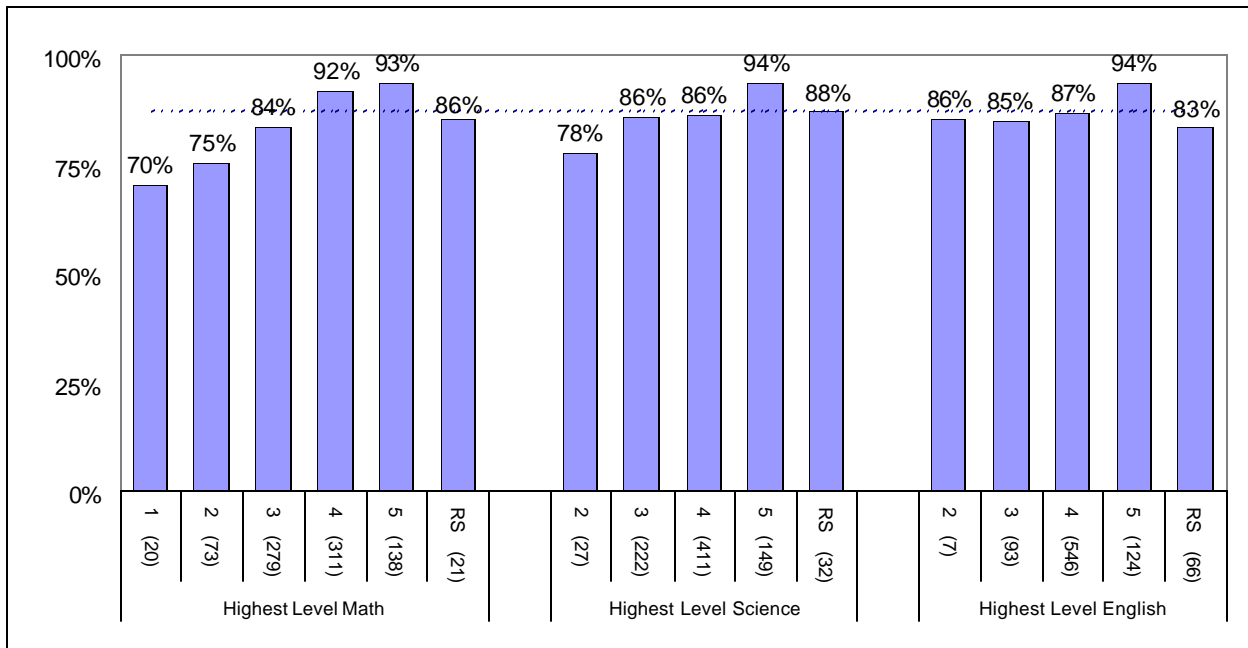


Figure 27 - Persistence of College Enrollment Among Graduates who Enroll Directly in College by GPA in Math, Science and English

(Total N=842): Dist Results: 87% of students persisted from 1st to 2nd year

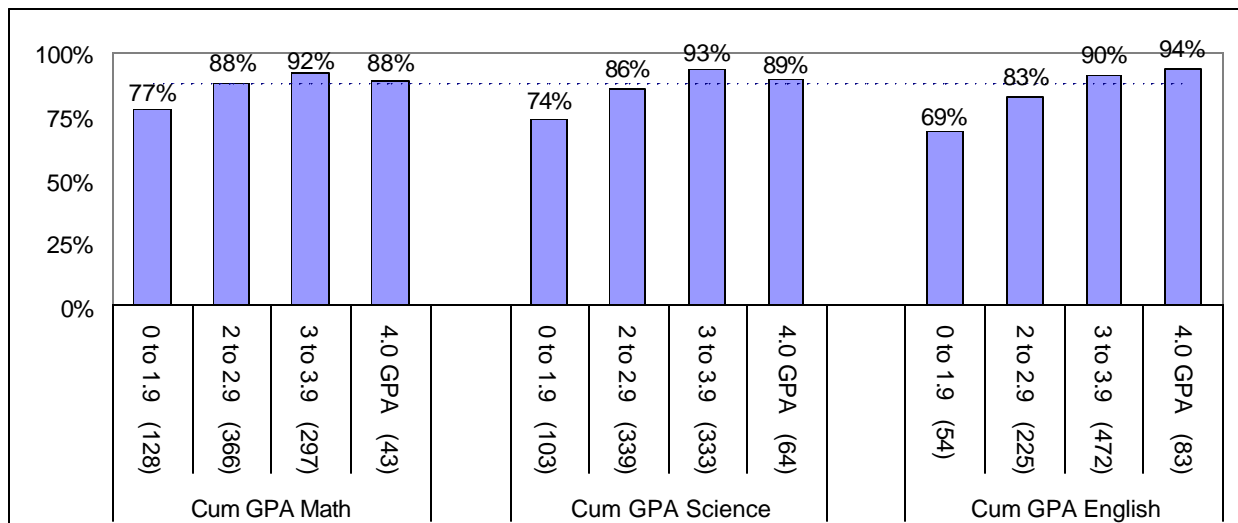
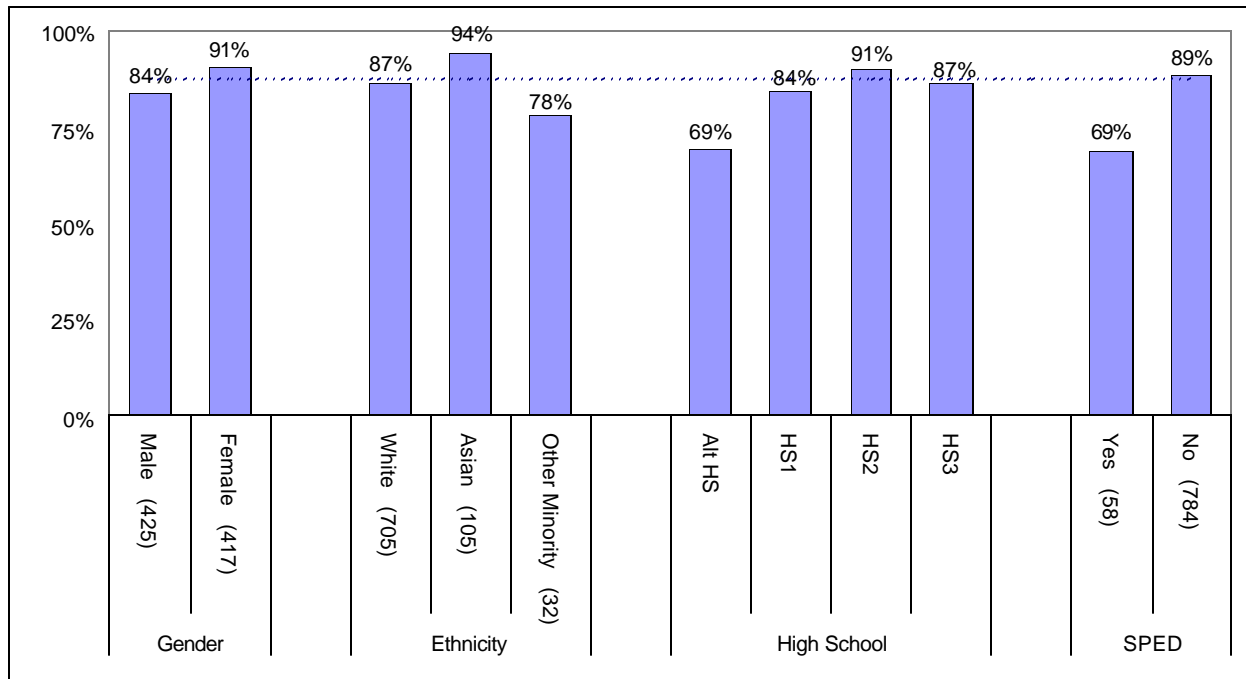


Figure 28 - Persistence of College Enrollment Among Graduates who Enroll Directly in College by Student Characteristics

(Total N=842): Dist Results: 87% of students persisted from 1st to 2nd year



What were the differences between those who started and persisted at a four-year university and those who did not?

Students included in this analysis

This question includes all graduates who enrolled at a four-year college in the first year after graduation (N=509) and groups them into two categories: those who remained at a four-year institution in the second year and those who dropped out or enrolled at a two-year college.

Findings

- Overall, 89% of graduates who enrolled in a four-year college in the first year remained at a four-year in the second year.
- Persistence rates were not dramatically different for graduates who stopped at different levels or by GPA in math or science.
- Persistence in college increased noticeably when English grades improved.
- Four-year persistence was very low for non-Asian minorities and for SPED graduates.
- Overall, the regression model had an R2 value of 4%. Regression results identified two factors that, holding all other variables constant, have a significant effect in predicting whether or not a graduate attending a four-year college remained enrolled in their sophomore year. These factors are all also noted above. They are:

- Graduates who enrolled in a RS English course were less likely to stay enrolled at a four-year college.
- SPED graduates who went to a four-year college were less likely to stay enrolled at a four-year college than non-SPED graduates.

Figure 29 - Persistence of Four-Year College Enrollment Among Graduates who Enroll Directly in College by Highest Level Achieved in Math, Science and English

(Total N=509): Dist Results: 89% of university -level students persisted from 1st to 2nd year

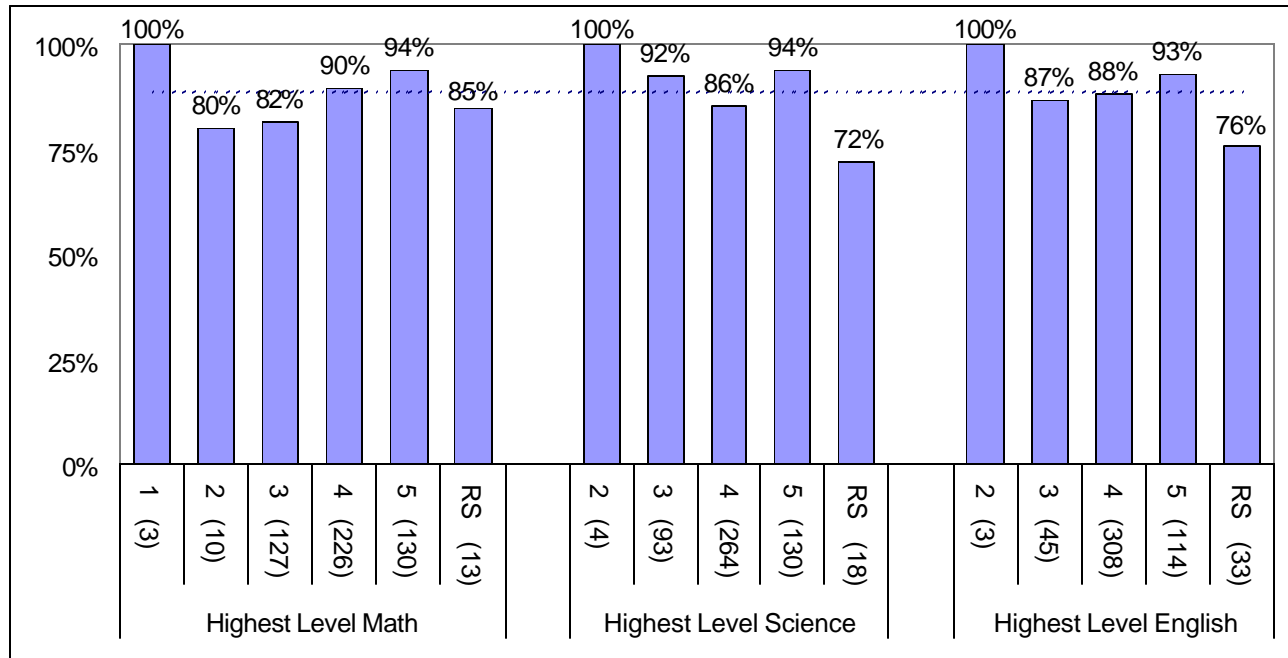


Figure 30 - Persistence of Four-Year College Enrollment Among Graduates who Enroll Directly in College by GPA in Math, Science and English

(Total N=509): Dist Results: 89% of university -level students persisted from 1st to 2nd year

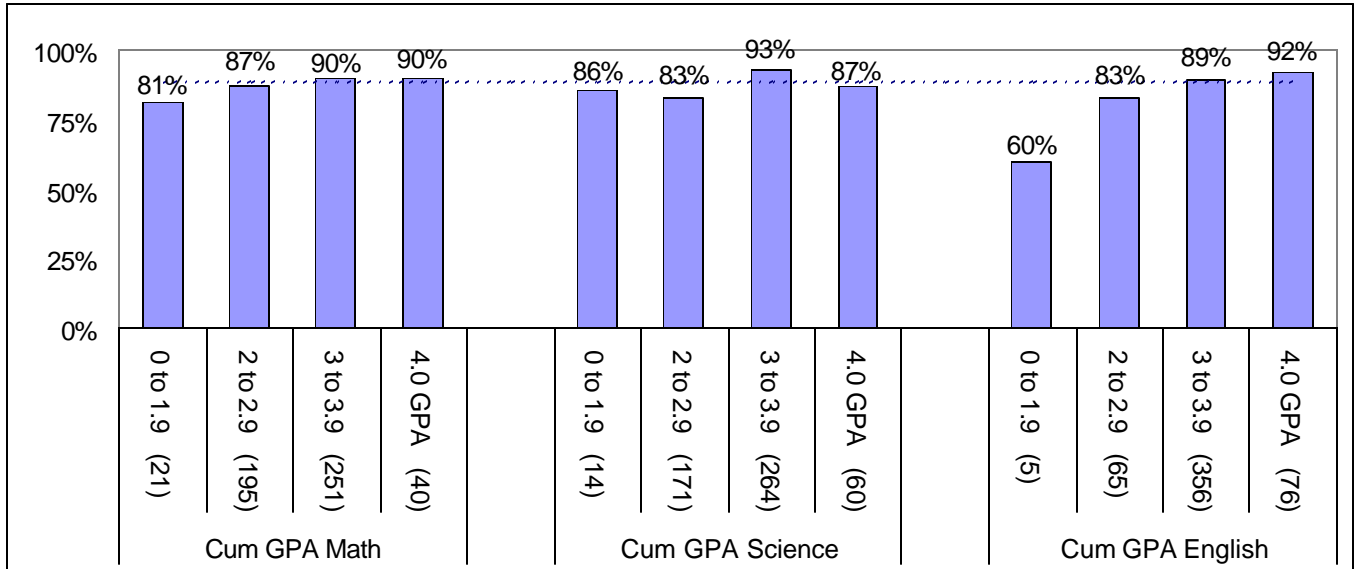
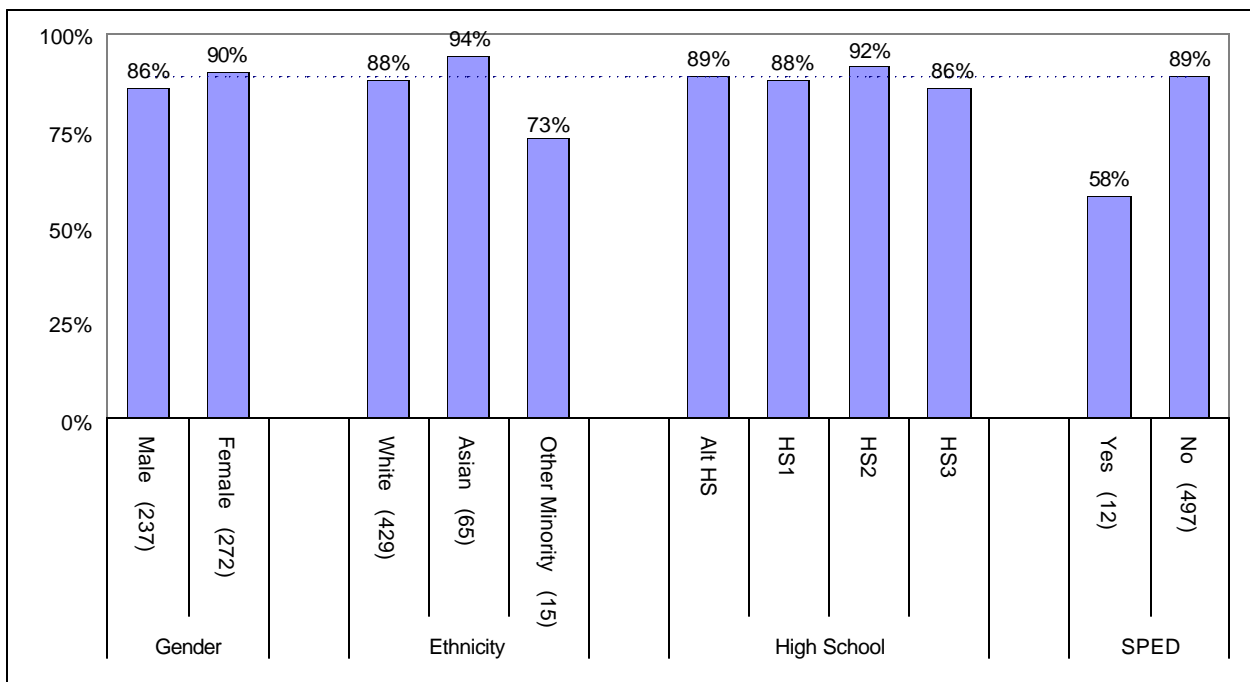


Figure 31 - Persistence of Four-Year College Enrollment Among Graduates who Enroll Directly in College by Student Characteristics

(Total N=509): Dist Results: 89% of university -level students persisted from 1st to 2nd year



Research Question #4: Two-Year Degree Attainment

The fourth question addressed in this study is: “Of the graduates attending a CTC in Washington immediately after high school, which were most likely to earn a one-year or two-year credential within two years?” While not enough time had elapsed for graduates of the Class of 2002 to earn a four-year degree, enough time had passed for many to earn a two-year degree or certificate. For many college students, an Associate of Arts (AA) is the first step toward a BA or higher degree. The specific question is:

What were the characteristics of those who earned a degree or certificate within two years?

Students included in this analysis

This question includes all graduates who enrolled at a local two-year college (N=214) and compared those graduates who earned a degree or certificate to those who enrolled for 2 or 3 years and did not earn a degree or certificate.

Findings

- Overall, 33% of students enrolled for 2 or more years at a local CTC earned an AA degree, and 2% earned a vocational certificate.
- There was little difference in ability to earn a two-year credential by highest level taken. Since most of the graduates who took Calculus/AP, Science and Honors/AP English (Level 5) courses enrolled in a four-year college, there are not enough observations to make conclusive statements.
- Since participation in RS provides both college and high school credit, these students had much higher odds of earning an AA or certificate. Whereas only 29% of non-RS graduates earned a two-year credential, 60% of RS students earned one. Of these, all were AA degrees.
- Students with higher GPAs in high school were more likely to earn an AA or vocational certificate than those with C or D grades.
- Non-Asian minorities were somewhat more likely than Asian Americans or Caucasians to earn a degree or certificate. However, this should be treated with caution since there were only 11 students in this sample.
- Overall, the regression model had an R² value of 12%. Regression results identified two factors that, holding all other variables constant, have a significant effect in predicting whether or not a graduate attending a community or technical college for at least two years earned a degree or certificate. These factors are all also noted above. They are:
 - Graduates who enrolled in a RS course were much more likely to earn a degree or certificate
 - The graduates' GPA in English also had a statistically significant effect on their ability to complete a degree or certificate program

Note: Numbers should be interpreted with caution because of low sample sizes.

Figure 32 - Two-Year Degree Earned by Graduates Attending Local College by Highest Level Achieved in Math, Science and English

(Total N=214): Dist Results: 35% of students at a local CTC earned a degree or certificate

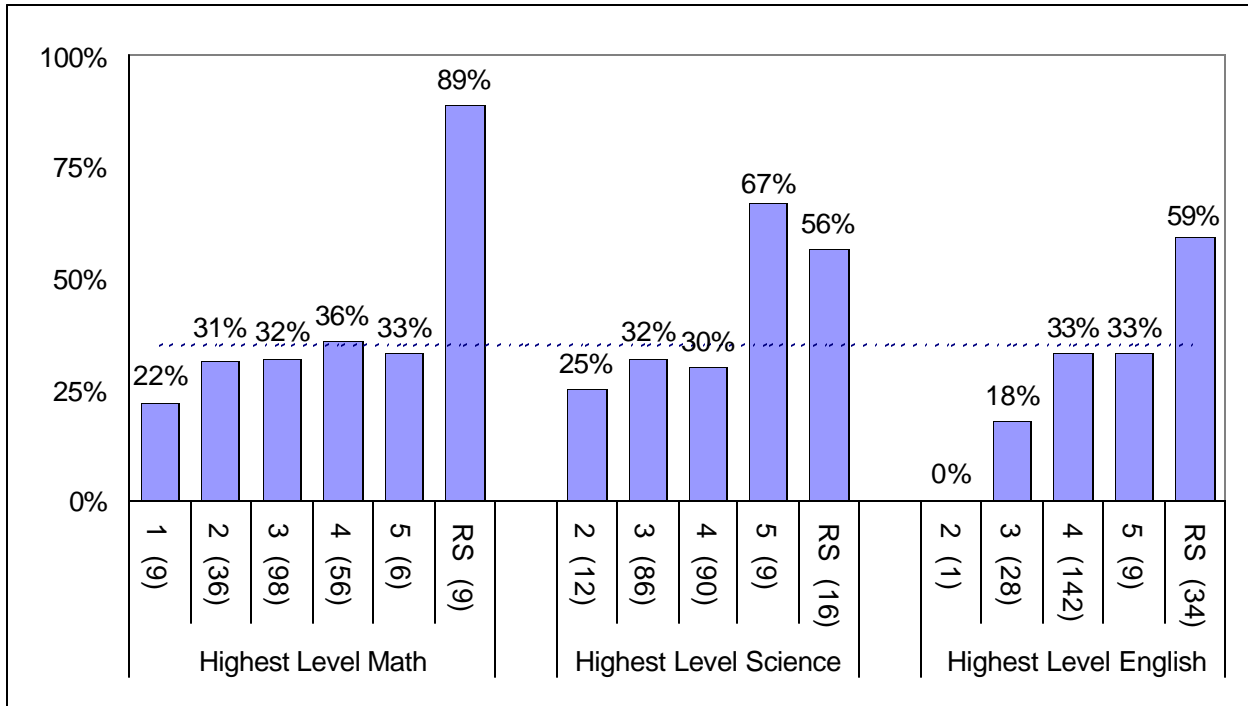
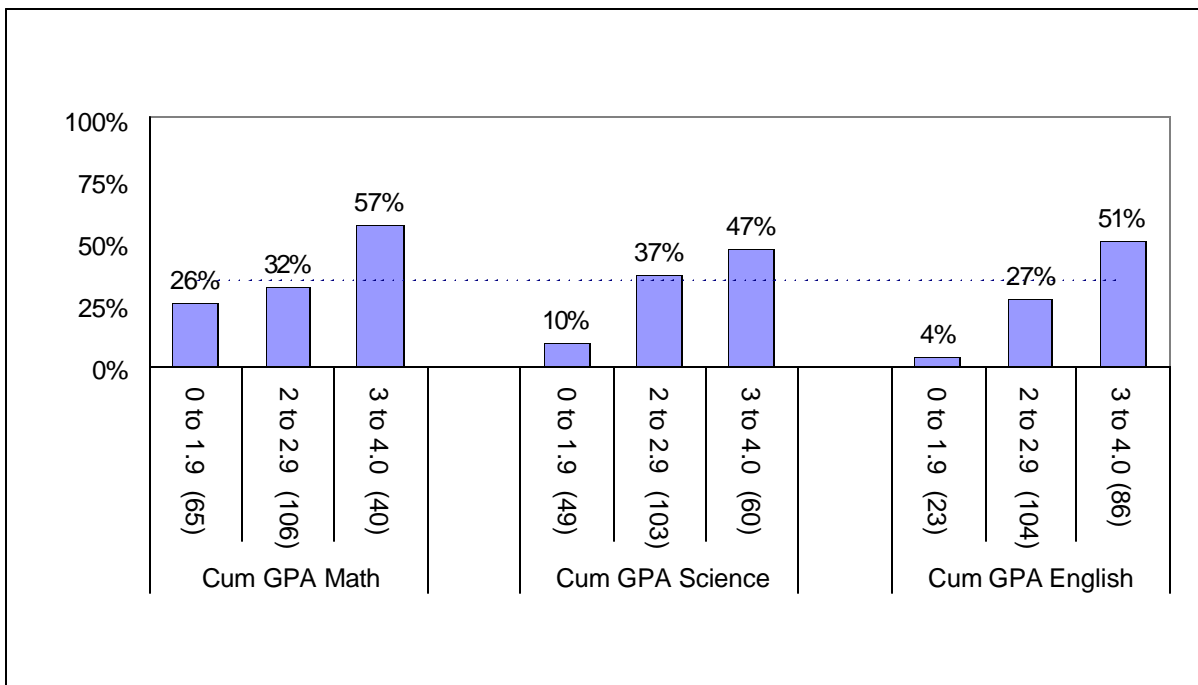


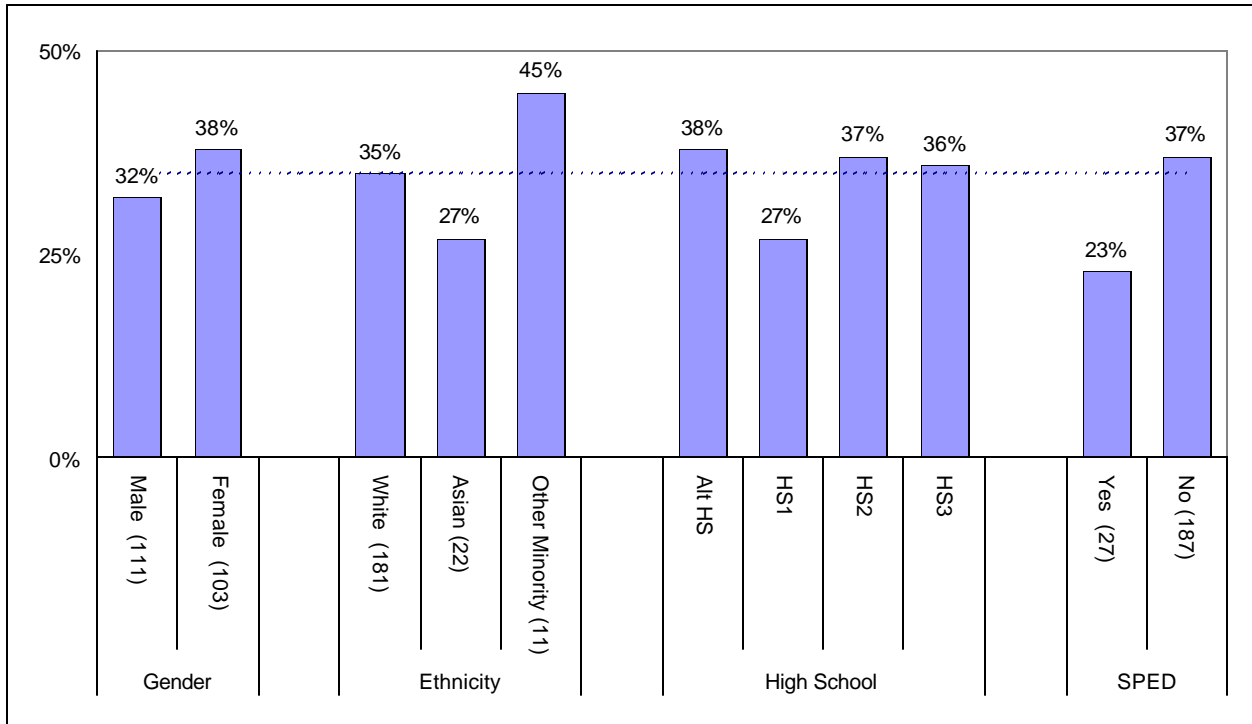
Figure 33 - Two-Year Degree Earned by Graduates Attending Local College by GPA in Math, Science and English

(Total N=214): Dist Results: 35% of students at a local CTC earned a degree or certificate



**Figure 34 - Two-Year Degree Earned by Graduates Attending Local College
by Student Characteristics**

(Total N=214): Dist Results: 35% of students at a local CTC earned a degree or certificate



Research Question #5: Successful Transfer to Four-Year College

Finally, the last question addressed in this study is: “What were the characteristics of students who successfully transferred from a CTC to a four-year institution?”

Some students use the community and technical colleges as a springboard to baccalaureate-level studies. Understanding who can use this as a successful path to higher education may be important for high school counselors as they guide students to appropriate post-secondary studies. Specific sub-questions include:

- How do students who successfully transferred differ from those who indicated an interest in transferring but did not?
- How do students who successfully transferred differ from those who entered a four-year institution directly from high school?

Each of these questions will be treated in order below.

How do students who successfully transferred differ from those who indicated an interest in transferring but did not?

Students included in this analysis

This question includes all graduates attending a local CTC who identified their educational goal as “transfer to a four-year program.” Those who successfully transferred are compared against those who did not. (N=158)

Findings

- Of the 158 students with a declared intent to transfer, 29% were successful within 3 years of enrolling at a two-year college.
- Odds of transferring were much higher for students who took either a Calculus or AP Science course and Honors/AP English (Level 5) class or RS. Approximately half of those students successfully transferred compared to 20-25% of other graduates.
- Similarly, students with higher GPAs were more likely to transfer than those who had D or C averages in math, science and English in high school.
- Transfer success was much higher for Caucasians (31%) than for minorities.
- Transfer success was much lower for graduates of High School 1 (19%) than for graduates of other high schools.
- Transfer success was the same for SPED and non-SPED students.
- Overall, the regression model had an R² value of 9%. Regression results identified two factors that, holding all other variables constant, have a significant effect in

predicting whether or not a graduate attending a CTC with an intent to transfer actually enrolls in a four-year college. These factors are also noted above. They are:

- Graduates who enrolled in a RS course were much more likely to transfer.
- Their high school GPA in math also had a statistically significant effect on whether they transferred to a four-year college.

Figure 35 - Percent of Graduates Transferring from a Local Two-Year to Four-Year College by Highest Level Achieved in Math, Science and English
 (Total N=158): Dist Results: 29% of students with a goal of transferring successfully transferred within 3 years

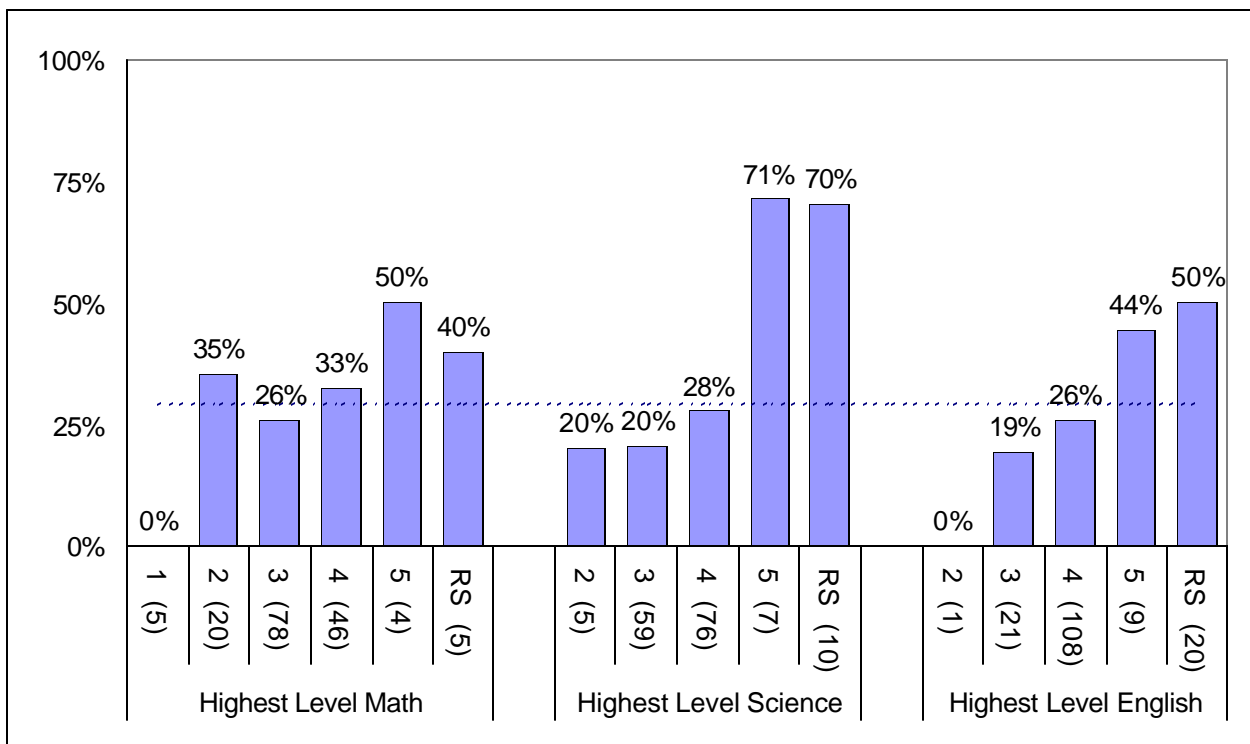


Figure 36 - Percent of Graduates Transferring from a Local Two-Year to Four-Year College by GPA in Math, Science and English

(Total N=158): Dist Results: 29% of students with a goal of transferring successfully transferred within 3 years

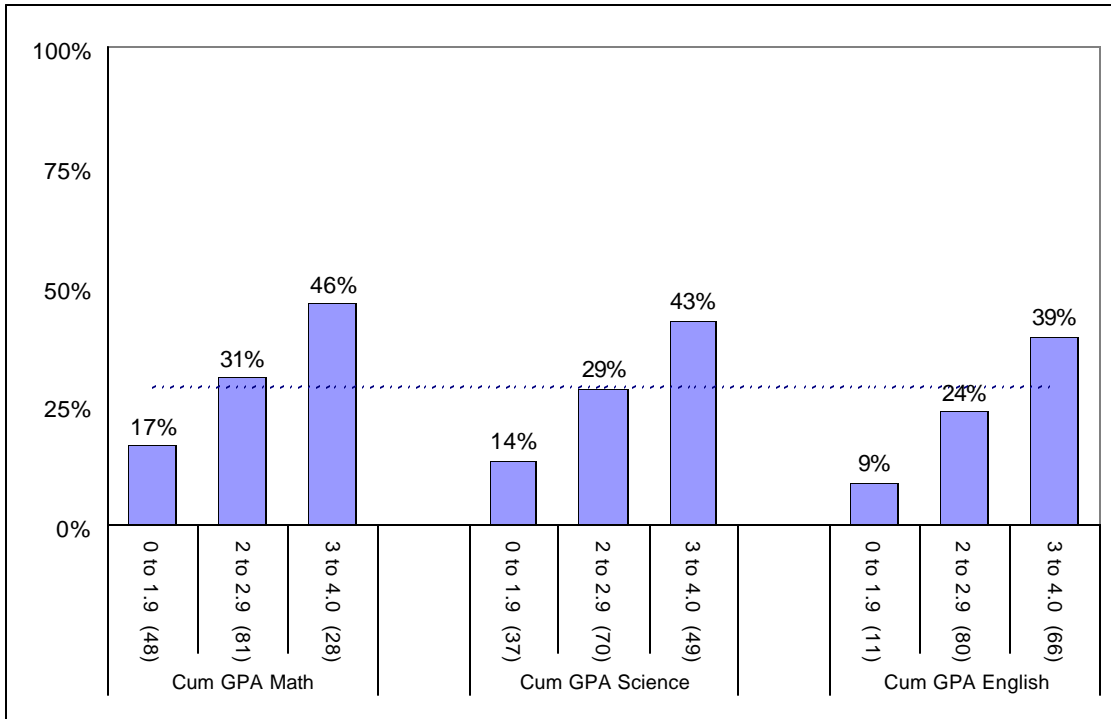
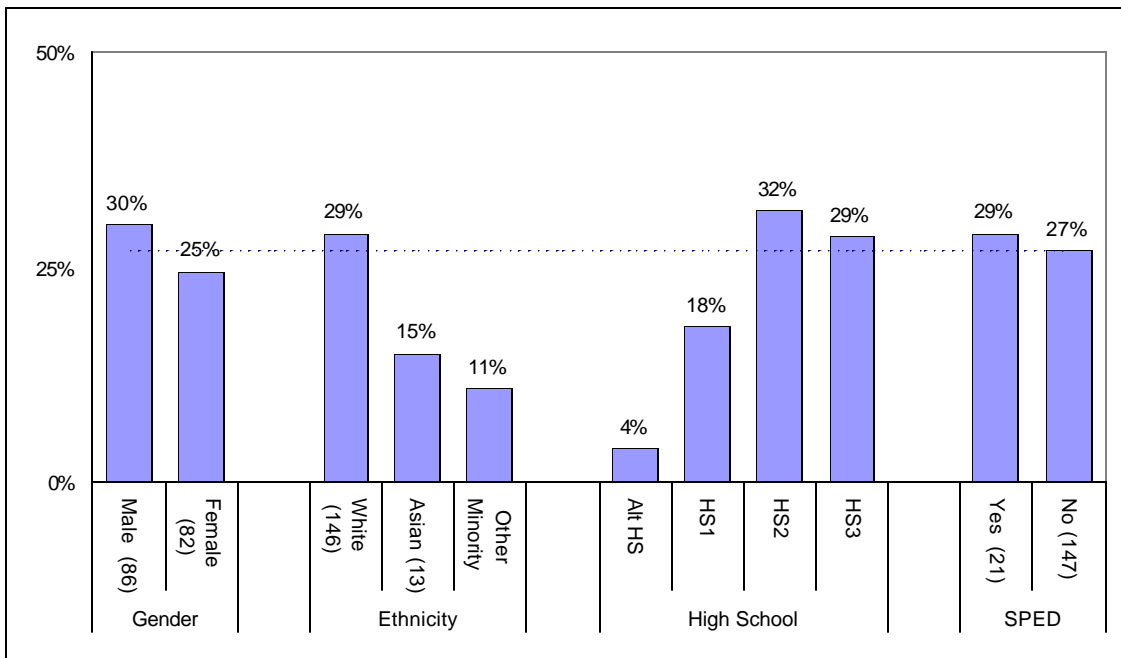


Figure 37 - Percent of Graduates Transferring from a Local Two-Year to Four-Year College by Student Characteristics

(Total N=158): Dist Results: 29% of students with a goal of transferring successfully transferred within 3 years



How do students who successfully transferred differ from those who entered a four-year institution directly from high school?

Students included in this analysis

This question includes all students enrolled at a four-year college in the 3rd year after graduation (approximately their junior year) and compares those who started at a CTC and successfully transferred in their sophomore or junior year to those who enrolled at a four-year college and continued through their junior year. (N=479)

Findings

- Overall, of the 479 university-level juniors, 87% entered directly and 13% enrolled for at least one quarter at a two-year college.
- Two-thirds (67%) of RS students enrolled directly in a four-year college after graduation and 33% transferred in.
- Students with lower GPAs and lower levels attained in math, science and English were more likely to use the transfer route to get into a four-year college than their peers.
- As noted in an earlier section, the percentage of students with a GPA of 3.0 or higher was the same whether or not they entered directly or transferred in.
- Overall, the regression model had a respectable R² value of 20%. Regression results identified six factors that, holding all other variables constant, have a significant effect in predicting whether or not a graduate attending a four-year college started there or transferred in from a community or technical college. These factors are all also noted above. They are:
 - Completing pre-calculus or calculus (Level 4 and 5) in math increased the odds that they went directly to a four-year college.
 - Graduating from High School 2 was associated with starting at a two-year college compared to students from High School 3.
 - Males were more likely to transfer into a four-year college than female graduates.
 - SPED graduates were more likely to transfer into a four-year college than enter directly from high school.
 - A higher GPA in English corresponded with direct entry into a four-year college.
 - Taking any RS class greatly increased the likelihood that the graduate started at a two-year college and transferred to a BA-level institution.

Figure 38 - Percent of Juniors Who Entered a Four-Year College Directly (as opposed to transferring in) by Highest Level Achieved in Math, Science and English
 (Total N=479): Dist Results: 87% of university juniors entered directly (as compared to transferring from a CTC)

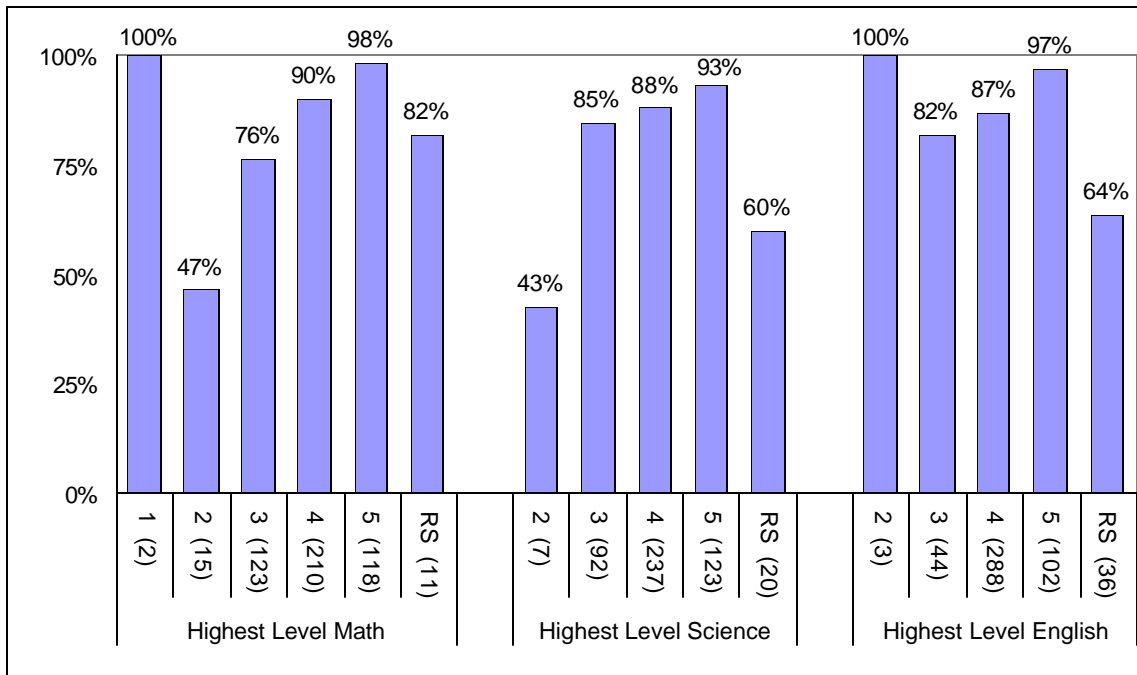
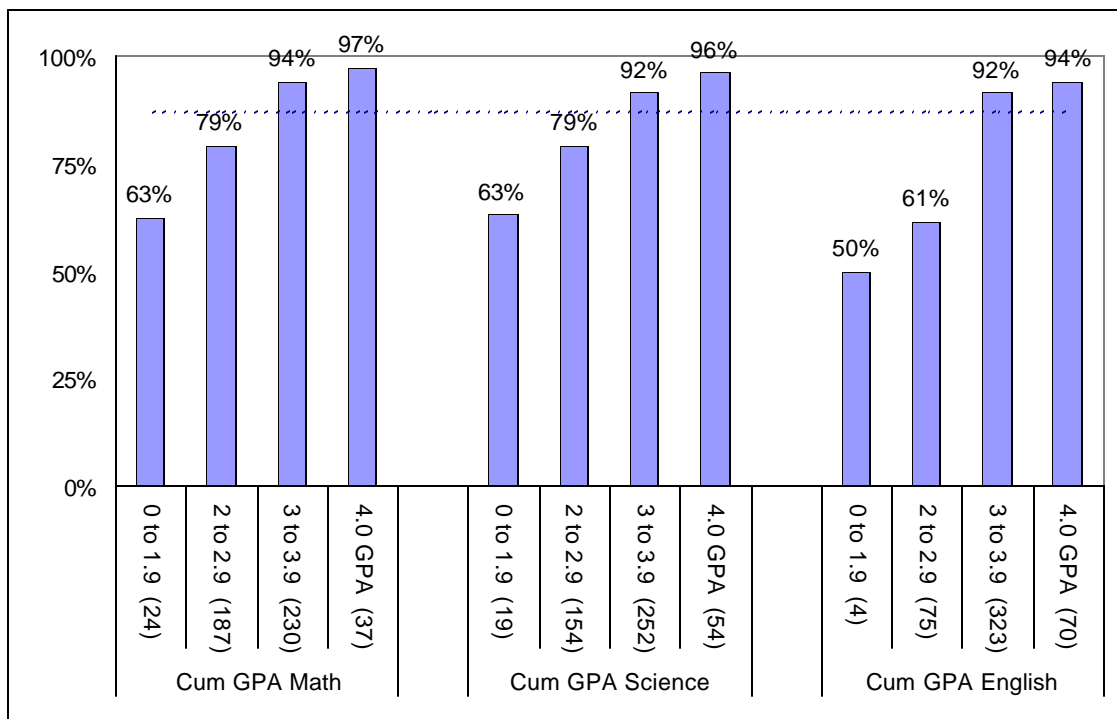
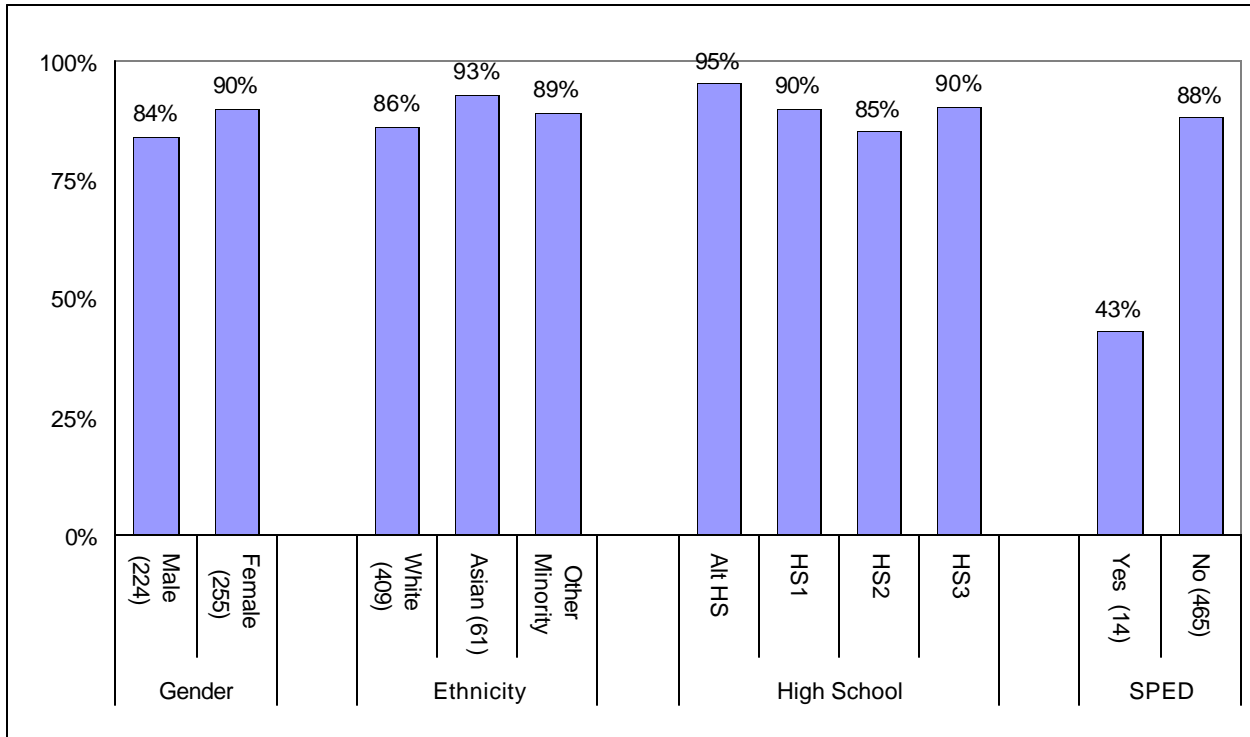


Figure 39 - Percent of Juniors Who Entered a Four-Year College Directly (as opposed to transferring in) by GPA in Math, Science and English
 (Total N=479): Dist Results: 87% of university juniors entered directly (as compared to transferring from a CTC)



**Figure 40 - Percent of Juniors Who Entered a Four-Year College Directly
(as opposed to transferring in) by Student Characteristics**

(Total N=479): Dist Results: 87% of university juniors entered directly (as compared to transferring from a CTC)



Appendix A

Logistic Regression

Enrollment in college = 1
Not enrolled in college = 0

Case Processing Summary			
Unweighted Cases(a)		N	Percent
Selected Cases	Included in Analysis	1195	98.5
	Missing Cases	18	1.5
	Total	1213	100.0

Block 1: Method = Enter

Model Summary			
Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	1366.644	.081	.114

Variables in the Equation							
		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1(a)	MTHLVL1	-.906	.335	7.336	1	.007	.404
	MTHLVL2	-.774	.225	11.846	1	.001	.461
	MTHLVL4	-.184	.188	.952	1	.329	.832
	MTHLVL5	-.342	.237	2.075	1	.150	.711
	ALT HS	-.089	.450	.039	1	.843	.915
	HS 1	-.088	.214	.171	1	.679	.916
	HS 2	-.052	.191	.073	1	.787	.950
	ASIAN	.921	.266	12.030	1	.001	2.513
	TRADDIS	.014	.304	.002	1	.962	1.015
	MTHRS	.479	.796	.362	1	.547	1.615
	SCIRS	1.868	.761	6.030	1	.014	6.475
	ENGGPA	.474	.112	17.815	1	.000	1.607
	Constant	-.293	.351	.695	1	.405	.746

Logistic Regression

Enrolled in two-year college = 1
Enrolled in four-year college = 0

Case Processing Summary			
Unweighted Cases(a)		N	Percent
Selected Cases	Included in Analysis	824	67.9
	Missing Cases	389	32.1
	Total	1213	100.0

Block 1: Method = Enter

Model Summary			
Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	709.220	.382	.517

Variables in the Equation							
		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1(a)	MTHLVL1	.760	1.227	.384	1	.535	2.139
	MTHLVL2	.685	.421	2.644	1	.104	1.984
	MTHLVL4	-.561	.237	5.631	1	.018	.571
	MTHLVL5	-1.312	.430	9.306	1	.002	.269
	ENGLVL1	16.517	40192.970	.000	1	1.000	14903780.436
	ENGLVL2	21.256	23756.293	.000	1	.999	1703504286.845
	ENGLVL4	.076	.348	.048	1	.827	1.079
	ENGLVL5	-1.097	.455	5.797	1	.016	.334
	ALT HS	2.140	1.276	2.812	1	.094	8.502
	HS 1	.921	.299	9.495	1	.002	2.511
	HS 2	.900	.340	7.026	1	.008	2.460
	MTHRS	-.981	.670	2.139	1	.144	.375
	ENGRS	1.032	.491	4.425	1	.035	2.808
	MTHGPA	-.658	.200	10.887	1	.001	.518
	ENGGPA	-1.382	.227	37.126	1	.000	.251
	SPED	1.033	.434	5.653	1	.017	2.809
	Constant	5.105	.696	53.828	1	.000	164.922

Logistic Regression

Enrolled as a transfer student at a local CTC = 1
Enrolled as a vocational student at a local CTC = 0

Case Processing Summary			
Unweighted Cases(b)		N	Percent
Selected Cases(a)	Included in Analysis	237	19.5
	Missing Cases	976	80.5
	Total	1213	100.0

Block 1: Method = Enter

Model Summary			
Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	232.662	.131	.195

Variables in the Equation							
		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1(a)	MTHLVL1	-.538	.840	.409	1	.522	.584
	MTHLVL2	-.878	.478	3.374	1	.066	.416
	MTHLVL4	.096	.468	.042	1	.838	1.100
	MTHLVL5	-1.368	.859	2.535	1	.111	.255
	MTHRS	.496	1.122	.196	1	.658	1.643
	HS 1	.238	.502	.225	1	.635	1.269
	HS 2	.975	.549	3.157	1	.076	2.650
	ENGGPA	.851	.293	8.436	1	.004	2.342
	FRPL	-1.702	1.005	2.865	1	.091	.182
	Constant	-1.156	.817	2.003	1	.157	.315

Logistic Regression

Enrolled at an in-state college = 1
Enrolled at an out-of-state college = 0

Case Processing Summary			
Unweighted Cases(a)		N	Percent
Selected Cases	Included in Analysis	821	67.7
	Missing Cases	392	32.3
	Total	1213	100.0

Block 1: Method = Enter

Model Summary			
Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	532.107	.080	.154

Variables in the Equation							
		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1(a)	ENGLVL1	-25.362	40192.970	.000	1	.999	.000
	ENGLVL2	18.318	19817.114	.000	1	.999	90229817.355
	ENGLVL4	-.234	.459	.259	1	.611	.792
	ENGLVL5	-.840	.494	2.891	1	.089	.432
	ASIAN	1.290	.481	7.177	1	.007	3.632
	TRADDIS	-.238	.645	.136	1	.712	.788
	ENGRS	.121	.622	.038	1	.846	1.128
	MTHGPA	-.723	.238	9.199	1	.002	.485
	ENGGPA	-.521	.316	2.712	1	.100	.594
	Constant	6.074	.908	44.742	1	.000	434.279

Logistic Regression

Enrolled at a public college = 1
Enrolled at a private college = 0

Case Processing Summary			
Unweighted Cases(a)		N	Percent
Selected Cases	Included in Analysis	830	68.4
	Missing Cases	383	31.6
	Total	1213	100.0

Block 1: Method = Enter

Model Summary			
Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	541.925	.075	.145

Variables in the Equation							
		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1(a)	MTHLVL1	-.325	1.089	.089	1	.765	.723
	MTHLVL2	.527	.779	.457	1	.499	1.693
	MTHLVL4	-.694	.307	5.113	1	.024	.499
	MTHLVL5	-1.289	.356	13.096	1	.000	.276
	ASIAN	1.038	.421	6.067	1	.014	2.823
	TRADDIS	.331	.763	.188	1	.664	1.393
	MTHRS	.424	1.228	.119	1	.730	1.529
	SCIRS	-2.106	1.183	3.168	1	.075	.122
	ANYRS	1.822	1.038	3.080	1	.079	6.187
	MTHGPA	-.602	.193	9.726	1	.002	.548
	Constant	4.171	.589	50.145	1	.000	64.784

Logistic Regression

Enrolled at a four-year university with a GPA at or above 3.0 = 1

Enrolled at a four-year university with a GPA below 3.0 = 0

Case Processing Summary			
Unweighted Cases(b)		N	Percent
Selected Cases(a)	Included in Analysis	395	32.6
	Missing Cases	818	67.4
	Total	1213	100.0

Block 1: Method = Enter

Model Summary			
Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	440.934	.200	.271

Variables in the Equation							
		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1(a)	MTHLVL2	.819	.975	.706	1	.401	2.268
	MTHLVL4	-.549	.285	3.718	1	.054	.578
	MTHLVL5	-.085	.359	.056	1	.813	.919
	MTHRS	-.163	.700	.054	1	.816	.850
	MTHGPA	.709	.249	8.099	1	.004	2.032
	ENGGPA	1.906	.368	26.823	1	.000	6.727
	Constant	-7.961	1.141	48.648	1	.000	.000

Logistic Regression

Enrolled in college in both the first and second year after high school = 1
Enrolled in college in the first year but not the second year after high school = 0

Case Processing Summary			
Unweighted Cases(a)		N	Percent
Selected Cases	Included in Analysis	834	68.8
	Missing Cases	379	31.2
	Total	1213	100.0

Block 1: Method = Enter

Model Summary			
Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	594.554	.048	.089

Variables in the Equation							
		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1(a)	ASIAN	.800	.441	3.298	1	.069	2.226
	TRADDIS	-.474	.464	1.047	1	.306	.622
	MALE	-.483	.227	4.513	1	.034	.617
	ENGGPA	.542	.162	11.252	1	.001	1.719
	SPED	-.754	.331	5.193	1	.023	.470
	Constant	.586	.550	1.134	1	.287	1.797

Logistic Regression

Enrolled in a four-year college in both the first and second year after high school = 1
Enrolled in a four-year college in the first but not the second year after high school = 0

Case Processing Summary			
Unweighted Cases(a)		N	Percent
Selected Cases	Included in Analysis	507	41.8
	Missing Cases	706	58.2
	Total	1213	100.0

Block 1: Method = Enter

Model Summary			
Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	337.288	.045	.088

Variables in the Equation							
		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1(a)	MTHLVL1	19.835	22007.035	.000	1	.999	411229499.464
	MTHLVL2	-1.002	.919	1.190	1	.275	.367
	MTHLVL3	-1.139	.441	6.666	1	.010	.320
	MTHLVL4	-.523	.431	1.469	1	.226	.593
	MTHRS	.299	.987	.092	1	.762	1.348
	ENGRS	-1.310	.507	6.665	1	.010	.270
	SPED	-1.901	.666	8.139	1	.004	.149
	Constant	2.830	.374	57.136	1	.000	16.942

Logistic Regression

Enrolled in a two-year college and earned a degree or certificate = 1
Enrolled in a two-year college for at least two years and did not earn a degree or
Certificate = 0

Case Processing Summary			
Unweighted Cases(a)		N	Percent
Selected Cases	Included in Analysis	213	17.6
	Missing Cases	1000	82.4
	Total	1213	100.0

Block 1: Method = Enter

Model Summary			
Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	246.361	.121	.167

Variables in the Equation							
		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1(a)	ENGGPA	1.065	.275	15.045	1	.000	2.900
	ANYRS	1.092	.403	7.327	1	.007	2.981
	Constant	-3.860	.811	22.668	1	.000	.021

Logistic Regression

Identified as a transfer student at a local CTC and successfully transferred to a four-year college = 1

Identified as a transfer student at a local CTC and did not transfer to a four-year college = 0

Case Processing Summary			
Unweighted Cases(a)		N	Percent
Selected Cases	Included in Analysis	157	12.9
	Missing Cases	1056	87.1
	Total	1213	100.0

Block 1: Method = Enter

Model Summary			
Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	175.026	.090	.129

Variables in the Equation							
		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1(a)	ANYRS	1.077	.494	4.761	1	.029	2.937
	MTHGPA	.810	.279	8.415	1	.004	2.247
	Constant	-2.993	.719	17.350	1	.000	.050

Logistic Regression

Enrolled directly in a four-year college after graduating = 1
Transferred from a CTC to a four-year college = 0

Case Processing Summary			
Unweighted Cases(b)		N	Percent
Selected Cases(a)	Included in Analysis	469	38.7
	Missing Cases	744	61.3
	Total	1213	100.0

Block 1: Method = Enter

Model Summary			
Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	264.686	.195	.359

Variables in the Equation							
		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1(a)	MTHLVL1	21.665	40192.970	.000	1	1.000	2565238741.053
	MTHLVL2	.166	.704	.055	1	.814	1.180
	MTHLVL4	1.031	.409	6.364	1	.012	2.803
	MTHLVL5	2.432	.833	8.521	1	.004	11.383
	HS 1	-.139	.556	.062	1	.803	.870
	HS 2	-.947	.504	3.536	1	.060	.388
	MALE	-.747	.360	4.307	1	.038	.474
	MTHRS	2.014	1.055	3.644	1	.056	7.492
	ANYRS	-2.183	.520	17.631	1	.000	.113
	MTHGPA	.478	.353	1.831	1	.176	1.612
	ENGGPA	.967	.440	4.833	1	.028	2.630
	FRPL	-.202	1.298	.024	1	.876	.817
	SPED	-2.040	.681	8.967	1	.003	.130
	Constant	-2.042	1.282	2.538	1	.111	.130