

**Predictors for 6-Year Graduation Rates of First-Time Full-Time Students
(Fall 1998 Cohort Through Fall 2002 Cohort)**

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Student success has been adopted as one of new required topics in Institutional Review Process of WASC accreditation. The new requirement for Capacity and Preparatory Review is described by WASC as “A study and analysis of student success, drawing from, but not limited to, [the institution’s] data on retention and graduation rates, disaggregated by student type and by program. To the extent possible, the study should include comparisons with similar institutions and, where appropriate, recommendations for improvement.” New required coverage is also addressed for Educational Effectiveness Review as “Further development of student success efforts. Based on the findings of the institution and the team at the CPR review, the institution will be expected to further its analysis of student success, deepening its analysis of its own and comparative data on graduation and retention rates, year-to-year attrition, campus climate surveys, etc.” The WASC accrediting commission now requires that our institution provide supporting documents on this topic in both CPR and EER processes. (http://www.wascsenior.org/findit/files/forms/Addressing_the_2008_Revisions_to_the_CFRs_and_Institutional_Review_Process.pdf).

As compliance to revised WASC standards and requirements, Institutional Research and Analytical Studies analyzed *6-year graduation rates* for First-Time Full-Time (FTF) students in Cal State Fullerton for 1998 fall cohorts through 2002 fall cohorts. Factors affecting student graduation rates were investigated and student characteristics by those factors were provided in the present report. Logistic Regression was employed to identify significant predictors of whether a student was able to graduate within six years or not. High school GPA of First-Time Full-Time (FTF) students who entered Cal State Fullerton, was found to be the most significant predictor, and then gender was the second most significant predictor of 6-year graduation. Significant differences in graduation rates were also discovered by student major (college), ELM status, service area (local vs. non-local), SES (Socio-Economic Status), SAT scores, SES, ethnicity, and units taken in the 1st term.

PART 1. Student characteristics of graduates vs. non-graduates

The dataset consists of all the First-Time Full-Time (FTF) students who entered Cal State Fullerton in the fall between 1998 and 2002. A total of 13,412 student records were originally included in the analysis to identify predictors of 6-year graduation, and later 1,048 were excluded because there were no SAT scores available. In the final dataset that was employed in the logistic regression, a total of 12,363 student records were used. The nine tables below indicate student head count in each category by graduation status (grads vs. non-grads) and graduate rate in the category before logistic regressions were conducted. Overall, the 6-year graduation rate of the five cohorts between 1998 and 2002 was 49%.

(1) High School GPA and Units taken

Table 1 indicates the significant relationship between High School GPA and graduation rates. As high school GPA increases, the more likely the students are to graduate within six years. High School academic performance before they entered Cal State Fullerton, is the strongest factor predicting 6-year graduation.

Table 1: Graduations by High School GPA.

High School GPA	Non-Grads	Grads	Total	Grad Rate
Lower than 2.00	14	15	29	52%
2.00 – 2.19	33	4	37	11%
2.20 – 2.39	152	37	189	20%
2.40 – 2.59	508	240	748	32%
2.60 – 2.79	1003	533	1536	35%
2.80 – 2.99	1262	847	2109	40%
3.00 – 3.19	1402	1175	2577	46%
3.20 – 3.39	1016	1108	2124	52%
3.40 – 3.59	696	972	1668	58%
3.60 – 3.79	411	747	1158	65%
3.80 – 3.99	196	522	718	73%
4.00 or above	130	389	519	75%
Total	6823	6589	13412	49%

Number of units taken in 1st term is a positive predictor of 6-year graduation. Table 2 compares total number of units taken by students that enrolled 1st term between graduates and non-graduates. There is a rising trend in graduation rate as the number of units increases. However, it is noticeable that excessively high number of units over 20 starts to deteriorate the graduation rate.

Table 2: Graduations by Units Taken in 1st Term.

Units Taken in 1 st Term	Non-Grads	Grads	Total	Grad Rate
12 Units	2862	2524	5386	47%
13 Units	1903	1798	3701	49%
14 Units	732	654	1386	47%
15 Units	748	856	1604	53%
16 Units	432	574	1006	57%
17 Units	72	88	160	55%
18 Units	42	45	87	52%
19 Units	21	36	57	63%
20 Units or more	11	14	25	56%
Total	6823	6589	13412	49%

(2) Gender, Major, Ethnicity, ELM Status, Local Area

Student gender is one of the most significant factors affecting 6-year graduation. Table 3 clearly indicates gender differences in the 6-year graduation rate. Female students are far more likely to graduate within 6 years than male students. The 6-year graduation rate of FTF female students is 15% higher than that of male counterparts.

Table 3: Graduations by Gender.

Gender	Non-Grads	Grads	Total	Grad Rate
Women	3637	4469	8106	55%
Men	3186	2120	5306	40%
Total	6823	6589	13412	49%

Table 4 shows 6-year graduation rates for each college indicating a substantial disparity among colleges. It is particularly noticeable that students initially enrolling with a major in the College of Engineering and Computer Science (ECS), College of Natural Science and Mathematics (NSM), and College of Arts (ARTS), partake of lower graduation rates compared to the College of Communication (COMM), College of Humanities and Social Sciences (HSS), and College of Health and Human Development (HHD). Mihaylo College of Business and Economics (MCBE) is in between at a graduation rate of 50%.

Table 4: Graduations by Major (College).

Major (College)	Non-Grads	Grads	Total	Grad Rate
ARTS	583	504	1087	46%
CBE	1403	1410	2813	50%
COMM	385	503	888	57%
ECS	669	367	1036	35%
HHD	358	452	810	56%
NSM	531	402	933	43%
OTHER	1747	1619	3366	48%
H&SS	1147	1332	2479	54%
Total	6823	6589	13412	49%

Ethnicity is also a factor affecting the 6-year graduation rate. Table 5 demonstrates ethnic differences in graduation rate in favor of White and Asian students, while underrepresented minorities including Black, American-Indian, and Hispanic students are less likely to graduate within six years. Particularly, Black students are least likely to attain their bachelor's degrees within six years.

Table 5: Graduations by Ethnic Category.

Ethnicity	Non-Grads	Grads	Total	Grad Rate
AM IND	38	34	72	47%
BLACK	353	183	536	34%
HISPANIC	2086	1725	3811	45%
ASIAN	1560	1629	3189	51%
UNKNOWN	676	670	1346	50%
NON RES	156	142	298	48%
WHITE	1954	2206	4160	53%
Total	6823	6589	13412	49%

ELM (Entry Level Mathematics Proficiency) Status of FTF students is a significant variable predicting 6-year graduation, as indicated in Table 6. It is interesting to observe that math remedial courses considerably facilitate FTF students to graduate within six years. Those who took math remedial courses are even more likely to graduate than those who passed ELM test or those who have been exempted from test-taking.

Table 6: Graduations by ELM Status.

ELM Status	Non-Grads	Grads	Total	Grad Rate
Failed	3151	2374	5525	43%
Did Remedial	521	678	1199	57%
Exempt/Passed	3151	3534	6685	53%
Total	6823	6589	13412	49%

Table 7 shows the differences in 6-year graduation rate between the students from local area high school and those from outside area high schools. Local high school area is defined as all the high schools in Orange County, or high schools in Whittier, Chino Valley, Corona, Norco and Alvard School districts (<http://www.fullerton.edu/admissions/ProspectiveStudent/Requirements.asp>). Those who graduated from local high schools and entered Cal State Fullerton, are more likely to graduate within six years. They tend to graduate at an 8% higher rate than those from outside (non-local) area high schools.

Table 7: Graduations by Local Service Area.

Local Area	Non-Grads	Grads	Total	Grad Rate
Outside Area	3404	2766	6170	45%
In Local Area	3419	3823	7242	53%
Total	6823	6589	13412	49%

(3) SAT score, and SES

SAT score can predict the likelihood of FTF student graduation. In Table 8, generally the higher the SAT score, the better the graduation rate. However, an interesting trend was also discovered in the relationship between SAT score and 6-year graduation. Students who scored 1001 thru 1200 and 1301 thru 1400 in SAT total are most likely to graduate within six years compared to students who scored in other categories. This reveals that very high SAT scores such as 1201 thru 1300 or 1401 thru 1500 do not necessary lead to higher graduation rates.

Table 8: Graduations by SAT Total Score.

SAT Total	Non-Grads	Grads	Total	Grad Rate
400 thru 500	6	3	9	33%
501 thru 600	52	16	68	24%
601 thru 700	206	115	321	36%
701 thru 800	703	540	1243	43%
801 thru 900	1291	1159	2450	47%
901 thru 1000	1576	1541	3117	49%
1001 thru 1100	1272	1414	2686	53%
1101 thru 1200	756	874	1630	54%
1201 thru 1300	308	339	647	52%
1301 thru 1400	71	96	167	57%
1401 thru 1500	13	11	24	46%
1501 thru 1600	1	0	1	0%
Total	6255	6108	12363	49%

An SES variable was created using composite of self-reported parents education level and income variables. Parents education level ranges between “No High School”; “Some High School”; “High School Graduate”; “Some College”; “2-Year College Graduate”; “4-Year College Graduate”; and “Postgraduate,” whereas income level ranges between “less than \$24,000 per year”; “\$24,000 - \$35,999”; “\$36,000 - \$47,999”; “\$48,000 - \$59,999”; “\$60,000 - \$71,999”; and “\$72,000 or more.” Since parent education ranges through seven levels and income ranges through six levels, SES variable was created using standardized values of those two variables and consists of eight levels, ranges 1 of lowest through 8 of highest. Then, it is converted to T-score divided by 10. T scores have a mean of 50 and accordingly, SES value of “5” is mean of SES in Table 9. In general, the greater is the SES, the higher is the graduation rate. Although the somewhat positive trend is found in the relationship between SES and 6-year graduation rate, the highest graduation rate is at the 7th SES level, while the lowest graduation rate is at the 3rd and 4th SES level.

Table 9: Graduations by SES.

SES (Socio Economic Status)	Non-Grads	Grads	Total	Grad Rate
1 (No High School / Less than \$24,000 per year)	195	167	362	46%
2	621	517	1138	45%
3	580	459	1039	44%
4	1132	904	2036	44%
5	1675	1572	3247	48%
6	1433	1590	3023	53%
7	907	1065	1972	54%
8 (Postgraduate / \$72,000 or more)	280	315	595	53%
Total	6823	6589	13412	49%

PART 2. Prediction Model for 1998-2002 FTF Cohort

Logistic regression was conducted to assess whether the nine independent variables significantly predicted 6-year graduation of first-time full-time freshmen. Table 10 described each predictor and its category along with the corresponding regression coefficients. When all the nine predictors are considered together, they significantly predict whether or not a student attained a bachelor's degree within six years time frame. Logistic Regression in SPSS provides a way to interpret the results of using the multiple variables as predictors of a dichotomous outcome (graduation vs. non-graduation).

To identify factors affecting freshmen graduation within 6 years, logistic regression is employed, and this model is particularly useful for situations in which we want to be able to predict presence or absence of an outcome based on a set of predictor variables. Ordinary linear regression is not suitable for the present study as we focus on student learning outcome as dependent variable, which is dichotomous – graduation vs. non-graduation. The present analysis models the event probability for a categorical response variable with those two learning outcomes.

Multiple predictors were added in the analysis, including dichotomous (gender, local), categorical (ethnicity, EPT status, SAT score, SES, major), and continuous (high school GPA, units taken in 1st term) variables. Since we use the predictors with more than two levels, dummy variables were set up to represent each category. Since there were seven groups of ethnicity, six dummy variables were needed for analysis. One of the groups is not represented by a dummy variable, and this group is a *reference* group to which each other group should be compared. In Table 10, the *reference* group for each categorical or dichotomous predictor is shown in bold Italic. For example, "White" ethnic group is considered *reference* group compared to other seven ethnic groups. The number of categories of predictor variable is described in parenthesis next to variable name.

In the present analysis, hierarchical entry of variables was employed as a logistic regression approach. There exists substantial correlation between predictor variables, and standard/simultaneous logistic regression may attenuate or alter the effects of predictor variables on dependent variable since it only accounts for the unique effect of each predictor variable. To retain and maximize the amount of individual effect of predictors, a variable with lesser contribution to the dependent variable was entered in earlier step of hierarchical logistic regression. In this way, *units* taken in 1st term was selected and entered in 1st step of the logistic regression, and then, *ethnicity*, *SAT*, *SES*, *ELM* status, *local*, and *major*, in order. As *gender* and *high school GPA* are two strongest factors affecting 6-year graduation, those variables were entered in last two steps.

Units taken in 1st Term

Number of units taken by students in 1st term was found to be related with 6-year graduation rate. The odds ratio of *units* variable, is 1.084 indicating a positive relationship between units and 6-year graduation. The more first term units a student takes, the more likely to graduate within six years. Taking one more unit in 1st term raises likelihood of graduation by 8.4%. In logistic regression, odds ratios between 0 and 1 correspond to decreases and odds ratios more than 1.0 correspond to increases in odds. Odds ratios close to 1.0 indicate that unit changes in that independent variable do not affect the dependent variable. However, there is a certain limit for the positive relationship between units and 6-year graduation as shown in Table 2. Once the number of units taken in 1st term reaches 20, the likelihood of graduation decreases thereafter.

Ethnicity

Ethnicity is also related with 6-year graduation of FTF students. Ethnic differences are found in 6-year graduation between groups, in favor of White students. All other ethnic groups are less likely to graduate within six years than the reference group. Black, Non-Resident Alien, and Hispanic students are particularly in the low level of 6-year graduation. The odds of 6-year graduation for Blacks is 55% less than the odds of 6-year graduation for Whites. Similarly, the inverted odds ratio of Hispanic students indicated that the odds of graduation for White students is 1.35 times higher than for the Hispanic students.

SAT Score

SAT score is one of the factors affecting student 6-year graduation. Overall, the higher the SAT score the greater probability of graduating. However, there is an optimal SAT category predicting highest graduation rate, whereas the optimality is not in place of highest SAT score. Table 10 and Table 8 provide details on the state of optimal point in SAT score indicating best 6-year graduation and its waning influence thereafter. Those who scored between 1000 and 1200 in SAT total are most likely to graduate within six years, but the rate fades or inconsistent with the highest scores.

SES (Socio-Economic Status)

SES variable was created using composite of parents education level and income variables. Parents education level ranges between “No High School”; “Some High School”; “High School Graduate”; “High School Graduate”; “Some College”; “2-Year College Graduate”; “4-Year College Graduate”; and “Postgraduate,” whereas income level ranges between “less than \$24,000 per year”; “\$24,000 - \$35,999”; “\$36,000 - \$47,999”; “\$48,000 - \$59,999”; “\$60,000 - \$71,999”; and “\$72,000 or more.” Since parent

education ranges through seven levels and income ranges through six levels, SES variable was created using standardized values of those two variables and consists of eight levels, ranges 1 of lowest through 8 of highest.

The analysis of relationship between SES and 6-year graduation demonstrates interesting findings as shown in Table 9 and Table 10. There is generally positive relationship between SES and 6-year graduation. However, the difference in odds was greatest between highest-level SES (which is a reference group) and mid-level SES. The differences in odds between reference group and other SES levels are getting smaller from that point as the SES level decreases or increases. Even, the students whose SES level is 7 demonstrate better graduation than those whose SES level is highest (for example, postgraduate degree and very high income). In other words, the highest SES group does not have the highest 6-year graduation outcome, and the lowest SES does not have lowest 6-year graduation outcome.

ELM Status

ELM (Entry Level Mathematics) status is significantly related with 6-year graduation. Students who have taken remedial courses and demonstrated proficiency in college-level mathematics are mostly likely to graduate within six years, and their likelihood of graduation is even better than those exempted due to their previous high performance in math or those who passed ELM test. The students who failed ELM test are at the lowest level in 6-year graduation. This finding is an indicative of the importance of taking remedial courses to improve their math skills.

Local Area

Students who graduated from local area high schools are more likely to graduate within six years than those who graduated non-local high schools. As a comprehensive and regional university with a global outlook, located in Orange County, Cal State Fullerton provides affordable and quality college education serving the regional residents. A substantial number of students are commuters and they reside in the same local area where their high schools are located. Therefore, the present finding indicates that the students who reside in local area tend to graduate better than those who reside in non-local or more distant areas.

Inverted odds ratios for the dummy variables coding the effect of the *local* variable indicated that the odds of 6-year graduation for the local high school graduates were 27% higher than for the non-local high school graduates. The model predicts that the odds of 6-year graduation for the local residents are 1.27 times greater than odds for non-local residents. The analysis results are well aligned with our institutional mission as shown in Cal State Fullerton website (<http://www.fullerton.edu/aboutcsuf/mission.asp>).

Major

As indicated in Table 7 and Table 10, differences in 6-year graduation are observed among majors (colleges), and the effect of major on 6-year graduation is substantial when we look at the large Block χ^2 value of 181.52. Particularly, the College of Engineering and Computer Science (ECS) goes through lowest 6-year graduation of all. For ECS, the odds of 6-year graduation is 49% less than the odds of 6-year graduation for College of Humanities and Social Sciences (HSS). In other words, the inverted odds of 2.43 indicates that HSS graduated 2.43 times better than ECS did. College of Natural Science and

Mathematics also experienced low 6-year graduation rate which is 43% less than HSS. College of Arts (ARTS) is at next low level in terms of 6-year graduation rate and it is 35% less than HSS. College of Health and Human Development (HHD) as well as College of Communication (COMM) is slightly better in 6-year graduation than HSS. Therefore, ECS, NSM, and ARTS are at the low end of 6-year graduation, while HHD, COMM, and HHS are at the high end. College Business and Economics (CBE) is in the middle of those two groups.

Gender



Gender is one of the strongest predictors for 6-year graduation. For a female, the odds of graduating within six years are 1.92 times as larger than the odds or 92% greater than the odds for a male graduating within six years. Gender difference in the 6-year graduation rate is evident in favor of female students. It is the second most significant variable to predict 6-year graduation.

High School GPA

The predicted odds of independent variable, High School GPA in 6 year graduation, are 3.31. That is, for every one-unit increase in High School GPA (so, for every additional 1 point on the GPA), we expect a 3.31 increase in the odds ratio of 6 Year Graduation, holding all other predictor variables constant. For example, the odds of 6 year graduation are 3.31 times higher for students with 3.5 High School GPA than for those with those with 2.5 High School GPA. In other words, those who performed 3.5 high school GPA are 231% more likely to graduate within six years than those who have 2.5 GPA. High School GPA is found to be the strongest predictor of college degree attainment within 6 years.

Table 12. Logistic Regression Results

Dependent Variable = Graduated within 6 Years					
Variable	Category	Coefficient (B)	Wald χ^2	P	Odds ratio (% change)
Units Taken in 1st Term		.08	46.03	.00*	1.08 (+8.4%)
Block χ^2 [df]		46.410 [df = 1, p = 000]			
% Correct Predictions		52.5 %			
R Square Change (Cox & Snell)		0.004			
Ethnicity (7)					
Block χ^2 [df]		102.25 [df = 6, p = 000]			
% Correct Predictions		54.3 %			
R Square (Cox & Snell)		0.012			
	Am Ind	-.23	.88	.35	.79 (-21%)
	Black	-.80	62.92	.00*	.45 (-55%)
	Hispanic	-.31	42.67	.00*	.74 (-26%)
	Asian	-.06	1.64	.20	.94 (-6%)
	Unknown	-.11	2.91	.09	.90 (-10%)
	Non-Res	-.48	8.45	.00*	.62 (-38%)
	White				

SAT (12)					
Block χ^2 [df]		49.06 [df = 11, p = 000]			
% Correct Predictions		55.0 %			
R Square (Cox & Snell)		0.016			
	400 - 500	-.57	.63	.43	.57 (-43%)
	501 - 600	-1.03	12.56	.00*	.36 (-64%)
	601 - 700	-.44	12.45	.00*	.65 (-35%)
	701 - 800	-.16	5.54	.02*	.85 (-15%)
	801 - 900	-.04	.45	.50	.96 (-4%)
	1001 - 1100	.09	3.07	.08	1.10 (+10%)
	1101 - 1200	.11	2.89	.09	1.11 (+11%)
	1201 - 1300	.04	.18	.68	1.04 (+4%)
	1301 - 1400	.23	2.02	.16	1.26 (+26%)
	1401 - 1500	-.30	.51	.48	.75 (-26%)
	1501 - 1600	-21.12	.00	1.0	.00 (-100%)
	901 - 1000 (mean)				
SES (7)					
Block χ^2 [df]		30.49 [df = 7, p = 000]			
% Correct Predictions		55.4 %			
R Square (Cox & Snell)		0.018			
	1: Lowest Education Level / Lowest Income	-.02	.017	.90	.98 (-2%)
	2 	-.07	.42	.52	.93 (-7%)
	3	-.16	1.97	.16	.86 (-14%)
	4	-.21	4.58	.032 *	.81 (-19%)
	5	-.12	1.64	.20	.89 (-11%)
	6 	.05	.34	.56	1.06 (+6%)
	7: High Education Level / High income	.07	.57	.45	1.08 (+8%)
	Highest Education Level/ Highest income				
ELM (2)					
Block χ^2 [df]		53.80 [df = 2, p = 000]			
% Correct Predictions		56.1 %			
R Square (Cox & Snell)		0.023			
	Failed	-.24	23.32	.00*	.79 (-21%)
	Did Remedial	.23	10.40	.00*	1.26 (+26%)
	Exempt/Passed				
LOCAL (1)					
Block χ^2 [df]		40.86 [df = 1, p = 000]			
% Correct Predictions		56.3 %			
R Square (Cox & Snell)		0.026			
	Non-Local Service Area	-.24	40.84	.00*	.79 (-21%)
	Local Service Area				

Major (7)					
Block χ^2 [df]		181.52 [<i>df</i> = 7, <i>p</i> = 000]			
% Correct Predictions		58.2 %			
R Square (Cox & Snell)		0.040			
	ARTS	-.43	29.94	.00 *	.65 (-35%)
	CBE	-.26	18.39	.00 *	.77 (-23%)
	COMM	.09	1.16	.28	1.09 (+9%)
	ECS	-.89	116.81	.00 *	.41 (-59%)
	HHD	.03	.10	.75	1.03 (+3%)
	NSM	-.56	45.05	.00 *	.57 (-43%)
	OTHER	-.30	28.09	.00 *	.74 (-26%)
	HS&S				
Gender (1)					
Block χ^2 [df]		262.27 [<i>df</i> = 1, <i>p</i> = 000]			
% Correct Predictions		59.6 %			
R Square (Cox & Snell)		0.06			
	Female	.65	258.15	.00*	1.92 (+92%)
	Male				
High School GPA		1.20	584.78	.00*	3.31(+231%)
Block χ^2 [df]		626.26 [<i>df</i> = 1, <i>p</i> = 000]			
% Correct Predictions		63.9%			
R Square Change (Cox & Snell)		0.11			
Note: *Indicates that the coefficient is statistically significant at, at least, the .05 level.					

PART 3. Conclusion

Institutional Research and Analytical Studies (IRAS) at Cal State Fullerton examined six-year graduation rates of First-Time Full-Time Freshmen to have a deeper understanding of *student success*, which is one of the new required topics in institutional review process and is also mentioned in the revised WASC CFR 2.10. Student graduation rate is an important measure to assess student learning outcomes in program level as well as institutional level, and to assist senior administrators to make evidence-based decisions to develop future plans for student success in our institution.

We defined six-year graduation as one of the most important measures of student success and achievement. Nine factors including student demographics (gender and ethnicity), previous academic performance (high school GPA, SAT, ELM), Socio-Economic Status, majors, local area, units taken in 1st term are investigated to trace 6-year graduation rate. High school academic performance was found to be the most significant factor predicting successful 6-year graduation and the gender was the second most significant factor. Table 12 provides the statistical background of these findings.

As the high school GPA increases, the likelihood of that a student will graduate within six years also increases. Female students also have an increased likelihood of graduating in six years or less when compared with similarly prepared males. Ethnic differences reveal that Black and Hispanic students are less likely to graduate within six years than similarly prepared White and Asian peers. Accordingly, Black male and Hispanic male students are the most at-risk group.

Majors have influence on 6-year graduation. Particularly, students initially enrolling in the College of Engineering and College of Natural Sciences and Mathematics have lowest 6-year graduation rates compared to other majors. This finding is also consistent with low retention rate of STEM majors which has been investigated by IRAS office. One-year retention rate of STEM majors is lower than 60% and two-year retention is rate is lower than 40%. A substantial number of STEM major students drop out the college or they change their majors.

Students who attended high school in the local area are more likely graduate within 6-years than those who are from high schools in a distant area. ELM status is a factor affecting student degree attainment—indicating the importance of math remediation. Overall, SAT score is related with 6-year graduation, but not as strong a predictor as high school GPA was determined to be. The optimal SAT score category has been observed between 1000 and 1200, predicting increased likelihood of graduation. It is noteworthy that very high SAT score do not necessary lead to higher graduation rates. Likewise, the highest SES does not guarantee the highest 6-year graduation and the lowest SES does not have lowest 6-year graduation rate. The optimal SES category predicting highest 6-year graduation is at the level of parent income greater than \$48,000 less than \$72,000 coupled with parents who had completed a two-year or four-year degree program.