CollegeBoard
connect to college success™

Research Report
No. 2008-1

Predicting Grades in Different Types of College Courses

Brent Bridgeman, Judith Pollack, and Nancy Burton

www.collegeboard.com

College Board Research Report No. 2008-1
ETS RR-08-06

Predicting Grades in Different Types of College Courses

Brent Bridgeman, Judith Pollack, and Nancy Burton

The College Board, New York, 2008

Brent Bridgeman is a principal research scientist at Educational Testing Service (ETS).

Judith Pollack was a senior data analyst at ETS and is now retired.

Nancy Burton was a senior research scientist at ETS and is now retired.

The College Board: Connecting Students to College Success

The College Board is a not-for-profit membership association whose mission is to connect students to college success and opportunity. Founded in 1900, the association is composed of more than 5,400 schools, colleges, universities, and other educational organizations. Each year, the College Board serves seven million students and their parents, 23,000 high schools, and 3,500 colleges through major programs and services in college admissions, guidance, assessment, financial aid, enrollment, and teaching and learning. Among its best-known programs are the SAT®, the PSAT/NMSQT®, and the Advanced Placement Program® (AP®). The College Board is committed to the principles of excellence and equity, and that commitment is embodied in all of its programs, services, activities, and concerns.

For further information, visit www.collegeboard.com.

Additional copies of this report (item #080482408) may be obtained from College Board Publications, Box 886, New York, NY 10101-0886, 800 323-7155. The price is $15. Please include $4 for postage and handling.

Printed in the United States of America.

Contents

Abstract

The ability of high school grades (high school GPA) and SAT® scores to predict cumulative grades in different types of college courses was evaluated in a sample of 26 colleges. Each college contributed data from three cohorts of entering freshmen, and each cohort was followed for at least four years. Colleges were separated into four levels by average SAT scores. Grade point averages for four categories of courses (English; science, math, and engineering [S/M/E]; social science; and education) were computed, and analyses were run separately for gender within race/ethnicity classifications. Correlations of the combined predictors with course grades over four or more years, corrected for range restriction, ranged from .45 for education courses to 0.64 for S/M/E courses. The SAT increment, that is, the increase in the multiple correlations when SAT scores are added to high school grades, ranged from 0.03 in education courses to 0.08 in S/M/E courses. Because these seemingly small numbers are frequently misinterpreted, an additional analysis showed how the percentage of students succeeding at a high level (cumulative GPA of 3.5 or higher) increases as SAT scores increase for students with similar high school grades. For example, for students with a high school GPA of 3.7 or higher in colleges where the mean combined SAT score is below 1200, only 2 percent of the students at the lowest SAT level (800 or lower combined score) were highly successful in social science courses. At the highest SAT level (1410–1600), 77 percent were highly successful.

Introduction

Hundreds of studies have documented the relationship of SAT scores to the freshman grade point average as summarized in a comprehensive meta-analysis (Hezlett et al., 2001). Fewer have explored the relationship of SAT scores to cumulative GPAs earned over four or more years in college, but this body of evidence is not unsubstantial. Burton and Ramist's (2001) review of predictors of cumulative GPA included data from 30,000 students at 174 undergraduate institutions who had graduated between 1980 and 2000. Findings suggested that the combination of high school grade point average (HSGPA) and SAT scores predicted cumulative GPA about as well as freshman GPA with an *R*, uncorrected for range restriction, of about 0.50. Because the cumulative GPA averages different types of courses with different grading standards, it is not possible to determine from these studies how well the SAT, and the SAT combined with other indicators, predicts grades in particular kinds of courses that were earned over an entire college career. The current study fills that gap.

This study was a collaboration between the College Board, a variety of participating colleges and universities, and Educational Testing Service (ETS). The purpose was to collect a large and representative set of data to evaluate the ability of SAT scores and high school GPA to predict performance in college. The colleges were chosen to represent different missions, sizes, regions of the country, and funding sources (public and private). Participants agreed to provide course titles, descriptions, and grades for at least four years for each student; most followed students into a fifth and sixth year in order to provide data through graduation. They provided data for three entering classes. This allowed us to study a number of important topics that most predictive validity studies cannot, such as grades earned throughout the college career, grades earned in specific subject areas, and trends in student performance over the college years. The large sample size allowed the classification of students by their gender and race/ethnicity, by the type of college they attended, by their high school record, and by a number of other background differences that may be related to college performance.

This is the second report in the analysis of the database. The first report (Bridgeman, Pollack, and Burton, 2004) presented predictive data in a simple context: it focused on the percentage of students at different SAT levels who were successful in college. The success standards were also simple: (1) whether the student earned a 2.5 GPA or better in college (C+ or better) and (2) whether the student earned a 3.5 GPA or better in college (B+ or better). That study showed that SAT scores predict surprisingly large differences in the percentage of students succeeding in college, even for students in comparably selective colleges, who took comparably rigorous high school classes, and who earned comparable high school grades.

In this study, we first evaluated more traditional multiple regression equations, in general predicting cumulative grades for the entire undergraduate career up to graduation. We also extended the simple percent success analysis reported in Bridgeman et al. (2004) to include success in different subject areas. If sample sizes were sufficient, we disaggregated results by gender and race/ethnicity (Hispanic men and women, Asian American men and women, African American men and women, and white men and women) and for classes taken in several different subject areas (science, math, and engineering [S/M/E]; social sciences; English; and education). We also compared results broken down by level of college selectivity, level of student high school GPA, level of student SAT scores, and level of parental education. These disaggregations were done to determine how well the SAT predicts college performance once other relevant variables are taken into account—that is, to determine the *unique* contribution of SAT scores. The disaggregations also allowed us to determine the extent to which SAT scores and high school GPA work consistently for different subgroups, where consistency is an important aspect of fairness.

Method

Sample

The sample consisted of 26 colleges that agreed to participate in a multiyear validity study and submitted grades in individual courses for three cohorts of students who began college in 1995, 1996, and 1997, respectively. Each cohort was followed for at least four years. The sample of colleges was geographically diverse, included large and small public and private institutions, and represented a range of selectivity as indexed by average SAT scores. Differences between the yearly cohorts were trivial, so we combined the three cohorts at each institution. Most students in the cumulative GPA sample attended college for at least four years, and some attended for five or six years. Because students drop in and out of college, we defined eligibility for the cumulative GPA sample not in terms of years attended, but rather by available grades for at least 24 courses.

We computed an overall GPA as well as separate GPAs for English courses; physical and biological S/M/E courses; social science courses; and education courses. A student had to have taken at least two courses in a subject area in order for their grades to be included in the GPA for that subject area. In some cases the overall GPA we computed did not match the GPA provided by the college. If the GPAs differed by more than 0.5 grade points and we could not understand the reason for the discrepancy, we dropped the person from the sample. However, many discrepancies could be explained by such factors as colleges allowing students to retake failed courses and then not counting the initial failure in the GPA. In such cases, we used our computation of the GPA.

We divided the sample of colleges into four selectivity levels defined by average SAT scores (combined verbal and mathematics). The sample did not contain any colleges with low average SAT scores (less than 900); even the Level 1 colleges had scores around the national average of approximately 1000. Although Level 3 consisted of only three institutions, all three were large flagship state universities and so were treated separately. Table 1 describes the sample and the four college-selectivity levels.

Results and Discussion

Predicting Freshman GPA

Although our main focus was on the cumulative GPA in specific subject areas, we began with the more familiar freshman GPA criterion. High school grade point average and SAT scores were the predictors. Verbal and mathematics scores on the SAT (SAT-V and SAT-M, respectively) were weighted separately in the regressions, and the tables reflect the total SAT increment to *R*. Regressions were run separately within each college, and

Table 1

Participating Colleges by College Selectivity (Combined SAT Score) and Number of Students in Combined Cohorts

Sector	*Region*	*Number of Students*	*Sector*	*Region*	*Number of Students*
Level 1 (SAT lower than 1100)			***Level 2 (SAT 1100–1199)***		
Public	Middle States	2,471	Public	New England	1,947
Public	Middle States	2,089	Public	Middle States	3,665
Public	Middle States	2,134	Public	Middle States	4,588
Public	Middle States	2,273	Public	West	3,687
Public	Middle States	2,115	Public	West	8,166
Public	South	1,326	Private	Middle States	3,675
Public	Southwest	1,975	Private	Midwest	1,251
Private	South	1,431	Private	West	979
Private	West	611	Private	West	620
			Private	Southwest	342
	Total	16,425		Total	29,262
Level 3 (SAT 1200–1249)			***Level 4 (SAT higher than 1250)***		
Public	South	8,280	Public	South	4,617
Public	Midwest	8,232	Private	Middle States	2,620
Public	Southwest	14,256	Private	Midwest	717
			Private	Midwest	494
	Total	30,768		Total	8,448

Note: "Number of Students" indicates the number of students in combined cohorts with valid grades for the cumulative GPA analyses.

Table 2

Prediction of Freshman GPA by College Selectivity, Gender, and Race/Ethnicity; Not Corrected for Range Restriction

Predictor	College-Selectivity Level	Gender and Race/Ethnicity										
		Gender Total		Asian American		African American		Hispanic		White		Total
		M	F	M	F	M	F	M	F	M	F	M+F
HSGPA	1	.40	.45	.36	.28	.28	.29	.40	.38	.40	.45	.44
	2	.40	.40	.36	.31	.26	.23	.30	.37	.41	.42	.41
	3	.36	.35	.31	.32	.31	.31	.36	.34	.35	.33	.36
	4	.37	.36	.33	.28	.30	.29	.31	.30	.38	.37	.38
	Total	.39	.40	.33	.31	.29	.29	.35	.35	.39	.40	.40
SAT-V	1	.22	.32	.12	.14	.15	.25	.18	.28	.20	.31	.27
	2	.28	.34	.22	.25	.19	.22	.18	.26	.29	.35	.31
	3	.31	.38	.26	.30	.26	.32	.23	.33	.30	.35	.34
	4	.21	.26	.14	.09	.25	.24	.21	.05	.21	.28	.23
	Total	.27	.34	.22	.25	.21	.27	.21	.29	.26	.33	.30
SAT-M	1	.27	.36	.35	.25	.24	.25	.30	.32	.23	.34	.28
	2	.31	.35	.33	.37	.24	.23	.23	.29	.29	.34	.29
	3	.38	.42	.38	.41	.34	.31	.30	.38	.34	.38	.36
	4	.31	.30	.27	.26	.36	.30	.26	.24	.32	.29	.28
	Total	.32	.38	.34	.37	.29	.28	.28	.34	.29	.35	.31
SAT-V+ SAT-M	1	.29	.39	.41	.36	.26	.29	.33	.35	.26	.38	.32
	2	.35	.40	.35	.39	.30	.26	.26	.32	.34	.40	.35
	3	.41	.46	.41	.43	.36	.36	.32	.41	.37	.42	.41
	4	.33	.35	.29	.26	.38	.39	.32	.27	.34	.35	.31
	Total	.35	.42	.37	.40	.32	.32	.31	.37	.33	.40	.36
HSGPA+ SAT-V+ SAT-M	1	.44	.51	.51	.44	.38	.39	.49	.47	.43	.51	.48
	2	.46	.49	.45	.46	.36	.33	.39	.44	.47	.50	.47
	3	.48	.52	.46	.49	.42	.44	.44	.48	.45	.49	.49
	4	.44	.44	.40	.36	.45	.43	.41	.36	.46	.46	.44
	Total	.46	.50	.45	.46	.40	.40	.43	.46	.45	.49	.48
SAT Increment	1	.03	.06	.15	.16	.10	.10	.09	.09	.03	.05	.04
	2	.06	.09	.09	.14	.11	.10	.08	.07	.06	.08	.06
	3	.12	.17	.16	.17	.11	.13	.08	.15	.10	.16	.13
	4	.07	.08	.08	.08	.15	.14	.10	.06	.07	.09	.06
	Total	.07	.11	.12	.15	.11	.12	.08	.11	.06	.10	.08

then the weighted average for all of the colleges in a level was computed.[1] Race/ethnicity classifications were derived from self-reports on the SAT Questionnaire that students complete when they register for the SAT.

Table 2 summarizes the predictions of freshman GPA for gender within four race/ethnicity groups across the four college levels. The sample sizes in all groups were substantial. Sample sizes, means, and standard deviations for these analyses as well as for the course type analyses are in Appendix A. Note that the sample size in the Total row in the Appendix A tables is greater than the sum of the eight gender subgroups within the race/ethnicity groups as it also includes students from smaller subgroups (e.g., Native Americans), as well as students who did not specify a race/ethnicity category. With the large number of correlations presented in this report, it was not practical to test the difference between every possible pair for statistical significance. For comparing correlations among the various subgroups, the reader may use the sample sizes in Appendix A to estimate the standard error of a difference.[2]

[1] Alternatively, we could have developed a hierarchical linear model (HLM) that would directly estimate the between-college effects. Previous research with a subsample from this database suggests that such effects are quite small, so the HLM approach yields virtually identical results (Schmidt, Bridgeman, and Pollack, 2003). Therefore, we retained the more conventional approach that is more directly comparable to previous studies.

[2] To estimate the standard error of a difference in correlations, take "1" divided by "sample size minus 3" in each group, sum these across the two groups, and take the square root of the total. Technically, the correlations should be converted to *z* scores to use this standard error, but even without the conversion, this standard error estimate is reasonably accurate when correlations are below 0.5. For example, the correlation of HSGPA with freshman grades is 0.29 for African American males and 0.35 for Hispanic males, for a difference of 0.06 (or 0.07 after the *r* to *z* conversion). From Appendix A, Table A3, we see that there are 2,496 African American males and 2,785 Hispanic males, so the standard error of the difference is about 0.028. With a difference of just over two standard errors, we could conclude that HSGPA is a significantly better predictor for Hispanic males than for African American males. On the other hand, correlations from the combined SAT scores differ by only one point between these groups (0.32 to 0.31), so this difference would not be statistically significant.

Across subgroups in the Level 1 colleges, the correlation of HSGPA with freshman grades was slightly higher than the correlation of combined SAT scores with freshman grades, but in the Level 3 colleges (mostly large state universities), the SAT was a slightly better predictor than HSGPA. When HSGPA and SAT scores were combined, correlations were very similar in the first three college-selectivity levels, and slightly lower in Level 4. Consistent with previous findings (Bridgeman, McCamley-Jenkins, and Ervin, 2000), the SAT was a better predictor for women than for men, except at the colleges with the highest average SAT scores, where predictions were essentially equal for men and women. The SAT increment was higher in each of the subgroups compared to the increment found for white males.[3]

The correlations in Table 2 were derived from admitted students who completed their first year. However, this is a more select group than all applicants, and therefore the resulting correlations underestimate the more relevant correlations—the correlations for the applicant pool. We estimated the latter correlations with the Pearson-Lawley multivariate correction (Gulliksen, 1950, pp. 165–66). To apply this correction, we assumed that the potential applicant pool consisted of all students who had taken the SAT and thus used the national standard deviations for SAT-V, SAT-M, and high school GPA (from the SAT Questionnaire) in the corrections. Using the same correction across subgroups also had the effect of making the subgroup analyses more comparable. These corrected correlations are clearly more accurate than the uncorrected versions but should still be treated as approximations, as we cannot fully model all of the potentially relevant variables that colleges use in selecting students or verify that regression lines remain linear in regions in which we have no data. (See Rothstein, 2004, for a discussion of the problem.) All subsequent regression tables incorporate the range restriction correction.

A comparison of Tables 2 and 3 shows the effect of the range restriction correction. The higher correlation for high school GPA in Level 1 colleges than in the colleges in the other levels noted in Table 2 disappears in Table 3, suggesting that the higher correlation was simply a

Table 3

Prediction of Freshman GPA by College Selectivity, Gender, and Race/Ethnicity; Corrected for Range Restriction

		Gender and Race/Ethnicity										
		Gender Total		*Asian American*		*African American*		*Hispanic*		*White*		*Total*
Predictor	*College-Selectivity Level*	*M*	*F*	*M*	*F*	*M*	*F*	*M*	*F*	*M*	*F*	*M+F*
HSGPA	1	.52	.59	.49	.39	.40	.46	.53	.52	.53	.60	.57
	2	.57	.58	.53	.50	.34	.40	.42	.52	.60	.61	.59
	3	.56	.61	.52	.58	.45	.54	.54	.57	.57	.61	.59
	4	.58	.59	.55	.50	.46	.45	.50	.46	.61	.61	.59
	Total	.56	.59	.53	.53	.41	.48	.51	.55	.57	.61	.58
SAT-V	1	.40	.52	.38	.30	.32	.44	.40	.47	.39	.52	.46
	2	.48	.53	.44	.46	.28	.39	.31	.44	.50	.56	.49
	3	.52	.60	.51	.55	.42	.54	.47	.56	.53	.60	.55
	4	.47	.50	.46	.37	.43	.45	.39	.29	.49	.53	.47
	Total	.47	.55	.47	.48	.36	.48	.41	.50	.48	.56	.50
SAT-M	1	.43	.55	.49	.32	.41	.45	.47	.49	.41	.54	.47
	2	.50	.54	.50	.53	.33	.40	.35	.46	.50	.55	.49
	3	.57	.64	.59	.63	.48	.53	.51	.60	.56	.63	.58
	4	.55	.54	.55	.47	.51	.50	.47	.37	.58	.55	.53
	Total	.51	.57	.54	.56	.43	.48	.46	.54	.51	.57	.52
SAT-V+ SAT-M	1	.45	.58	.52	.40	.44	.49	.52	.53	.44	.57	.51
	2	.53	.58	.51	.55	.40	.43	.39	.49	.54	.60	.53
	3	.59	.67	.61	.65	.50	.58	.53	.63	.59	.66	.61
	4	.56	.57	.56	.47	.54	.58	.50	.40	.59	.59	.55
	Total	.54	.61	.56	.58	.46	.52	.49	.57	.54	.61	.55
HSGPA+ SAT-V+ SAT-M	1	.56	.67	.60	.52	.50	.55	.61	.61	.56	.67	.62
	2	.63	.66	.60	.61	.46	.48	.49	.59	.66	.69	.64
	3	.66	.73	.65	.70	.55	.64	.61	.69	.66	.73	.68
	4	.65	.66	.63	.56	.59	.61	.58	.50	.68	.69	.65
	Total	.63	.68	.63	.64	.52	.58	.58	.64	.64	.70	.65
SAT Increment	1	.04	.07	.11	.13	.10	.09	.08	.09	.03	.07	.05
	2	.06	.08	.07	.11	.11	.08	.07	.07	.06	.08	.06
	3	.10	.12	.13	.12	.10	.10	.07	.12	.09	.12	.09
	4	.07	.07	.08	.06	.13	.17	.09	.05	.07	.07	.06
	Total	.07	.09	.10	.11	.11	.10	.07	.10	.06	.09	.07

[3] Although expressing these differences as increments to R is common in validity research, some readers may be more accustomed to differences in R^2, that is, the increase in the amount of variance explained with the additional variables. The R^2 difference for the total was –0.07 (0.48^2–0.40^2). This can be easily computed for the other numbers in the tables; just remember that the difference of squares is not the same as the difference squared.

function of the greater heterogeneity of high school GPA in the Level 1 colleges. Similarly, the relatively low correlation for the combined predictors in the Level 4 colleges disappears with the corrected correlations apparently because selection variables are more restricted in the most selective colleges. Other conclusions are essentially the same with the corrected or uncorrected correlations. The observation that the SAT increment appears to be smallest for white male students is true in both tables.

Predicting Cumulative GPA

Table 4 is similar to Table 3 except that the criterion is cumulative GPA over four or more years rather than freshman GPA. The correlations in Table 4 might be expected to be higher because they are based on many more grades than the correlations in Table 3. On the other hand, as students sort themselves into the kinds of courses in which they can do best, and avoid courses in which they are likely to do poorly, the correlations for the cumulative GPA might be expected to be lower. The actual numbers reflect a remarkable similarity in the correlations from Table 3 to Table 4, suggesting that these two factors may cancel each other out.

Overall, high school GPA is a slightly better predictor than the SAT, but this pattern is not repeated in all subgroups. In particular, the SAT appears to be the better predictor for males in all three minority groups and also for females in the Asian American and African American groups. For African American males, the slightly better prediction for the SAT is evident in all four college levels; for Hispanic males, it is evident in all but Level 2 colleges. Among the flagship state universities that constitute the Level 3 colleges, correlations are higher for SAT scores than for high school GPA in every subgroup.

Predicting Cumulative GPA in Particular Course Types

Table 5 shows the correlations predicting cumulative GPA in four course types. Further breakdowns by college-selectivity level, gender, and race/ethnicity are provided in Appendix B (Tables B1–B4).

Education course grades appear to be the most difficult to predict from either high school GPA or SAT scores, followed by English grades, with S/M/E and social science grades about equally predictable. The SAT adds the most to predictions from high school GPA in the S/M/E courses. As expected, SAT-V is a better predictor than SAT-M in English courses with the opposite pattern in S/M/E courses. Even for English courses, there is a small

Table 4

Prediction of Cumulative GPA by College Selectivity, Gender, and Race/Ethnicity; Corrected for Range Restriction

		Gender and Race/Ethnicity										
	College-Selectivity	*Gender Total*		*Asian American*		*African American*		*Hispanic*		*White*		*Total*
Predictor	*Level*	*M*	*F*	*M*	*F*	*M*	*F*	*M*	*F*	*M*	*F*	*M+F*
HSGPA	1	.55	.59	.46	.57	.41	.48	.54	.40	.56	.59	.59
	2	.61	.60	.58	.54	.42	.42	.50	.59	.62	.62	.61
	3	.54	.59	.50	.57	.48	.51	.45	.54	.54	.60	.58
	4	.58	.58	.50	.45	.48	.39	.49	.32	.60	.61	.58
	Total	.57	.59	.53	.55	.45	.47	.47	.52	.58	.61	.59
SAT-V	1	.47	.55	.48	.54	.33	.51	.54	.34	.45	.53	.50
	2	.53	.55	.51	.52	.39	.41	.40	.55	.53	.55	.52
	3	.53	.60	.51	.56	.47	.52	.48	.57	.52	.58	.55
	4	.47	.48	.39	.31	.42	.31	.34	.43	.47	.50	.46
	Total	.51	.56	.49	.52	.42	.48	.46	.53	.50	.55	.52
SAT-M	1	.49	.55	.53	.49	.37	.49	.55	.30	.46	.53	.49
	2	.53	.55	.54	.56	.46	.38	.42	.55	.52	.54	.50
	3	.55	.61	.56	.62	.47	.48	.47	.57	.52	.59	.54
	4	.53	.52	.43	.38	.48	.34	.45	.48	.54	.54	.50
	Total	.53	.57	.53	.57	.45	.45	.47	.53	.51	.55	.51
SAT-V+ SAT-M	1	.52	.59	.57	.61	.49	.57	.60	.39	.50	.57	.54
	2	.57	.59	.57	.59	.50	.43	.46	.60	.57	.59	.55
	3	.58	.65	.58	.64	.51	.55	.51	.61	.56	.63	.59
	4	.54	.55	.46	.39	.50	.45	.53	.54	.55	.57	.52
	Total	.56	.61	.56	.59	.50	.52	.51	.58	.55	.60	.56
HSGPA+ SAT-V+ SAT-M	1	.61	.68	.64	.73	.57	.63	.66	.48	.60	.67	.64
	2	.67	.68	.66	.65	.55	.49	.57	.68	.68	.69	.67
	3	.64	.71	.62	.69	.56	.61	.55	.66	.63	.70	.67
	4	.64	.64	.55	.49	.59	.52	.63	.58	.66	.68	.63
	Total	.65	.69	.62	.66	.57	.58	.58	.64	.64	.69	.66
SAT Increment	1	.06	.09	.18	.17	.16	.15	.11	.08	.05	.07	.06
	2	.07	.08	.08	.11	.13	.08	.08	.09	.06	.07	.06
	3	.10	.12	.12	.12	.08	.10	.10	.12	.09	.10	.09
	4	.06	.07	.05	.05	.11	.13	.14	.25	.06	.07	.05
	Total	.08	.10	.10	.11	.12	.11	.10	.12	.07	.08	.07

Table 5

Correlations and Multiple Correlations with Cumulative GPA by Course Type, Corrected for Range Restriction

	Course Type			
Predictor	***English***	***S/M/E****	***Social Science***	***Education***
HSGPA	.51	.56	.57	.42
SAT-V	.45	.47	.51	.32
SAT-M	.42	.54	.48	.32
SAT-V + SAT-M	.48	.56	.54	.35
HSGPA+SAT	.57	.64	.63	.45
SAT Increment	.06	.08	.06	.03

*Physical and biological sciences, math, and engineering.

advantage to also considering the mathematics score (increase *R* from 0.45 to 0.48), and in the S/M/E courses, the verbal increment over mathematics is 0.02.

Over- and Underprediction

A traditional way of evaluating test bias has been to make grade predictions from a common regression line based on all students in a college and determine whether the actual grades of students in a particular subgroup are above or below the prediction. Cleary (1968) stated, "A test is biased for members of a subgroup of the population if, in the prediction of a criterion for which the test was designed, consistent non-zero errors of prediction are made for members of the subgroup. In other words, the test is biased if the criterion score is consistently too high or too low for members of the subgroup" (p. 115). Although Cleary attributed this approach to Humphreys, it has come to be known as the Cleary criterion of test bias. A group whose actual performance is better than their predicted performance is underpredicted, and a group that performs worse than predicted is overpredicted.

We present results on overprediction and underprediction with some trepidation because we believe that this technical definition of bias, while useful for some comparative purposes, does not fit well with a commonsense understanding of bias. The basic problem is that measures that the layman would consider to be unbiased would be biased according to the Cleary definition.[4] Nevertheless, it is useful to explore whether indicators of over- and underprediction remain constant when comparing freshman grades to cumulative grades and whether they are constant across different subject areas.

The numbers in Table 6 indicate, in grade point units, how much better or worse a particular group will perform than would be predicted from a common regression line predicting GPA from SAT scores and HSGPA. Results for the freshman GPA replicate previous findings (e.g., Bridgeman et al., 2000) indicating that African American and Hispanic men are overpredicted, that is, their

Table 6

Overprediction (–) and Underprediction (+) of Freshman and Cumulative GPAs by College Selectivity, Gender, and Race/Ethnicity

		Subgroup Classification							
College-Selectivity Level	***GPA Type****	***Asian American***		***African American***		***Hispanic***		***White***	
		M	***F***	***M***	***F***	***M***	***F***	***M***	***F***
1	F	–.01	.01	–.16	–.04	–.13	–.01	–.08	.08
	C	–.16	–.04	–.25	–.09	–.11	–.06	–.08	.08
2	F	–.04	.06	–.10	.04	–.13	.04	–.07	.07
	C	–.08	.04	–.17	.01	–.16	.05	–.06	.08
3	F	–.05	.11	–.18	–.05	–.11	.05	–.09	.09
	C	–.09	.05	–.27	–.11	–.21	.01	–.07	.11
4	F	–.04	.04	.03	.02	.02	–.01	–.05	.09
	C	–.04	.01	–.17	–.11	.01	–.01	–.03	.08
Total	F	–.04	.08	–.13	–.02	–.11	.04	–.08	.08
	C	–.08	.04	–.22	–.09	–.16	.01	–.06	.09

*For GPA type, F = College Freshman GPA; C = Cumulative College GPA.

[4] Consider a new plastic tape measure that is being evaluated for bias compared to the traditional cloth tape measure. Both tapes are marked so that they accurately show inches but nothing less than an inch. That is, the tapes are accurate, but not very precise. Put them side by side, and the inch markings all come out at exactly the same place, so common sense would seem to indicate that the plastic measure is unbiased. But what happens if you ask a psychometrician to determine if the new plastic tape measure is biased? The psychometrician finds a sample of men and women in which the men are, on average, two inches taller than the women. That is, the men are one inch above the combined group mean, and the women are one inch below. The psychometrician measures the men and women first with the plastic tape and then with the cloth tape. Because the tapes measure to only the nearest inch, there is considerable measurement error. To keep the numbers simple (and similar to what we find with test scores), suppose the correlation of measurements from plastic and cloth measures were 0.5. Using a single regression equation for both men and women (as required in the Cleary criterion), the predicted score of the average man is regressed 1/2 inch back toward the combined group mean, and the predicted score of the average woman is regressed 1/2 inch up toward the combined group mean. The actual heights had differed by two inches, but the predicted heights differ by only one inch. Men's true heights will be underpredicted and women's heights will be overpredicted by the plastic tape, and the psychometrician will conclude, according to the standard Cleary criterion, that the plastic tape measure is biased against men. To make matters worse, suppose there were another psychometrician in the next town where plastic tapes were the standard and the psychometrician wanted to determine if cloth tapes were biased. The study is run in the same way, but the conclusion is that *cloth* tape measures are biased against men. We would never accept this nonsense with tape measures, but are quite willing to accept it with test scores. If, in standard deviation units, the SAT had the same race/ethnicity difference as the GPA, the SAT would still be biased by the Cleary definition. Indeed, with a correlation of 0.5, the only way for the SAT to not be biased would be for it to have a standard deviation difference between African American and white students that is twice as big as the GPA difference. Modifying the SAT to remove this bias makes as much sense as making plastic tape measures longer than cloth ones in order to remove their bias.

performance in college is below what would be predicted by SAT scores and the HSGPA. Table 6 further indicates that overprediction for male minority groups is generally more severe for the cumulative GPA than it is for the freshman GPA. For African American males, this pattern is replicated at each of the four college-selectivity levels.

Table 7 shows the overprediction and underprediction by course type. Overprediction for males within each race/ethnicity group is fairly constant across the four course types. Underprediction for Asian American and white females is also consistent across course types. There is virtually no over- or underprediction for African American and Hispanic females in English, social science, or education courses, but there is modest overprediction in the S/M/E courses. Overprediction for African American and Hispanic males appears to be especially severe in the Level 1 to Level 3 colleges and greatly reduced in the Level 4 colleges. For African American male students at the Level 4 colleges, the overprediction is greatest (but still a relatively modest –0.11) for the S/M/E courses, and there is a slight underprediction in the English courses. Inspection of the means in Appendix A helps to explain this underprediction for English courses in Level 4 colleges. Grades of African American and white males, in standard deviation units, differ by only 0.2 in the Level 4 colleges but differ by more than 0.5 at the other college-selectivity levels, while differences in SAT scores are relatively constant across the college-selectivity levels. Similarly, English grades of African American and white females differ by only 0.15 standard deviation units at Level 4 colleges but differ by more than 0.60 at Level 1 colleges.

Percentage of Students Succeeding by High School GPA and SAT® Score Categories

Although *R* and increments to *R* provide useful summary statistics, they are often misunderstood. Squaring *R* to reflect "explained variance" suffers from similar interpretive problems. Specifically, apparently low values for a test's incremental validity in terms of R^2 are interpreted to mean that the test is virtually worthless. For example, Kidder and Rosser (2002) question the value of the SAT by noting that "the SAT only adds 5.4 percent to the variance explained by HSGPA alone." In a prior report (Bridgeman et al., 2004), we presented a straightforward approach to understanding the contribution of the test by focusing on the percentage of students who were successful at different SAT score levels within relatively narrow high school GPA bands (see Table 8). The following tables extend this approach to include breakdowns by course type.

Table 8 provides a criterion that represents a high level of success—a cumulative GPA of 3.5 or higher over the student's complete college career. Table 8 is limited to colleges in Levels 1 and 2. The top half of the table indicates success rates for students with HSGPAs in the B+/A– range (3.3 to 3.7). The Percent of Students Total column indicating the percent of students with college GPAs of 3.5 or higher, and the Total SAT Score Level row on the top half of the table indicate that 12 percent (see **bold** in table) of the students with HSGPAs of 3.3

Table 7

Overprediction (–) and Underprediction (+) of Cumulative GPAs by Course Type, College Selectivity, Gender, and Race/Ethnicity

College-Selectivity Level	*Course Type*	*Gender and Race/Ethnicity*							
		Asian American		*African American*		*Hispanic*		*White*	
		M	*F*	*M*	*F*	*M*	*F*	*M*	*F*
1	English	–.17	.06	–.29	–.05	–.28	–.01	–.12	.10
	S/M/E	–.06	–.01	–.25	–.15	–.09	–.08	–.05	.07
	Social Science	–.05	.04	–.20	–.02	–.17	–.03	–.08	.08
	Education	*	–.35	–.26	–.12	.12	–.12	–.07	.03
2	English	–.07	.06	–.19	–.04	–.17	–.03	–.06	.07
	S/M/E	–.05	.02	–.21	–.07	–.20	.02	–.04	.07
	Social Science	–.07	.07	–.08	.03	–.17	.01	–.07	.07
	Education	.04	.11	–.27	–.01	–.16	.03	–.09	.06
3	English	–.08	.05	–.21	–.04	–.22	.01	–.08	.10
	S/M/E	–.10	.06	–.27	–.16	–.24	–.10	–.04	.12
	Social Science	–.08	.13	–.20	–.03	–.27	–.05	–.09	.11
	Education	–.04	.04	–.27	–.01	–.27	.00	–.14	.09
4	English	–.08	.09	.02	.11	–.03	.04	–.07	.12
	S/M/E	–.05	.04	–.11	–.01	–.02	–.07	–.04	.12
	Social Science	–.04	.06	–.04	–.01	–.09	–.02	–.05	.11
	Education	*	*	*	*	*	*	.08	.00
Total	English	–.08	.06	–.20	–.03	–.20	.00	–.08	.09
	S/M/E	–.07	.04	–.23	–.13	–.19	–.07	–.04	.09
	Social Science	–.07	.09	–.15	–.01	–.21	–.03	–.08	.09
	Education	–.01	.04	–.27	–.04	–.21	–.01	–.10	.05

*Omitted because there were fewer than 10 students in the group.

Table 8

Percentage of Students with Cumulative Course Type GPAs of 3.5 or Higher by High School GPA and SAT Score Levels for College-Selectivity Levels 1 and 2

SAT Score Level*	Percent of Students with College GPA 3.5 or Higher					Number of Students				
	Eng.	S/M/E	Soc. Sci.	Educ.	Total	Eng.	S/M/E	Soc. Sci.	Educ.	Total
	High School GPA B+/A– (3.3–3.7)									
1	9	1	1	37	2	487	522	537	155	537
2	15	5	6	56	6	6,059	6,996	7,134	1,817	7,182
3	26	10	14	66	12	10,775	14,194	14,655	2,576	14,810
4	36	17	25	70	20	3,296	5,071	5,241	448	5,337
5	51	32	45	—	39	153	257	270	—	281
Total	24	10	14	62	**12**	20,770	27,040	27,837	5,005	28,147
	High School GPA A/A+ (Higher than 3.7)									
1	20	2	2	50	6	40	46	49	10	49
2	33	12	18	74	16	888	1,095	1,111	227	1,133
3	48	26	38	82	33	3,657	5,307	5,371	745	5,486
4	64	41	58	89	51	2,718	4,776	4,875	383	5,039
5	78	63	77	94	73	323	764	781	34	822
Total:	53	33	47	83	**41**	7,626	11,988	12,187	1,399	12,529

Note: "Eng." is English courses; "Soc. Sci." is social science courses; "Educ." is education courses; and "S/M/E" is courses in math, science, and engineering.

*SAT Score Levels: 1 = 200–800; 2 = 810–1000; 3 = 1010–1200; 4 = 1210–1400; 5 = 1410–1600.

to 3.7 had cumulative college GPAs of 3.5 or higher. The bottom half of the table, reflecting HSGPAs higher than 3.7, shows that 41 percent of the students were highly successful in terms of their overall GPAs. Thus, high school GPA is an important predictor of success in college. But SAT score is also an important predictor, even within the high school GPA category. For students with a high school GPA in the 3.3–3.7 range, only 2 percent of those at the lowest SAT score level were successful, but 39 percent were successful at the highest score level. The SAT "explaining" less than 10 percent of the variance given high school GPA may seem trivial, but the difference between 2 percent and 39 percent appears less trivial. The contrast is even starker in the high-HSGPA group at the bottom of the table. Only 6 percent succeed at SAT Score Level 1 and only 16 percent at Level 2, but by Level 5 the success rate goes to 73 percent, or more than 10 times the rate at Level 1.

Table 8 also shows the differences in grading standards across different types of courses. For students with high school GPAs over 3.7 (bottom of the table), only 33 percent had cumulative GPAs in S/M/E courses of 3.5 or higher, while 47 percent had social science GPAs of at least 3.5, and 83 percent had education GPAs of 3.5. Cumulative GPAs in a course area were computed only if the student had at least two courses in the area. Note that almost all students had GPAs in S/M/E and social science (the number of students in these columns is quite close to the number of students in the Total column. The number of students with at least two English courses was somewhat lower, and less than 16 percent of the students had taken at least two education courses.

Within each of the columns representing particular course types, the predictive power of both the high school GPA and the SAT is evident. For example, the percentage of students with English GPAs of 3.5 or higher went from 9 percent at SAT Score Level 1 and high school GPA below 3.7, to 78 percent for SAT Score Level 5 and high school GPA over 3.7. Similarly, for S/M/E courses, the success percentage went from 1 percent at the lower levels of SAT and high school GPA to 63 percent at the higher levels, and from 1 percent to 77 percent for the social science courses. Although success in education courses was relatively high even at the lower levels (37 percent), it still increased markedly to 94 percent at upper levels of high school GPA and SAT.

Table 9 replicates these finding for the Level 3 and 4 colleges. Although the exact percentages change a little, the story is essentially identical to the story for Table 8: high school GPA matters; even within high school GPA level, SAT scores matter; and there are expected differences in grading standards across different types of courses.

Percentage of Students with High Success Level by Parent Education Category

This approach, focusing on the percentage of successful students, is also useful for showing the relationship of parental education level and SAT scores to success in college. Based on responses on the SAT Questionnaire, we created three levels of parental education. The first level indicates that neither parent had completed college, the

Table 9

Percentage of Students with Cumulative Course Type GPAs of 3.5 or Higher by High School GPA and SAT Score Levels for College-Selectivity Levels 3 and 4

SAT Score Level	Percent of Students with GPA 3.5 or Higher					Number of Students				
	Eng.	S/M/E	Soc. Sci.	Educ.	Total	Eng.	S/M/E	Soc. Sci.	Educ.	Total
	High School GPA B+/A– (3.3–3.7)									
1	23	0	12	—	5	30	34	41	—	41
2	16	1	5	44	3	737	902	922	215	949
3	28	7	13	58	9	4,134	5,823	5,927	837	6,123
4	37	14	26	71	18	4,993	8,050	8,079	424	8,443
5	53	24	37	61	30	752	1,293	1,274	23	1,349
Total	33	11	21	60	15	10,646	16,102	16,243	1,506	16,905
	High School GPA A/A+ (Higher than 3.7)									
1	—	—	—	—	—	—	—	—	—	—
2	22	5	8	52	6	451	583	575	130	590
3	40	14	23	72	18	4,178	5,976	5,905	786	6,100
4	57	29	45	83	38	5,988	10,076	9,957	595	10,431
5	77	52	66	90	61	1,794	3,415	3,346	68	3,562
Total	53	28	41	75	35	12,419	20,058	19,791	1,582	20,692

second level indicates that at least one parent had a college degree, and the third level indicates that at least one parent had a graduate degree. Focusing first on the columns on the right of Table 10 (Number of Students), the relationship between SAT scores and parental education is clear. At SAT Score Level 1 (in both college-selectivity Levels 1 and 2 and Levels 3 and 4), there are more than four times as many students whose parents had no college degree as had a graduate degree, but at SAT Score Levels 4 and 5 there are more students whose parents had a graduate degree than students whose parents did not graduate from college. Nevertheless, there are still thousands of students in our sample with SAT scores in Levels 4 and 5 whose parents did not graduate from college.

Table 10

Percentage of Students with Cumulative College GPAs Higher Than 3.5 by Parental Education, College Selectivity, SAT Score Level

SAT Score Level	Percent with GPA over 3.5			Number of Students		
	Parent College Degree			Parent College Degree		
	No	Yes	Grad.*	No	Yes	Grad.
	Level 1 and 2 Colleges					
1	2	1	0	516	161	92
2	6	6	6	4,932	2,709	1,805
3	15	16	17	7,993	6,645	5,817
4	31	33	34	2,616	3,524	3,751
5	55	65	64	173	330	502
Total	15	19	23	16,230	13,369	11,967
	Level 3 and 4 Colleges					
1	8	0	0	61	23	14
2	4	7	8	867	585	457
3	10	13	17	3,336	4,545	4,819
4	23	27	31	2,807	6,359	9,089
5	43	51	53	445	1,447	2,712
Total	16	24	30	7,516	12,959	17,091

*Graduate degree.

The left side of the table indicates that there is some relationship of parental education to this high level of accomplishment in college, but the relationship is not particularly strong when compared with the differences by SAT score level within parental education category. For example, note that in the Level 1 and 2 colleges, 31 percent of the students who were at SAT Score Level 4, and whose parents did not graduate from college, were highly successful. Going down just one SAT score level, but focusing on students with at least one parent with a graduate degree, the success level goes down to 17 percent. Clearly, the higher SAT score is a better indicator of likely success than is the parental education level.

Conclusion

In our analysis, we asked whether SAT scores add any information once one already knows a student's high school record. We found that SAT scores still provide information after high school grades are controlled. Likewise, high school grades provide information after SAT scores are controlled. That is, these two measures do measure related academic skills, but each also contributes unique predictive information. We found that both SAT scores and high school grades are much better predictors of college performance than is the level of education attained by the student's parents. The level of parental education is in fact only modestly related to success in college. We found that the predictive validity of both the SAT and high school GPA hold up in colleges at all levels of selectivity, in all classes combined—overall GPA—and in subject-specific classes in the four subject

areas most commonly studied. The SAT and high school GPA predict about equally well across gender and race/ethnicity classifications. Results were almost identical for first-year college GPA and for college GPA accumulated throughout students' college careers.

This study is consistent with previous research on the predictive validity of admissions test scores (Bridgeman et al., 2000; Bridgeman et al., 2004; Burton and Ramist, 2001; Elliott and Strenta, 1988; Hezlett et al., 2001; Linn, 1982; Ramist, Lewis, and McCamley-Jenkins, 1994; Willingham, 1985; Wilson, 1983; Young, 1991a, 1991b). It significantly increases and updates the data available on performance over all undergraduate years and adds new information on the relationship between SAT scores and performance in the specific subjects of science, math, and engineering; social sciences; English; and education.

It confirms the importance of correcting correlations for multivariate restriction of range. One effect of the correction for restriction of range is that it increases the size of the correlation coefficients by one-third to one-half, indicating how severe the effect of selection is. The multiple correlation of high school GPA with first-year college grades is 0.40 without correction (Table 2) and 0.58 with correction (Table 3), a 45 percent increase. The multiple correlation of SAT-V and SAT-M with first-year college grades is 0.36 without correction (Table 2) and 0.55 with correction (Table 3), a 53 percent increase. The corresponding multiple correlations with high school grades and SAT scores as predictors is 0.48 without correction and 0.65 with correction, a 35 percent increase. More important, however, is that apparent differences in prediction in colleges of different selectivity appear to be artifacts of restriction of range. The somewhat higher correlation for high school GPA in Level 1 institutions appears to be because a wider range of grades is reported by those institutions compared with more selective colleges and disappears when restriction in range is statistically corrected. Similarly, the lower correlations for all predictors found in the Level 4 institutions also appear to be the result of more severe restriction in these more selective institutions and disappear after the range restriction correction. In contrast, the somewhat higher correlations for the flagship state universities—Level 3 institutions—remain after the correction for restriction of range, suggesting that this may be a real effect, although we cannot explain it yet.

One final result is that the correction for restriction of range hardly changes the incremental contribution of the SAT to predicting cumulative grades—nor, for that matter, the increment for high school GPA. Both high school GPA and SAT scores are restricted to about the same extent when students and colleges select each other. Thus the corrections are similar for both variables, and the incremental contribution of each is not affected.

This study provides support for the speculation by Wilson (1983) and Burton and Ramist (2001) that correlations of predictors with final cumulative GPA are nearly identical to their correlations with first-year GPA. In the earlier studies, the speculation was based on samples of students and institutions (and time periods) that were not at all comparable. For this study, the first-year and cumulative college GPAs were gathered in the same time period, from the same institutions, and for the same students, and the correlations were shown to generalize over gender and race/ethnicity subgroups, and levels of institutional selectivity. Our results are consistent with a previous four-year study of success in nine liberal arts colleges conducted by Willingham (1985). The two studies demonstrate that the commonly stated caution, that admissions tests and high school GPA only predict first-year college performance, is not only too limited, it is just wrong.

This study contributes to the growing literature on the fairness of SAT scores and high school GPA as predictors of success in college. The strongest evidence for fairness is the consistency of correlations across gender, race/ethnicity, levels of parental education, subject areas of study, and levels of college selectivity. In nearly all groups, high school GPA correlates about 0.5 with cumulative college GPA. High school GPA is a slightly poorer predictor for African American and Hispanic students, probably because these minority students are more likely to attend high schools with poor college-prep curriculums or to be placed in a non-college-prep track even when such classes are available. Even more consistently, SAT scores correlate about 0.5 with cumulative college GPA. For all minority group students, both male and female, SAT scores predict college success about as well as they do for white students. The SAT increment is slightly larger for minority students than for white students. Overall, the picture is that both high school GPA and SAT scores make strong and virtually equivalent contributions to predicting success in college for all race/ethnicity and gender groups. This is true in all levels of college selectivity (Table 4) and in the more common college subject areas (Table 5).

Although the research presented here used a version of the SAT that was discontinued in 2005, the current version of the SAT ranks students in a manner that is highly consistent with the older version (Kobrin and Schmidt, 2005), indicating that the results presented here should generalize to the new SAT. Finally, this research is merely a first cut at a very rich database. Future research should explore a myriad of additional methodological and substantive issues that this database can support.

References

Bridgeman, B., McCamley-Jenkins, L., & Ervin, N. (2000). *Predictions of freshman grade-point average from the revised and recentered SAT I: Reasoning Test*. (College Board Research Report No. 2000-1; ETS RR 00-1). New York: The College Board.

Bridgeman, B., Pollack, J., & Burton, N. (2004). *Understanding what SAT Reasoning Test™ scores add to high school grades: A straightforward approach*. (College Board Research Report No. 2004-4; ETS RR 04-40). New York: The College Board.

Burton, N., & Ramist, L. (2001). *Predicting success in college: SAT studies of classes graduating since 1980*. (College Board Research Report No. 2001-2). New York: The College Board.

Cleary, A. (1968). Test bias: Prediction of grades for Negro and white students in integrated colleges. *Journal of Educational Measurement 5*, 115–24.

Elliott, R., & Strenta, A. C. (1988). Effects of improving the reliability of the GPA on prediction generally and on comparative predictions for gender and race particularly. *Journal of Educational Measurement 25*(4), 333–47.

Gulliksen, H. (1950). *Test theory of mental tests*. New York: John Wiley and Sons.

Hezlett, S. A., Kuncel, N., Vey, M., Ahart, A., Ones, D., Campbell, J., & Camara, W. (2001). *The effectiveness of the SAT in predicting success early and late in college: A meta analysis*. Paper presented at the AERA/NCME Annual Meeting, Seattle, Washington.

Kobrin, J., & Schmidt, A. (2005). *The research behind the new SAT*. (College Board Research Summary RS-11). New York: The College Board.

Kidder W.C., & Rosser, J. (2002). How the SAT creates "built-in headwinds": An educational and legal analysis of disparate impact. *Santa Clara Law Review 43* (1), 131–211.

Linn, R. L. (1982). Ability testing: Individual differences, prediction, and differential prediction. In A. K. Wigdor & W. B. Garner (Eds.), *Ability testing: Uses, consequences, controversies, Part II*. Washington, DC: National Academy Press.

Ramist, L., Lewis, C., & McCamley-Jenkins, L. (1994). *Student group differences in predicting college grades: Sex, language, and ethnic groups*. (College Board Research Report No. 93-1; ETS RR 94-27). New York: The College Board.

Rothstein, J. (2004). College performance predictions and the SAT. *Journal of Econometrics 121*(1–2): 297–317.

Schmidt, A., Bridgeman, B., & Pollack, J. (April, 2003). *A hierarchical approach to examining predictive validity*. Paper presented at the AERA/NCME Annual Meeting, Chicago.

Willingham, W. W. (1985). *Success in college: The role of personal qualities and academic ability*. New York: The College Board.

Wilson, K. M. (1983). *A review of research on the prediction of academic performance after the freshman year*. (College Board Research Report No. 83-2; ETS RR 83-11). New York: The College Board.

Young, J. W. (1991a). Gender bias in predicting college academic performance. *Journal of Educational Measurement 28*, 37–47.

Young, J. W. (1991b). Improving the prediction of college performance of ethnic minorities using the IRT-based GPA. *Applied Measurement in Education 4*, 229–39.

Appendix A: Sample Sizes, Means, and Standard Deviations for Subgroups Defined by Gender, Race/Ethnicity, and Course Type

Table A1

Sample Sizes, Means, and Standard Deviations by Race/Ethnicity and College Selectivity for Freshman GPA Analyses

	Level 1 Colleges			*Level 2 Colleges*			*Level 3 Colleges*			*Level 4 Colleges*			*Total*		
Race/Ethnicity	**N**	***Mean***	***SD***	**N**	***Mean***	***SD***	**N**	***Mean***	***SD***	**N**	***Mean***	***SD***	**N**	***Mean***	***SD***
Asian American															
HSGPA	541	3.23	0.57	5,007	3.58	0.49	4,788	3.79	0.42	1,520	3.74	0.43	11,856	3.67	0.48
SAT-V	541	473.16	94.72	5,007	531.93	93.71	4,788	588.95	87.69	1,520	602.66	83.40	11,856	561.34	96.76
SAT-M	541	522.98	88.41	5,007	593.41	85.57	4,788	659.74	76.33	1,520	690.87	67.48	11,856	629.48	91.14
Freshman GPA	541	2.45	0.84	5,007	2.92	0.64	4,788	3.05	0.71	1,520	2.85	0.76	11,856	2.94	0.71
African American															
HSGPA	1,550	2.99	0.58	1,459	3.18	0.51	2,595	3.62	0.49	581	3.63	0.50	6,185	3.36	0.59
SAT-V	1,550	450.25	77.71	1,459	511.08	80.74	2,595	545.69	77.71	581	589.47	74.17	6,185	517.72	89.80
SAT-M	1,550	441.50	76.27	1,459	495.53	77.24	2,595	537.63	77.96	581	600.22	77.07	6,185	509.49	91.01
Freshman GPA	1,550	2.04	0.80	1,459	2.51	0.69	2,595	2.57	0.66	581	2.59	0.73	6,185	2.42	0.74
Hispanic															
HSGPA	986	3.19	0.56	1,420	3.36	0.51	2,853	3.71	0.46	358	3.69	0.46	5,617	3.53	0.54
SAT-V	986	484.00	83.68	1,420	534.15	84.64	2,853	568.48	81.57	358	614.67	75.94	5,617	547.92	89.73
SAT-M	986	487.27	82.91	1,420	532.36	82.56	2,853	579.29	79.83	358	642.51	78.49	5,617	555.30	91.00
Freshman GPA	986	2.26	0.87	1,420	2.69	0.70	2,853	2.75	0.77	358	2.79	0.73	5,617	2.65	0.79
White															
HSGPA	22,206	3.24	0.55	27,867	3.54	0.47	23,925	3.83	0.40	7,502	3.82	0.40	81,500	3.57	0.52
SAT-V	22,206	519.31	73.09	27,867	575.24	76.77	23,925	615.79	75.83	7,502	642.49	72.18	81,500	578.09	85.92
SAT-M	22,206	516.98	76.30	27,867	582.15	76.78	23,925	625.70	74.37	7,502	668.54	70.18	81,500	585.13	89.84
Freshman GPA	22,206	2.51	0.81	27,867	2.89	0.66	23,925	3.00	0.67	7,502	2.89	0.74	81,500	2.82	0.74

Table A2

Sample Sizes, Means, and Standard Deviations by Gender and College Selectivity for Freshman GPA Analyses

	Level 1 Colleges			*Level 2 Colleges*			*Level 3 Colleges*			*Level 4 Colleges*			*Total*		
	N	***Mean***	***SD***	**N**	***Mean***	***SD***	**N**	***Mean***	***SD***	**N**	***Mean***	***SD***	**N**	***Mean***	***SD***
Male															
HSGPA	11,438	3.11	0.56	18,294	3.46	0.49	16,456	3.74	0.45	6,808	3.75	0.43	52,996	3.51	0.55
SAT-V	11,438	513.65	78.13	18,294	566.28	82.39	16,456	606.38	82.12	6,808	632.57	76.95	52,996	575.89	89.91
SAT-M	11,438	529.56	80.59	18,294	596.78	78.71	16,456	642.21	79.13	6,808	681.51	69.71	52,996	607.26	92.40
Freshman GPA	11,438	2.34	0.85	18,294	2.78	0.70	16,456	2.89	0.73	6,808	2.80	0.77	52,996	2.72	0.78
Female															
HSGPA	14,771	3.30	0.53	19,653	3.58	0.46	19,386	3.85	0.39	3,662	3.84	0.40	57,472	3.61	0.51
SAT-V	14,771	511.26	75.86	19,653	563.72	82.70	19,386	600.15	80.75	3,662	632.00	76.40	57,472	566.88	88.49
SAT-M	14,771	496.43	75.12	19,653	560.07	78.80	19,386	600.86	77.87	3,662	639.18	72.00	57,472	562.52	89.13
Freshman GPA	14,771	2.56	0.78	19,653	2.95	0.63	19,386	3.01	0.66	3,662	2.99	0.66	57,472	2.87	0.71

Table A3

Sample Sizes, Means, and Standard Deviations by Gender, Race/Ethnicity, and College Selectivity for Freshman GPA Analyses

Race/Ethnicity and Gender	*Level 1 Colleges*			*Level 2 Colleges*			*Level 3 Colleges*			*Level 4 Colleges*			*Total*		
	N	***Mean***	***SD***	**N**	***Mean***	***SD***	**N**	***Mean***	***SD***	**N**	***Mean***	***SD***	**N**	***Mean***	***SD***
Asian American Male															
HSGPA	313	3.13	0.59	2,391	3.52	0.50	2,451	3.73	0.44	1,004	3.72	0.44	6,159	3.62	0.50
SAT-V	313	475.05	95.51	2,391	533.51	92.59	2,451	588.60	87.01	1,004	605.00	82.94	6,159	564.11	95.93
SAT-M	313	545.02	86.69	2,391	612.74	83.75	2,451	676.76	72.83	1,004	703.75	61.92	6,159	649.61	87.73
Freshman GPA	313	2.41	0.86	2,391	2.85	0.67	2,451	2.98	0.74	1,004	2.81	0.78	6,159	2.87	0.74
Asian American Female															
HSGPA	228	3.37	0.51	2,616	3.64	0.46	2,337	3.85	0.39	516	3.77	0.41	5,697	3.72	0.45
SAT-V	228	470.57	93.56	2,616	530.48	94.70	2,337	589.32	88.41	516	598.12	84.11	5,697	558.35	97.56
SAT-M	228	492.72	81.53	2,616	575.73	83.36	2,337	641.90	75.85	516	665.81	70.73	5,697	607.71	89.74
Freshman GPA	228	2.49	0.79	2,616	2.99	0.61	2,337	3.12	0.66	516	2.92	0.70	5,697	3.02	0.66
African American Male															
HSGPA	671	2.84	0.59	607	3.10	0.53	880	3.50	0.52	338	3.58	0.51	2,496	3.24	0.62
SAT-V	671	453.15	76.63	607	509.54	81.74	880	544.25	80.02	338	585.47	76.19	2,496	516.90	90.85
SAT-M	671	453.83	78.71	607	512.26	79.17	880	553.93	81.76	338	610.86	76.54	2,496	524.60	95.05
Freshman GPA	671	1.93	0.81	607	2.41	0.70	880	2.46	0.68	338	2.53	0.75	2,496	2.32	0.77
African American Female															
HSGPA	879	3.10	0.54	852	3.23	0.49	1,715	3.68	0.45	243	3.69	0.47	3,689	3.44	0.55
SAT-V	879	448.04	78.46	852	512.17	80.00	1,715	546.43	76.48	243	595.02	70.91	3,689	518.27	89.08
SAT-M	879	432.08	72.96	852	483.62	73.55	1,715	529.27	74.56	243	585.43	75.34	3,689	499.27	86.69
Freshman GPA	879	2.12	0.78	852	2.59	0.67	1,715	2.62	0.64	243	2.66	0.68	3,689	2.50	0.72
Hispanic Male															
HSGPA	484	3.12	0.59	665	3.28	0.52	1,399	3.65	0.49	237	3.63	0.45	2,785	3.47	0.56
SAT-V	484	486.47	87.89	665	537.20	84.67	1,399	571.22	82.49	237	610.04	75.93	2,785	551.67	90.74
SAT-M	484	507.73	84.27	665	552.35	82.44	1,399	600.11	80.05	237	659.79	76.22	2,785	577.73	91.65
Freshman GPA	484	2.21	0.94	665	2.57	0.73	1,399	2.68	0.77	237	2.77	0.77	2,785	2.58	0.82
Hispanic Female															
HSGPA	502	3.25	0.52	755	3.43	0.49	1,454	3.77	0.42	121	3.80	0.45	2,832	3.59	0.51
SAT-V	502	481.61	79.34	755	531.46	84.52	1,454	565.85	80.58	121	623.72	75.15	2,832	544.22	88.56
SAT-M	502	467.55	76.57	755	514.76	78.56	1,454	559.25	74.30	121	608.68	71.57	2,832	533.25	84.76
Freshman GPA	502	2.32	0.80	755	2.79	0.64	1,454	2.81	0.76	121	2.84	0.64	2,832	2.72	0.76
White Male															
HSGPA	9,478	3.13	0.55	13,543	3.48	0.48	10,874	3.78	0.43	4,901	3.79	0.41	38,796	3.52	0.54
SAT-V	9,478	521.12	73.98	13,543	576.19	76.68	10,874	619.67	76.23	4,901	642.25	72.55	38,796	583.27	86.35
SAT-M	9,478	536.12	77.02	13,543	600.62	74.50	10,874	647.59	72.57	4,901	683.08	66.91	38,796	608.45	88.66
Freshman GPA	9,478	2.38	0.84	13,543	2.80	0.69	10,874	2.92	0.71	4,901	2.81	0.77	38,796	2.73	0.77
White Female															
HSGPA	12,728	3.32	0.53	14,324	3.60	0.45	13,051	3.88	0.37	2,601	3.87	0.38	42,704	3.62	0.50
SAT-V	12,728	517.96	72.39	14,324	574.33	76.84	13,051	612.55	75.35	2,601	642.93	71.47	42,704	573.39	85.25
SAT-M	12,728	502.72	72.55	14,324	564.69	74.80	13,051	607.47	70.86	2,601	641.13	67.97	42,704	563.95	85.56
Freshman GPA	12,728	2.60	0.77	14,324	2.98	0.62	13,051	3.06	0.63	2,601	3.04	0.64	42,704	2.89	0.70
Total															
HSGPA	26,209	3.22	0.56	37,947	3.52	0.48	35,842	3.80	0.42	10,470	3.78	0.42	110,468	3.56	0.53
SAT-V	26,209	512.30	76.87	37,947	564.95	82.56	35,842	603.01	81.44	10,470	632.37	76.76	110,468	571.20	89.29
SAT-M	26,209	510.89	79.27	37,947	577.77	80.87	35,842	619.85	81.12	10,470	666.70	73.35	110,468	583.98	93.43
Freshman GPA	26,209	2.46	0.82	37,947	2.87	0.67	35,842	2.95	0.69	10,470	2.87	0.74	110,468	2.80	0.75

Table A4

Sample Sizes, Means, and Standard Deviations by Race/Ethnicity and College Selectivity for Cumulative GPA Analyses

	Level 1 Colleges			*Level 2 Colleges*			*Level 3 Colleges*			*Level 4 Colleges*			*Total*		
Race/Ethnicity	**N**	***Mean***	***SD***	**N**	***Mean***	***SD***	**N**	***Mean***	***SD***	**N**	***Mean***	***SD***	**N**	***Mean***	***SD***
Asian American															
HSGPA	308	3.32	0.54	3,913	3.62	0.48	4,222	3.82	0.40	1,249	3.75	0.43	9,692	3.71	0.46
SAT-V	308	473.02	91.77	3,913	535.89	92.95	4,222	592.98	86.22	1,249	604.60	84.09	9,692	567.62	95.15
SAT-M	308	528.93	88.08	3,913	597.40	84.35	4,222	664.00	73.75	1,249	693.64	66.68	9,692	636.64	88.30
Cumulative GPA	308	2.73	0.56	3,913	3.07	0.47	4,222	3.12	0.54	1,249	3.04	0.53	9,692	3.08	0.52
African American															
HSGPA	822	3.08	0.57	1,074	3.20	0.52	2,188	3.65	0.48	460	3.66	0.50	4,544	3.44	0.57
SAT-V	822	458.30	76.52	1,074	514.64	80.34	2,188	548.15	77.69	460	592.65	74.52	4,544	528.48	87.14
SAT-M	822	450.38	73.37	1,074	500.18	76.83	2,188	539.78	77.75	460	604.04	77.32	4,544	520.75	88.08
Cumulative GPA	822	2.51	0.50	1,074	2.75	0.49	2,188	2.70	0.51	460	2.71	0.55	4,544	2.68	0.51
Hispanic															
HSGPA	516	3.30	0.54	1,006	3.40	0.51	2,241	3.75	0.45	273	3.73	0.44	4,036	3.61	0.52
SAT-V	516	490.25	80.47	1,006	536.90	87.76	2,241	574.65	80.12	273	617.00	76.06	4,036	557.31	88.26
SAT-M	516	494.71	80.96	1,006	535.84	85.27	2,241	585.68	80.18	273	643.85	78.77	4,036	565.56	90.23
Cumulative GPA	516	2.72	0.54	1,006	2.93	0.48	2,241	2.90	0.56	273	3.02	0.55	4,036	2.89	0.55
White															
HSGPA	14,266	3.30	0.54	21,310	3.58	0.46	20,697	3.86	0.38	6,075	3.84	0.39	62,348	3.64	0.50
SAT-V	14,266	523.24	72.58	21,310	578.83	76.41	20,697	618.40	75.04	6,075	643.76	72.44	62,348	585.57	84.70
SAT-M	14,266	522.38	75.76	21,310	586.77	76.62	20,697	628.93	73.46	6,075	671.75	69.89	62,348	594.31	88.16
Cumulative GPA	14,266	2.94	0.54	21,310	3.11	0.48	20,697	3.15	0.50	6,075	3.11	0.54	62,348	3.08	0.51

Table A5

Sample Sizes, Means, and Standard Deviations by Gender and College Selectivity for Cumulative GPA Analyses

	Level 1 Colleges			*Level 2 Colleges*			*Level 3 Colleges*			*Level 4 Colleges*			*Total*		
	N	***Mean***	***SD***	**N**	***Mean***	***SD***	**N**	***Mean***	***SD***	**N**	***Mean***	***SD***	**N**	***Mean***	***SD***
Male															
HSGPA	6,837	3.19	0.55	13,808	3.50	0.49	13,892	3.77	0.43	5,370	3.78	0.42	39,907	3.58	0.52
SAT-V	6,837	518.88	76.68	13,808	569.58	82.07	13,892	609.89	80.85	5,370	634.35	77.66	39,907	583.64	88.30
SAT-M	6,837	536.25	79.61	13,808	601.48	78.52	13,892	647.33	77.69	5,370	685.73	69.41	39,907	617.60	90.13
Cumulative GPA	6,837	2.77	0.55	13,808	2.99	0.50	13,892	3.02	0.56	5,370	3.02	0.56	39,907	2.97	0.55
Female															
HSGPA	9,588	3.36	0.52	15,112	3.61	0.45	16,876	3.86	0.38	3,095	3.86	0.39	44,671	3.67	0.48
SAT-V	9,588	516.64	74.68	15,112	567.81	82.51	16,876	603.46	79.89	3,095	633.16	75.76	44,671	574.82	87.16
SAT-M	9,588	504.17	74.08	15,112	565.13	78.61	16,876	604.65	76.97	3,095	642.59	70.99	44,671	572.34	87.22
Cumulative GPA	9,588	2.99	0.53	15,112	3.16	0.45	16,876	3.16	0.50	3,095	3.17	0.50	44,671	3.12	0.49

Table A6

Sample Sizes, Means, and Standard Deviations by Gender, Race/Ethnicity, and College Selectivity for Cumulative GPA Analyses

Race/Ethnicity and Gender	*Level 1 Colleges*			*Level 2 Colleges*			*Level 3 Colleges*			*Level 4 Colleges*			*Total*		
	N	***Mean***	***SD***	**N**	***Mean***	***SD***	**N**	***Mean***	***SD***	**N**	***Mean***	***SD***	**N**	***Mean***	***SD***
Asian American Male															
HSGPA	171	3.23	0.55	1,834	3.56	0.49	2,103	3.77	0.42	807	3.74	0.44	4,915	3.67	0.47
SAT-V	171	474.33	94.44	1,834	536.77	92.41	2,103	592.73	85.52	807	607.49	83.90	4,915	570.15	94.68
SAT-M	171	555.21	84.88	1,834	616.24	83.76	2,103	683.17	68.27	807	707.16	60.91	4,915	657.68	84.61
Cumulative GPA	171	2.66	0.58	1,834	3.00	0.49	2,103	3.05	0.56	807	3.02	0.54	4,915	3.01	0.54
Asian American Female															
HSGPA	137	3.42	0.52	2,079	3.67	0.45	2,119	3.86	0.37	442	3.78	0.41	4,777	3.76	0.43
SAT-V	137	471.39	88.30	2,079	535.12	93.42	2,119	593.23	86.91	442	599.34	84.17	4,777	565.01	95.55
SAT-M	137	496.13	80.70	2,079	580.79	81.32	2,119	644.97	74.07	442	668.96	69.63	4,777	614.99	86.77
Cumulative GPA	137	2.83	0.51	2,079	3.14	0.45	2,119	3.18	0.50	442	3.10	0.51	4,777	3.15	0.48
African American Male															
HSGPA	330	2.94	0.59	442	3.12	0.55	703	3.53	0.52	257	3.61	0.51	1,732	3.33	0.60
SAT-V	330	457.70	76.65	442	510.93	79.51	703	544.91	80.26	257	586.50	77.99	1,732	525.79	88.80
SAT-M	330	462.21	76.77	442	516.67	79.03	703	556.53	81.36	257	613.35	78.44	1,732	536.82	92.24
Cumulative GPA	330	2.37	0.48	442	2.64	0.49	703	2.57	0.52	257	2.63	0.57	1,732	2.56	0.52
African American Female															
HSGPA	492	3.16	0.54	632	3.25	0.49	1,485	3.70	0.44	203	3.71	0.47	2,812	3.51	0.53
SAT-V	492	458.70	76.44	632	517.23	80.82	1,485	549.69	76.39	203	600.44	69.09	2,812	530.14	86.06
SAT-M	492	442.44	69.88	632	488.64	73.07	1,485	531.85	74.69	203	592.27	74.23	2,812	510.86	83.90
Cumulative GPA	492	2.60	0.49	632	2.83	0.48	1,485	2.76	0.49	203	2.81	0.51	2,812	2.75	0.49
Hispanic Male															
HSGPA	241	3.27	0.56	465	3.33	0.53	1,072	3.69	0.48	177	3.66	0.45	1,955	3.55	0.54
SAT-V	241	492.57	80.56	465	539.87	87.08	1,072	578.38	79.69	177	613.96	77.79	1,955	561.86	87.95
SAT-M	241	516.35	80.53	465	557.38	85.01	1,072	608.40	80.28	177	660.17	77.01	1,955	589.60	90.24
Cumulative GPA	241	2.68	0.56	465	2.80	0.51	1,072	2.80	0.58	177	2.98	0.58	1,955	2.80	0.57
Hispanic Female															
HSGPA	275	3.32	0.52	541	3.46	0.49	1,169	3.81	0.41	96	3.86	0.39	2,081	3.66	0.49
SAT-V	275	488.22	80.35	541	534.34	88.27	1,169	571.23	80.36	96	622.60	72.42	2,081	553.04	88.34
SAT-M	275	475.75	76.45	541	517.32	81.04	1,169	564.85	74.21	96	613.75	72.88	2,081	542.98	84.18
Cumulative GPA	275	2.75	0.52	541	3.04	0.43	1,169	3.00	0.53	96	3.10	0.48	2,081	2.98	0.51
White Male															
HSGPA	5,834	3.20	0.54	10,280	3.52	0.47	9,302	3.81	0.41	3,872	3.82	0.40	29,288	3.59	0.51
SAT-V	5,834	524.90	73.47	10,280	579.33	76.28	9,302	622.21	75.41	3,872	643.81	73.22	29,288	590.63	85.02
SAT-M	5,834	541.12	77.01	10,280	605.14	74.38	9,302	651.22	71.61	3,872	687.55	66.41	29,288	617.92	86.95
Cumulative GPA	5,834	2.80	0.54	10,280	3.02	0.49	9,302	3.07	0.54	3,872	3.04	0.55	29,288	3.00	0.53
White Female															
HSGPA	8,432	3.37	0.52	11,030	3.64	0.44	11,395	3.90	0.36	2,203	3.89	0.37	33,060	3.68	0.48
SAT-V	8,432	522.09	71.93	11,030	578.36	76.53	11,395	615.30	74.59	2,203	643.67	71.05	33,060	581.09	84.16
SAT-M	8,432	509.42	72.08	11,030	569.65	74.70	11,395	610.73	69.84	2,203	644.00	67.15	33,060	573.40	83.84
Cumulative GPA	8,432	3.03	0.52	11,030	3.19	0.44	11,395	3.22	0.46	2,203	3.22	0.48	33,060	3.16	0.48
Total															
HSGPA	16,425	3.29	0.54	28,920	3.56	0.47	30,768	3.82	0.40	8,465	3.81	0.41	84,578	3.63	0.50
SAT-V	16,425	517.57	75.52	28,920	568.66	82.30	30,768	606.37	80.39	8,465	633.91	76.97	84,578	578.98	87.81
SAT-M	16,425	517.53	78.05	28,920	582.49	80.64	30,768	623.92	80.16	8,465	669.96	73.01	84,578	593.70	91.44
Cumulative GPA	16,425	2.90	0.55	28,920	3.08	0.48	30,768	3.10	0.53	8,465	3.07	0.54	84,578	3.05	0.52

Table A7

Sample Sizes, Means, and Standard Deviations by Race/Ethnicity and College Selectivity for English GPA Analyses

	Level 1 Colleges			*Level 2 Colleges*			*Level 3 Colleges*			*Level 4 Colleges*			*Total*		
Race/Ethnicity	**N**	***Mean***	***SD***	**N**	***Mean***	***SD***	**N**	***Mean***	***SD***	**N**	***Mean***	***SD***	**N**	***Mean***	***SD***
Asian American															
HSGPA	305	3.24	0.57	2,686	3.53	0.49	1,805	3.79	0.43	721	3.77	0.42	5,517	3.63	0.49
SAT-V	305	467.67	89.90	2,686	523.05	95.02	1,805	593.71	88.46	721	608.59	76.14	5,517	554.28	99.72
SAT-M	305	504.59	86.19	2,686	580.36	85.90	1,805	650.97	77.84	721	678.86	67.38	5,517	612.14	93.73
English GPA	305	2.74	0.78	2,686	3.16	0.59	1,805	3.26	0.62	721	2.98	0.74	5,517	3.15	0.65
African American															
HSGPA	1,173	2.99	0.58	977	3.17	0.50	1,845	3.63	0.48	403	3.66	0.48	4,398	3.36	0.59
SAT-V	1,173	448.99	74.94	977	502.16	79.03	1,845	538.67	73.86	403	586.15	69.85	4,398	510.99	86.62
SAT-M	1,173	437.32	73.05	977	487.89	75.36	1,845	527.50	72.63	403	599.43	75.44	4,398	501.24	87.87
English GPA	1,173	2.43	0.78	977	2.83	0.71	1,845	2.99	0.61	403	2.93	0.67	4,398	2.80	0.72
Hispanic															
HSGPA	624	3.17	0.53	849	3.35	0.52	1,460	3.72	0.45	186	3.70	0.43	3,119	3.51	0.54
SAT-V	624	479.86	79.55	849	526.60	86.38	1,460	571.40	80.81	186	613.23	71.77	3,119	543.39	90.57
SAT-M	624	478.00	78.97	849	522.20	83.11	1,460	570.53	78.84	186	640.05	74.27	3,119	543.01	90.80
English GPA	624	2.60	0.81	849	2.94	0.70	1,460	3.05	0.72	186	3.00	0.70	3,119	2.93	0.75
White															
HSGPA	15,857	3.23	0.54	16,030	3.52	0.46	14,075	3.83	0.40	4,605	3.82	0.39	50,567	3.54	0.53
SAT-V	15,857	514.88	70.40	16,030	571.32	76.00	14,075	613.29	75.39	4,605	635.65	70.48	50,567	571.16	85.36
SAT-M	15,857	510.56	73.06	16,030	573.33	75.88	14,075	617.56	72.18	4,605	665.41	67.07	50,567	574.34	88.94
English GPA	15,857	2.89	0.71	16,030	3.17	0.56	14,075	3.32	0.54	4,605	3.07	0.68	50,567	3.11	0.64

Table A8

Sample Sizes, Means, and Standard Deviations by Gender and College Selectivity for English GPA Analyses

	Level 1 Colleges			*Level 2 Colleges*			*Level 3 Colleges*			*Level 4 Colleges*			*Total*		
	N	***Mean***	***SD***	**N**	***Mean***	***SD***	**N**	***Mean***	***SD***	**N**	***Mean***	***SD***	**N**	***Mean***	***SD***
Male															
HSGPA	7,168	3.09	0.55	9,847	3.42	0.49	8,359	3.73	0.46	4,012	3.76	0.42	29,386	3.47	0.55
SAT-V	7,168	508.42	74.45	9,847	560.79	82.45	8,359	604.84	81.88	4,012	626.64	72.98	29,386	569.54	89.45
SAT-M	7,168	521.11	77.06	9,847	586.78	78.59	8,359	631.25	78.98	4,012	674.62	67.30	29,386	595.41	92.22
English GPA	7,168	2.66	0.76	9,847	3.05	0.62	8,359	3.16	0.64	4,012	2.94	0.72	29,386	2.97	0.70
Female															
HSGPA	11,387	3.29	0.53	11,938	3.55	0.47	11,780	3.84	0.39	2,163	3.85	0.39	37,268	3.58	0.51
SAT-V	11,387	508.00	73.59	11,938	559.28	82.70	11,780	598.66	80.04	2,163	631.60	72.88	37,268	560.26	88.18
SAT-M	11,387	493.23	73.26	11,938	551.77	78.35	11,780	591.98	76.29	2,163	637.07	70.23	37,268	551.54	87.82
English GPA	11,387	2.95	0.69	11,938	3.21	0.54	11,780	3.33	0.52	2,163	3.25	0.59	37,268	3.17	0.61

Table A9

Sample Sizes, Means, and Standard Deviations by Gender, Race/Ethnicity, and College Selectivity for English GPA Analyses

Race/Ethnicity and Gender	*Level 1 Colleges*			*Level 2 Colleges*			*Level 3 Colleges*			*Level 4 Colleges*			*Total*		
	N	***Mean***	***SD***	**N**	***Mean***	***SD***	**N**	***Mean***	***SD***	**N**	***Mean***	***SD***	**N**	***Mean***	***SD***
Asian American Male															
HSGPA	137	3.10	0.60	1,209	3.44	0.51	842	3.73	0.46	473	3.74	0.42	2,661	3.57	0.52
SAT-V	137	466.42	86.33	1,209	524.12	93.85	842	592.25	85.69	473	609.43	75.33	2,661	557.87	97.53
SAT-M	137	528.03	87.17	1,209	598.30	85.55	842	671.19	71.91	473	689.98	62.15	2,661	634.04	90.50
English GPA	137	2.56	0.86	1,209	3.06	0.62	842	3.18	0.66	473	2.87	0.76	2,661	3.04	0.69
Asian American Female															
HSGPA	168	3.35	0.51	1,477	3.60	0.47	963	3.83	0.40	248	3.81	0.41	2,856	3.68	0.46
SAT-V	168	468.69	92.70	1,477	522.17	95.95	963	594.98	90.80	248	606.98	77.64	2,856	550.94	101.60
SAT-M	168	485.48	80.48	1,477	565.67	83.37	963	633.29	78.51	248	657.66	71.75	2,856	591.74	92.07
English GPA	168	2.89	0.67	1,477	3.23	0.55	963	3.34	0.57	248	3.18	0.67	2,856	3.24	0.58
African American Male															
HSGPA	457	2.84	0.61	385	3.08	0.51	565	3.51	0.54	231	3.61	0.50	1,638	3.23	0.63
SAT-V	457	452.41	74.07	385	498.26	77.87	565	534.96	78.70	231	578.96	72.34	1,638	509.51	87.60
SAT-M	457	449.87	74.92	385	503.43	78.85	565	541.82	78.47	231	607.79	76.25	1,638	516.45	92.99
English GPA	457	2.24	0.76	385	2.72	0.75	565	2.83	0.68	231	2.81	0.69	1,638	2.63	0.76
African American Female															
HSGPA	716	3.10	0.54	592	3.22	0.48	1,280	3.68	0.45	172	3.72	0.46	2,760	3.43	0.55
SAT-V	716	446.82	75.41	592	504.70	79.67	1,280	540.31	71.57	172	595.81	65.12	2,760	511.88	86.02
SAT-M	716	429.30	70.67	592	477.79	71.21	1,280	521.18	68.95	172	588.20	72.84	2,760	492.21	83.39
English GPA	716	2.56	0.76	592	2.91	0.67	1,280	3.06	0.57	172	3.09	0.61	2,760	2.90	0.68
Hispanic Male															
HSGPA	242	3.09	0.56	366	3.25	0.52	649	3.64	0.48	120	3.65	0.42	1,377	3.44	0.55
SAT-V	242	481.69	81.84	366	529.13	85.43	649	577.21	80.34	120	606.50	69.12	1,377	550.20	90.21
SAT-M	242	504.59	77.21	366	543.33	81.74	649	593.30	79.40	120	660.33	70.64	1,377	570.27	90.21
English GPA	242	2.40	0.86	366	2.85	0.75	649	2.92	0.78	120	2.89	0.73	1,377	2.80	0.80
Hispanic Female															
HSGPA	382	3.22	0.51	483	3.43	0.50	811	3.78	0.42	66	3.81	0.42	1,742	3.56	0.52
SAT-V	382	478.69	78.05	483	524.68	87.04	811	566.76	80.87	66	625.46	74.82	1,742	538.00	90.49
SAT-M	382	461.15	75.35	483	506.19	80.51	811	552.31	73.46	66	603.18	66.06	1,742	521.46	85.31
English GPA	382	2.72	0.76	483	3.02	0.65	811	3.16	0.66	66	3.20	0.59	1,742	3.03	0.70
White Male															
HSGPA	6,065	3.11	0.54	7,315	3.45	0.47	5,866	3.77	0.43	3,024	3.78	0.40	22,270	3.49	0.54
SAT-V	6,065	515.07	70.96	7,315	571.87	76.03	5,866	616.57	76.52	3,024	633.53	70.70	22,270	576.55	85.97
SAT-M	6,065	527.91	73.81	7,315	592.10	74.02	5,866	639.21	71.39	3,024	678.16	64.06	22,270	598.71	88.61
English GPA	6,065	2.70	0.74	7,315	3.07	0.59	5,866	3.21	0.60	3,024	2.95	0.71	22,270	2.99	0.68
White Female															
HSGPA	9,792	3.31	0.52	8,715	3.58	0.45	8,209	3.88	0.37	1,581	3.88	0.37	28,297	3.59	0.51
SAT-V	9,792	514.76	70.05	8,715	570.86	75.98	8,209	610.95	74.47	1,581	639.70	69.89	28,297	566.93	84.63
SAT-M	9,792	499.81	70.48	8,715	557.58	73.81	8,209	602.09	68.69	1,581	641.03	65.93	28,297	555.16	84.39
English GPA	9,792	3.00	0.67	8,715	3.24	0.52	8,209	3.39	0.48	1,581	3.28	0.57	28,297	3.20	0.59
Total															
HSGPA	18,555	3.21	0.55	21,785	3.49	0.48	20,139	3.79	0.43	6,175	3.79	0.41	66,654	3.53	0.53
SAT-V	18,555	508.16	73.92	21,785	559.96	82.59	20,139	601.23	80.87	6,175	628.38	72.98	66,654	564.35	88.86
SAT-M	18,555	504.00	75.97	21,785	567.60	80.37	20,139	608.28	79.80	6,175	661.47	70.65	66,654	570.88	92.39
English GPA	18,555	2.84	0.73	21,785	3.14	0.58	20,139	3.26	0.58	6,175	3.05	0.69	66,654	3.08	0.66

Table A10

Sample Sizes, Means, and Standard Deviations by Race/Ethnicity and College Selectivity for S/M/E GPA Analyses

	Level 1 Colleges			*Level 2 Colleges*			*Level 3 Colleges*			*Level 4 Colleges*			*Total*		
Race/Ethnicity	**N**	***Mean***	***SD***	**N**	***Mean***	***SD***	**N**	***Mean***	***SD***	**N**	***Mean***	***SD***	**N**	***Mean***	***SD***
Asian American															
HSGPA	523	3.23	0.57	4,744	3.59	0.49	4,724	3.79	0.42	1,470	3.74	0.43	11,461	3.67	0.48
SAT-V	523	471.40	93.47	4,744	531.07	93.43	4,724	588.67	87.17	1,470	603.08	83.80	11,461	561.32	96.56
SAT-M	523	525.53	87.41	4,744	595.24	85.08	4,724	659.94	76.17	1,470	693.29	65.88	11,461	631.30	90.40
S/M/E GPA	523	2.29	0.93	4,744	2.77	0.71	4,724	2.79	0.81	1,470	2.68	0.84	11,461	2.74	0.79
African American															
HSGPA	1,353	3.03	0.57	1,278	3.18	0.51	2,503	3.63	0.48	550	3.65	0.49	5,684	3.39	0.58
SAT-V	1,353	453.31	77.61	1,278	509.41	80.10	2,503	546.12	77.01	550	589.71	72.35	5,684	519.99	88.59
SAT-M	1,353	446.82	75.80	1,278	498.10	77.49	2,503	539.17	77.29	550	605.49	73.74	5,684	514.37	89.97
S/M/E GPA	1,353	1.73	0.88	1,278	2.23	0.83	2,503	2.11	0.78	550	2.21	0.83	5,684	2.06	0.84
Hispanic															
HSGPA	901	3.21	0.56	1,240	3.37	0.51	2,768	3.71	0.47	325	3.70	0.46	5,234	3.55	0.53
SAT-V	901	483.57	83.49	1,240	532.75	86.14	2,768	567.37	81.47	325	613.79	75.66	5,234	547.63	89.78
SAT-M	901	489.80	82.73	1,240	535.28	82.02	2,768	579.86	80.59	325	648.77	75.48	5,234	558.07	90.82
S/M/E GPA	901	2.08	0.94	1,240	2.48	0.80	2,768	2.32	0.89	325	2.49	0.87	5,234	2.33	0.89
White															
HSGPA	19,775	3.26	0.54	24,911	3.55	0.46	22,799	3.84	0.40	7,036	3.83	0.39	74,521	3.59	0.51
SAT-V	19,775	520.82	72.73	24,911	574.17	76.27	22,799	614.63	75.57	7,036	642.51	71.64	74,521	578.84	85.18
SAT-M	19,775	520.91	75.67	24,911	585.19	76.31	22,799	626.02	74.28	7,036	672.63	67.64	74,521	588.88	88.89
S/M/E GPA	19,775	2.39	0.91	24,911	2.74	0.76	22,799	2.77	0.80	7,036	2.70	0.85	74,521	2.65	0.84

Table A11

Sample Sizes, Means, and Standard Deviations by Gender and College Selectivity for S/M/E GPA Analyses

	Level 1 Colleges			*Level 2 Colleges*			*Level 3 Colleges*			*Level 4 Colleges*			*Total*		
	N	***Mean***	***SD***	**N**	***Mean***	***SD***	**N**	***Mean***	***SD***	**N**	***Mean***	***SD***	**N**	***Mean***	***SD***
Male															
HSGPA	10,303	3.14	0.56	16,925	3.47	0.49	15,921	3.74	0.45	6,555	3.76	0.42	49,704	3.53	0.54
SAT-V	10,303	515.49	77.87	16,925	564.98	82.28	15,921	605.63	81.76	6,555	632.82	76.56	49,704	576.69	89.35
SAT-M	10,303	534.01	79.77	16,925	599.00	78.28	15,921	642.94	78.68	6,555	684.24	67.46	49,704	610.85	91.11
S/M/E GPA	10,303	2.25	0.93	16,925	2.65	0.79	15,921	2.65	0.85	6,555	2.61	0.88	49,704	2.56	0.87
Female															
HSGPA	13,042	3.33	0.53	17,163	3.59	0.46	18,463	3.85	0.39	3,279	3.86	0.39	51,947	3.63	0.50
SAT-V	13,042	512.41	75.43	17,163	562.25	82.36	18,463	598.73	80.47	3,279	631.18	75.93	51,947	567.06	87.80
SAT-M	13,042	499.92	74.25	17,163	562.96	78.56	18,463	600.83	77.96	3,279	644.45	69.38	51,947	565.74	88.35
S/M/E GPA	13,042	2.40	0.91	17,163	2.77	0.74	18,463	2.71	0.82	3,279	2.76	0.80	51,947	2.66	0.83

Table A12

Sample Sizes, Means, and Standard Deviations by Gender, Race/Ethnicity, and College Selectivity for S/M/E GPA Analyses

Race/Ethnicity and Gender	*Level 1 Colleges*			*Level 2 Colleges*			*Level 3 Colleges*			*Level 4 Colleges*			*Total*		
	N	***Mean***	***SD***	**N**	***Mean***	***SD***	**N**	***Mean***	***SD***	**N**	***Mean***	***SD***	**N**	***Mean***	***SD***
Asian American Male															
HSGPA	308	3.14	0.58	2,308	3.52	0.50	2,424	3.74	0.44	988	3.72	0.44	6,028	3.62	0.50
SAT-V	308	474.94	95.26	2,308	531.86	92.54	2,424	588.02	86.35	988	604.97	82.99	6,028	563.52	95.80
SAT-M	308	548.15	85.63	2,308	613.49	83.83	2,424	676.87	72.41	988	704.57	61.19	6,028	650.57	87.21
S/M/E GPA	308	2.27	0.94	2,308	2.73	0.71	2,424	2.73	0.83	988	2.65	0.86	6,028	2.69	0.81
Asian American Female															
HSGPA	215	3.37	0.52	2,436	3.64	0.46	2,300	3.85	0.38	482	3.78	0.41	5,433	3.73	0.44
SAT-V	215	466.33	90.61	2,436	530.32	94.26	2,300	589.35	88.03	482	599.19	85.29	5,433	558.89	97.35
SAT-M	215	493.12	79.34	2,436	577.95	82.61	2,300	642.10	75.97	482	670.17	69.03	5,433	609.93	89.07
S/M/E GPA	215	2.32	0.90	2,436	2.81	0.71	2,300	2.85	0.78	482	2.72	0.80	5,433	2.80	0.76
African American Male															
HSGPA	557	2.89	0.59	544	3.12	0.53	846	3.51	0.52	324	3.61	0.50	2,271	3.28	0.61
SAT-V	557	456.84	76.66	544	509.93	80.93	846	545.71	78.21	324	587.28	73.64	2,271	521.27	89.20
SAT-M	557	461.99	79.42	544	516.03	78.43	846	556.51	80.43	324	615.15	73.22	2,271	532.00	93.11
S/M/E GPA	557	1.66	0.86	544	2.15	0.83	846	2.04	0.79	324	2.14	0.86	2,271	1.99	0.85
African American Female															
HSGPA	796	3.13	0.52	734	3.23	0.49	1,657	3.69	0.45	226	3.72	0.47	3,413	3.46	0.54
SAT-V	796	450.84	78.17	734	509.02	79.48	1,657	546.33	76.39	226	593.19	70.30	3,413	519.14	88.18
SAT-M	796	436.21	71.26	734	484.81	74.03	1,657	530.31	74.09	226	591.64	72.27	3,413	502.64	85.83
S/M/E GPA	796	1.78	0.89	734	2.28	0.83	1,657	2.14	0.77	226	2.32	0.76	3,413	2.10	0.83
Hispanic Male															
HSGPA	447	3.16	0.58	606	3.29	0.52	1,358	3.65	0.50	222	3.64	0.45	2,633	3.48	0.55
SAT-V	447	483.92	86.20	606	535.86	85.11	1,358	570.82	82.32	222	610.14	76.14	2,633	551.33	90.70
SAT-M	447	509.22	84.32	606	553.09	82.58	1,358	601.11	80.73	222	665.05	73.94	2,633	579.85	91.95
S/M/E GPA	447	2.10	0.98	606	2.34	0.84	1,358	2.29	0.88	222	2.50	0.90	2,633	2.28	0.90
Hispanic Female															
HSGPA	454	3.27	0.52	634	3.45	0.49	1,410	3.78	0.42	103	3.84	0.44	2,601	3.61	0.51
SAT-V	454	483.24	80.73	634	529.78	87.01	1,410	564.06	80.50	103	621.65	73.99	2,601	543.88	88.67
SAT-M	454	470.68	76.46	634	518.27	77.75	1,410	559.38	74.96	103	613.69	66.27	2,601	536.03	84.09
S/M/E GPA	454	2.07	0.89	634	2.61	0.74	1,410	2.36	0.90	103	2.49	0.81	2,601	2.37	0.88
White Male															
HSGPA	8,569	3.16	0.55	12,483	3.49	0.47	10,477	3.78	0.43	4,717	3.80	0.40	36,246	3.54	0.53
SAT-V	8,569	522.92	73.82	12,483	575.11	76.42	10,477	618.75	76.07	4,717	642.54	72.14	36,246	584.16	85.75
SAT-M	8,569	540.03	76.43	12,483	602.77	74.02	10,477	648.00	72.18	4,717	685.75	64.68	36,246	611.81	87.49
S/M/E GPA	8,569	2.30	0.92	12,483	2.68	0.78	10,477	2.73	0.82	4,717	2.64	0.87	36,246	2.60	0.86
White Female															
HSGPA	11,206	3.34	0.52	12,428	3.61	0.44	12,322	3.88	0.37	2,319	3.90	0.36	38,275	3.64	0.49
SAT-V	11,206	519.21	71.84	12,428	573.24	76.12	12,322	611.12	74.96	2,319	642.45	70.60	38,275	573.81	84.32
SAT-M	11,206	506.29	71.72	12,428	567.54	74.48	12,322	607.33	70.84	2,319	645.95	65.63	38,275	567.17	84.64
S/M/E GPA	11,206	2.46	0.89	12,428	2.81	0.73	12,322	2.80	0.78	2,319	2.82	0.79	38,275	2.71	0.82
Total															
HSGPA	23,345	3.24	0.55	34,088	3.53	0.48	34,384	3.80	0.42	9,834	3.80	0.41	101,651	3.58	0.52
SAT-V	23,345	513.77	76.53	34,088	563.61	82.33	34,384	601.93	81.14	9,834	632.27	76.36	101,651	571.77	88.69
SAT-M	23,345	514.97	78.58	34,088	580.86	80.46	34,384	620.33	81.06	9,834	670.97	70.64	101,651	587.80	92.50
S/M/E GPA	23,345	2.33	0.92	34,088	2.71	0.77	34,384	2.68	0.84	9,834	2.66	0.86	101,651	2.61	0.85

Table A13

Sample Sizes, Means, and Standard Deviations by Race/Ethnicity and College Selectivity for Social Science GPA Analyses

	Level 1 Colleges			*Level 2 Colleges*			*Level 3 Colleges*			*Level 4 Colleges*			*Total*		
Race/Ethnicity	**N**	***Mean***	***SD***	**N**	***Mean***	***SD***	**N**	***Mean***	***SD***	**N**	***Mean***	***SD***	**N**	***Mean***	***SD***
Asian American															
HSGPA	494	3.22	0.57	4,660	3.58	0.48	4,237	3.80	0.41	1,336	3.74	0.43	10,727	3.67	0.48
SAT-V	494	474.80	92.48	4,660	534.57	92.67	4,237	594.14	84.58	1,336	605.29	81.06	10,727	564.16	95.30
SAT-M	494	522.35	88.29	4,660	591.59	84.95	4,237	658.10	74.16	1,336	689.69	67.37	10,727	626.89	90.29
Soc. Sci. GPA		2.50	0.84	4,660	2.96	0.68	4,237	3.03	0.76	1,336	3.02	0.72	10,727	2.97	0.73
African American															
HSGPA	1,447	2.99	0.58	1,419	3.18	0.51	2,504	3.63	0.48	538	3.64	0.49	5,908	3.36	0.59
SAT-V	1,447	451.29	77.40	1,419	511.38	80.62	2,504	545.96	77.68	538	589.31	73.20	5,908	518.42	89.26
SAT-M	1,447	440.81	75.85	1,419	495.36	76.97	2,504	536.75	78.03	538	599.98	75.29	5,908	509.07	90.51
Soc. Sci. GPA	1,447	2.10	0.87	1,419	2.60	0.72	2,504	2.70	0.69	538	2.82	0.68	5,908	2.54	0.79
Hispanic															
HSGPA	894	3.19	0.56	1,356	3.36	0.51	2,627	3.72	0.46	306	3.71	0.45	5,183	3.53	0.54
SAT-V	894	483.47	82.46	1,356	534.37	85.50	2,627	571.13	80.87	306	617.16	75.57	5,183	549.11	89.76
SAT-M	894	485.94	82.20	1,356	530.68	83.24	2,627	579.42	78.58	306	642.26	77.61	5,183	554.25	90.51
Soc. Sci. GPA	894	2.31	0.95	1,356	2.71	0.76	2,627	2.62	0.86	306	2.94	0.71	5,183	2.61	0.86
White															
HSGPA	20,853	3.24	0.55	26,553	3.54	0.47	22,609	3.84	0.39	6,893	3.82	0.40	76,908	3.57	0.52
SAT-V	20,853	519.65	73.03	26,553	575.73	76.57	22,609	616.87	75.58	6,893	642.72	71.69	76,908	578.62	85.76
SAT-M	20,853	516.41	76.32	26,553	581.33	76.46	22,609	625.16	73.61	6,893	668.68	69.11	76,908	584.44	89.44
Soc. Sci. GPA	20,853	2.58	0.86	26,553	2.99	0.67	22,609	3.06	0.69	6,893	3.10	0.68	76,908	2.91	0.76

Table A14

Sample Sizes, Means, and Standard Deviations by Gender and College Selectivity for Social Science GPA Analyses

	Level 1 Colleges			*Level 2 Colleges*			*Level 3 Colleges*			*Level 4 Colleges*			*Total*		
	N	***Mean***	***SD***	**N**	***Mean***	***SD***	**N**	***Mean***	***SD***	**N**	***Mean***	***SD***	**N**	***Mean***	***SD***
Male															
HSGPA	10,548	3.11	0.56	17,053	3.45	0.49	15,055	3.74	0.44	6,133	3.76	0.42	48,789	3.51	0.55
SAT-V	10,548	514.36	77.67	17,053	567.32	81.88	15,055	608.65	81.06	6,133	633.37	75.75	48,789	576.93	89.36
SAT-M	10,548	529.16	80.40	17,053	595.64	78.40	15,055	641.17	78.31	6,133	681.74	68.61	48,789	606.14	91.90
Soc. Sci. GPA	10,548	2.41	0.90	17,053	2.85	0.72	15,055	2.88	0.77	6,133	2.99	0.71	48,789	2.79	0.80
Female															
HSGPA	14,002	3.30	0.53	19,014	3.58	0.46	18,501	3.85	0.39	3,391	3.84	0.39	54,908	3.61	0.50
SAT-V	14,002	511.63	75.78	19,014	564.47	82.26	18,501	601.71	80.20	3,391	633.05	75.60	54,908	567.78	88.24
SAT-M	14,002	496.23	75.30	19,014	559.73	78.60	18,501	600.55	77.10	3,391	638.97	70.72	54,908	562.19	88.71
Soc. Sci. GPA	14,002	2.63	0.84	19,014	3.04	0.65	18,501	3.08	0.68	3,391	3.21	0.62	54,908	2.96	0.74

Table A15

Sample Sizes, Means, and Standard Deviations by Gender, Race/Ethnicity, and College Selectivity for Social Science GPA Analyses

Race/Ethnicity and Gender	*Level 1 Colleges*			*Level 2 Colleges*			*Level 3 Colleges*			*Level 4 Colleges*			*Total*		
	N	***Mean***	***SD***	**N**	***Mean***	***SD***	**N**	***Mean***	***SD***	**N**	***Mean***	***SD***	**N**	***Mean***	***SD***
Asian American Male															
HSGPA	284	3.11	0.59	2,168	3.51	0.50	2,106	3.74	0.43	871	3.73	0.43	5,429	3.61	0.50
SAT-V	284	475.28	93.19	2,168	536.30	91.90	2,106	594.13	83.30	871	607.85	80.13	5,429	567.02	94.44
SAT-M	284	545.25	86.02	2,168	610.55	83.62	2,106	675.86	70.03	871	703.61	61.16	5,429	647.40	87.13
Soc. Sci. GPA	284	2.45	0.87	2,168	2.86	0.70	2,106	2.91	0.79	871	2.98	0.75	5,429	2.88	0.76
Asian American Female															
HSGPA	210	3.36	0.51	2,492	3.64	0.46	2,131	3.85	0.37	465	3.77	0.42	5,298	3.73	0.44
SAT-V	210	474.14	91.49	2,492	533.07	93.31	2,131	594.15	85.83	465	600.50	82.55	5,298	561.22	96.09
SAT-M	210	491.38	81.64	2,492	575.08	82.62	2,131	640.55	73.95	465	663.63	70.66	5,298	605.87	88.63
Soc. Sci. GPA	210	2.55	0.79	2,492	3.05	0.64	2,131	3.14	0.70	465	3.11	0.67	5,298	3.07	0.68
African American Male															
HSGPA	616	2.84	0.60	582	3.10	0.54	828	3.50	0.53	307	3.59	0.50	2,333	3.24	0.62
SAT-V	616	454.32	76.17	582	509.88	81.32	828	543.58	80.43	307	585.60	75.75	2,333	517.13	90.29
SAT-M	616	454.08	76.03	582	512.08	78.87	828	552.77	81.93	307	610.46	75.79	2,333	524.15	93.92
Soc. Sci. GPA	616	1.96	0.85	582	2.52	0.72	828	2.54	0.73	307	2.74	0.68	2,333	2.41	0.80
African American Female															
HSGPA	831	3.10	0.54	837	3.23	0.49	1,676	3.69	0.45	231	3.70	0.46	3,575	3.45	0.55
SAT-V	831	449.05	78.22	837	512.43	80.11	1,676	547.14	76.25	231	594.24	69.37	3,575	519.26	88.58
SAT-M	831	430.98	74.20	837	483.74	73.41	1,676	528.83	74.77	231	586.06	72.29	3,575	499.23	86.81
Soc. Sci. GPA	831	2.20	0.87	837	2.66	0.72	1,676	2.78	0.66	231	2.92	0.66	3,575	2.63	0.77
Hispanic Male															
HSGPA	422	3.11	0.60	624	3.28	0.52	1,259	3.65	0.49	196	3.65	0.44	2,501	3.47	0.56
SAT-V	422	485.07	85.59	624	537.87	85.94	1,259	574.63	81.22	196	612.40	75.61	2,501	553.31	90.53
SAT-M	422	507.09	82.27	624	551.20	83.70	1,259	600.02	78.50	196	660.66	74.90	2,501	576.91	90.76
Soc. Sci. GPA	422	2.27	1.03	624	2.59	0.78	1,259	2.51	0.86	196	2.86	0.71	2,501	2.52	0.87
Hispanic Female															
HSGPA	472	3.25	0.52	732	3.43	0.48	1,368	3.79	0.42	110	3.81	0.44	2,682	3.60	0.51
SAT-V	472	482.03	79.53	732	531.39	85.00	1,368	567.90	80.41	110	625.64	74.74	2,682	545.19	88.85
SAT-M	472	467.03	77.39	732	513.18	78.74	1,368	560.46	73.74	110	609.46	71.27	2,682	533.13	85.00
Soc. Sci. GPA	472	2.34	0.88	732	2.81	0.73	1,368	2.73	0.85	110	3.08	0.70	2,682	2.70	0.84
White Male															
HSGPA	8,777	3.13	0.55	12,676	3.48	0.48	10,071	3.78	0.42	4,474	3.79	0.41	35,998	3.52	0.54
SAT-V	8,777	521.64	73.73	12,676	576.77	76.45	10,071	620.98	75.86	4,474	642.28	71.97	35,998	583.84	86.07
SAT-M	8,777	535.43	77.15	12,676	599.72	74.16	10,071	646.87	71.99	4,474	683.53	65.68	35,998	607.65	88.40
Soc. Sci. GPA	8,777	2.45	0.88	12,676	2.88	0.70	10,071	2.95	0.73	4,474	3.02	0.70	35,998	2.81	0.79
White Female															
HSGPA	12,076	3.32	0.53	13,877	3.60	0.45	12,538	3.88	0.36	2,419	3.88	0.37	40,910	3.62	0.50
SAT-V	12,076	518.20	72.49	13,877	574.77	76.66	12,538	613.56	75.19	2,419	643.54	71.15	40,910	574.03	85.21
SAT-M	12,076	502.59	72.65	13,877	564.53	74.64	12,538	607.72	70.18	2,419	641.23	66.85	40,910	564.02	85.28
Soc. Sci. GPA	12,076	2.67	0.83	13,877	3.08	0.63	12,538	3.14	0.64	2,419	3.26	0.59	40,910	2.99	0.73
Total															
HSGPA	24,550	3.22	0.55	36,067	3.52	0.48	33,556	3.80	0.42	9,524	3.79	0.41	103,697	3.56	0.53
SAT-V	24,550	512.80	76.61	36,067	565.82	82.09	33,556	604.82	80.66	9,524	633.26	75.70	103,697	572.08	88.89
SAT-M	24,550	510.38	79.23	36,067	576.71	80.53	33,556	618.78	80.23	9,524	666.51	72.33	103,697	582.87	92.85
Soc. Sci. GPA	24,550	2.53	0.87	36,067	2.95	0.69	33,556	2.99	0.73	9,524	3.07	0.69	103,697	2.88	0.77

Table A16

Sample Sizes, Means, and Standard Deviations by Race/Ethnicity and College Selectivity for Education GPA Analyses

	Level 1 Colleges			*Level 2 Colleges*			*Level 3 Colleges*			*Level 4 Colleges*			*Total*		
Race/Ethnicity	**N**	***Mean***	***SD***	**N**	***Mean***	***SD***	**N**	***Mean***	***SD***	**N**	***Mean***	***SD***	**N**	***Mean***	***SD***
Asian American															
HSGPA	33	3.15	0.41	158	3.45	0.47	349	3.75	0.40	5	3.32	0.67	545	3.62	0.47
SAT-V	33	486.97	70.30	158	530.76	89.25	349	568.51	76.46	5	638.00	31.24	545	553.27	83.60
SAT-M	33	492.73	82.73	158	555.51	75.79	349	624.13	72.99	5	670.00	68.41	545	596.70	84.92
Education GPA	33	3.04	0.78	158	3.66	0.43	349	3.49	0.58	5	3.27	0.50	545	3.51	0.57
African American															
HSGPA	175	3.01	0.57	243	3.00	0.43	277	3.54	0.52	5	3.72	0.39	700	3.22	0.57
SAT-V	175	445.43	77.22	243	507.08	69.60	277	520.87	78.51	5	522.00	91.30	700	497.23	81.25
SAT-M	175	434.29	70.60	243	483.75	64.00	277	511.91	74.08	5	476.00	80.15	700	482.47	76.22
Education GPA	175	3.06	0.67	243	3.30	0.62	277	3.22	0.67	5	2.91	0.91	700	3.21	0.66
Hispanic															
HSGPA	86	3.24	0.45	164	3.15	0.48	439	3.72	0.46	2	3.65	0.35	691	3.52	0.53
SAT-V	86	491.63	82.08	164	506.28	75.85	439	541.32	68.81	2	605.00	35.00	691	527.00	74.98
SAT-M	86	477.56	70.73	164	499.02	74.42	439	545.19	69.97	2	595.00	45.00	691	525.96	75.93
Education GPA	86	3.22	0.70	164	3.39	0.59	439	3.28	0.69	2	3.77	0.23	691	3.30	0.67
White															
HSGPA	4,392	3.31	0.51	2,418	3.46	0.45	2,196	3.78	0.40	87	3.71	0.42	9,093	3.47	0.51
SAT-V	4,392	515.12	70.12	2,418	553.14	74.15	2,196	584.21	72.22	87	611.15	79.92	9,093	542.83	77.56
SAT-M	4,392	508.59	72.59	2,418	554.57	73.78	2,196	591.94	71.28	87	611.72	74.71	9,093	541.93	80.64
Education GPA	4,392	3.44	0.58	2,418	3.51	0.58	2,196	3.51	0.59	87	3.62	0.63	9,093	3.48	0.58

Table A17

Sample Sizes, Means, and Standard Deviations by Gender and College Selectivity for Education GPA Analyses

	Level 1 Colleges			*Level 2 Colleges*			*Level 3 Colleges*			*Level 4 Colleges*			*Total*		
	N	***Mean***	***SD***	**N**	***Mean***	***SD***	**N**	***Mean***	***SD***	**N**	***Mean***	***SD***	**N**	***Mean***	***SD***
Male															
HSGPA	982	3.17	0.54	1,027	3.28	0.48	935	3.62	0.48	35	3.51	0.54	2,979	3.35	0.54
SAT-V	982	512.11	71.11	1,027	542.17	74.91	935	569.94	79.82	35	607.43	67.88	2,979	541.74	79.03
SAT-M	982	523.38	77.19	1,027	562.57	77.18	935	603.68	82.56	35	616.29	68.54	2,979	563.19	85.33
Education GPA	982	3.31	0.63	1,027	3.35	0.67	935	3.27	0.70	35	3.55	0.52	2,979	3.31	0.67
Female															
HSGPA	3,818	3.33	0.51	2,143	3.45	0.47	2,450	3.79	0.40	73	3.74	0.40	8,484	3.50	0.51
SAT-V	3,818	511.27	72.54	2,143	546.74	77.27	2,450	572.29	74.56	73	602.19	87.36	8,484	538.63	79.14
SAT-M	3,818	499.62	72.58	2,143	536.79	74.48	2,450	574.03	73.55	73	595.21	88.81	8,484	531.32	80.15
Education GPA	3,818	3.44	0.58	2,143	3.56	0.52	2,450	3.52	0.57	73	3.57	0.71	8,484	3.49	0.57

Table A18

Sample Sizes, Means, and Standard Deviations by Gender, Race/Ethnicity, and College Selectivitiy for Education GPA Analyses

Race/Ethnicity and Gender	*Level 1 Colleges*			*Level 2 Colleges*			*Level 3 Colleges*			*Level 4 Colleges*			*Total*		
	N	***Mean***	***SD***	**N**	***Mean***	***SD***	**N**	***Mean***	***SD***	**N**	***Mean***	***SD***	**N**	***Mean***	***SD***
Asian American Male															
HSGPA	9	3.27	0.39	51	3.32	0.51	100	3.65	0.41	1	2.30	0.00	161	3.51	0.48
SAT-V	9	476.67	74.83	51	520.98	83.84	100	570.50	78.26	1	660.00	0.00	161	550.12	85.13
SAT-M	9	506.67	80.28	51	564.90	72.99	100	655.80	64.02	1	610.00	0.00	161	618.39	84.07
Education GPA	9	3.33	0.37	51	3.58	0.48	100	3.43	0.55	1	2.50	0.00	161	3.46	0.53
Asian American Female															
HSGPA	24	3.10	0.41	107	3.51	0.44	249	3.79	0.39	4	3.58	0.49	384	3.67	0.45
SAT-V	24	490.83	68.13	107	535.42	91.35	249	567.71	75.70	4	632.50	32.69	384	554.58	82.91
SAT-M	24	487.50	83.03	107	551.03	76.68	249	611.41	72.50	4	685.00	68.74	384	587.60	83.62
Education GPA	24	2.92	0.86	107	3.70	0.40	249	3.52	0.59	4	3.46	0.36	384	3.53	0.59
African American Male															
HSGPA	51	2.85	0.57	84	2.86	0.45	79	3.32	0.66	1	4.30	0.00	215	3.03	0.61
SAT-V	51	442.35	75.45	84	497.62	62.18	79	503.42	84.12	1	680.00	0.00	215	487.49	79.05
SAT-M	51	437.06	73.81	84	496.31	71.23	79	510.51	88.55	1	590.00	0.00	215	487.91	83.86
Education GPA	51	2.95	0.68	84	3.05	0.66	79	2.95	0.79	1	3.46	0.00	215	2.99	0.72
African American Female															
HSGPA	124	3.08	0.55	159	3.07	0.40	198	3.63	0.42	4	3.58	0.30	485	3.30	0.53
SAT-V	124	446.69	77.90	159	512.08	72.72	198	527.83	75.03	4	482.50	51.17	485	501.55	81.83
SAT-M	124	433.15	69.21	159	477.11	58.75	198	512.48	67.45	4	447.50	63.00	485	480.06	72.45
Education GPA	124	3.10	0.66	159	3.43	0.54	198	3.33	0.57	4	2.78	0.97	485	3.30	0.61
Hispanic Male															
HSGPA	14	3.13	0.44	59	3.02	0.54	124	3.64	0.48	1	4.00	0.00	198	3.42	0.57
SAT-V	14	507.86	58.94	59	509.66	85.81	124	540.57	64.91	1	570.00	0.00	198	529.19	72.89
SAT-M	14	475.00	53.69	59	523.90	80.99	124	569.84	75.43	1	640.00	0.00	198	549.80	81.30
Education GPA	14	3.37	0.64	59	3.24	0.67	124	3.07	0.79	1	4.00	0.00	198	3.15	0.75
Hispanic Female															
HSGPA	72	3.26	0.45	105	3.22	0.43	315	3.75	0.45	1	3.30	0.00	493	3.56	0.51
SAT-V	72	488.47	85.50	105	504.38	69.56	315	541.62	70.29	1	640.00	0.00	493	526.13	75.78
SAT-M	72	478.06	73.57	105	485.05	66.49	315	535.49	65.19	1	550.00	0.00	493	516.39	71.46
Education GPA	72	3.19	0.71	105	3.48	0.52	315	3.36	0.63	1	3.53	0.00	493	3.36	0.63
White Male															
HSGPA	879	3.18	0.53	747	3.36	0.45	588	3.67	0.45	29	3.52	0.48	2,243	3.38	0.52
SAT-V	879	517.37	68.02	747	552.01	71.26	588	584.97	75.40	29	607.24	68.68	2,243	547.79	76.37
SAT-M	879	530.33	74.12	747	573.99	73.03	588	615.63	73.70	29	621.03	71.46	2,243	568.40	81.35
Education GPA	879	3.32	0.62	747	3.37	0.67	588	3.33	0.66	29	3.58	0.52	2,243	3.35	0.65
White Female															
HSGPA	3,513	3.34	0.51	1,671	3.50	0.45	1,608	3.82	0.38	58	3.81	0.36	6,850	3.50	0.50
SAT-V	3,513	514.55	70.63	1,671	553.64	75.40	1,608	583.94	71.03	58	613.10	84.92	6,850	541.21	77.88
SAT-M	3,513	503.15	71.17	1,671	545.88	72.44	1,608	583.28	68.35	58	607.07	75.86	6,850	533.26	78.49
Education GPA	3,513	3.46	0.56	1,671	3.58	0.52	1,608	3.58	0.54	58	3.64	0.68	6,850	3.52	0.55
Total															
HSGPA	4,800	3.29	0.52	3,170	3.40	0.48	3,385	3.74	0.43	108	3.67	0.47	11,463	3.46	0.52
SAT-V	4,800	511.44	72.25	3,170	545.26	76.55	3,385	571.64	76.06	108	603.89	81.59	11,463	539.44	79.12
SAT-M	4,800	504.48	74.17	3,170	545.15	76.32	3,385	582.22	77.29	108	602.04	83.38	11,463	539.60	82.72
Education GPA	4,800	3.41	0.59	3,170	3.49	0.58	3,385	3.45	0.62	108	3.56	0.66	11,463	3.45	0.60

Appendix B: Prediction of Cumulative GPA by Course Type, College-Selectivity Level, Gender, and Race/Ethnicity; Corrected for Range Restriction

Table B1

Prediction of Cumulative English GPA by Gender, Race/Ethnicity, and College Selectivity; Corrected for Range Restriction

Predictor	*College-Selectivity Level*	*Gender and Race/Ethnicity*										
		Gender Total		*Asian American*		*African American*		*Hispanic*		*White*		*Total*
		M	*F*	*M*	*F*	*M*	*F*	*M*	*F*	*M*	*F*	*M+F*
HSGPA	1	.46	.52	.45	.30	.32	.43	.40	.43	.46	.52	.51
	2	.49	.51	.41	.42	.43	.34	.36	.46	.50	.53	.51
	3	.45	.52	.38	.39	.44	.48	.37	.47	.46	.53	.50
	4	.50	.52	.47	.39	.49	.46	.36	.25	.52	.55	.52
	Total	.48	.52	.41	.40	.41	.44	.37	.45	.48	.53	.51
SAT-V	1	.36	.45	.49	.31	.20	.42	.26	.38	.34	.44	.40
	2	.43	.46	.39	.38	.39	.28	.33	.36	.42	.48	.44
	3	.48	.54	.47	.43	.42	.46	.38	.51	.47	.53	.50
	4	.47	.51	.45	.34	.50	.49	.17	.35	.49	.54	.47
	Total	.43	.49	.43	.39	.36	.41	.33	.43	.42	.48	.45
SAT-M	1	.37	.47	.44	.32	.26	.42	.37	.35	.34	.46	.39
	2	.41	.45	.36	.38	.41	.26	.31	.41	.39	.45	.40
	3	.45	.53	.42	.42	.39	.43	.35	.49	.43	.52	.46
	4	.42	.43	.42	.26	.51	.38	.18	.28	.44	.45	.39
	Total	.41	.48	.40	.38	.38	.39	.33	.43	.40	.47	.42
SAT-V+SAT-M	1	.40	.50	.58	.38	.34	.49	.47	.42	.37	.48	.43
	2	.45	.50	.42	.42	.45	.31	.37	.45	.44	.51	.46
	3	.50	.58	.49	.46	.44	.49	.40	.54	.49	.57	.52
	4	.49	.52	.48	.35	.59	.53	.19	.37	.51	.55	.47
	Total	.46	.52	.46	.43	.44	.45	.38	.48	.44	.52	.47
HSGPA+ SAT-V+ SAT-M	1	.50	.58	.64	.44	.44	.55	.56	.51	.49	.57	.54
	2	.54	.58	.48	.50	.53	.39	.44	.53	.55	.60	.56
	3	.55	.63	.51	.49	.50	.56	.44	.58	.54	.62	.59
	4	.57	.60	.55	.45	.64	.59	.36	.39	.59	.63	.57
	Total	.54	.60	.51	.49	.51	.52	.46	.55	.54	.60	.56
SAT Increment	1	.04	.06	.19	.14	.11	.12	.16	.08	.03	.06	.03
	2	.05	.07	.07	.08	.10	.05	.08	.07	.05	.07	.05
	3	.09	.11	.13	.11	.07	.07	.07	.12	.08	.10	.08
	4	.07	.08	.08	.06	.15	.14	.00	.14	.07	.08	.06
	Total	.06	.08	.10	.09	.10	.09	.08	.10	.05	.07	.06

Table B2

Prediction of Cumulative S/M/E GPA by Gender, Race/Ethnicity, and College Selectivity; Corrected for Range Restriction

Predictor	*College-Selectivity Level*	*Gender and Race/Ethnicity*										
		Gender Total		*Asian American*		*African American*		*Hispanic*		*White*		*Total*
		M	*F*	*M*	*F*	*M*	*F*	*M*	*F*	*M*	*F*	*M+F*
HSGPA	1	.50	.58	.42	.45	.40	.47	.53	.42	.50	.58	.55
	2	.54	.54	.51	.47	.31	.36	.43	.50	.56	.57	.55
	3	.54	.59	.50	.58	.44	.52	.50	.55	.54	.60	.57
	4	.60	.61	.53	.55	.47	.41	.47	.55	.63	.64	.61
	Total	.54	.57	.50	.52	.40	.47	.49	.51	.55	.59	.56
SAT-V	1	.37	.48	.33	.38	.28	.43	.43	.36	.35	.47	.43
	2	.43	.46	.41	.42	.25	.35	.32	.43	.43	.46	.44
	3	.50	.55	.49	.53	.38	.48	.46	.53	.48	.53	.52
	4	.48	.48	.43	.39	.40	.38	.34	.28	.49	.50	.47
	Total	.45	.50	.44	.46	.33	.44	.41	.47	.43	.49	.47
SAT-M	1	.44	.57	.45	.40	.40	.51	.50	.44	.41	.56	.50
	2	.50	.53	.50	.52	.36	.38	.42	.46	.48	.52	.50
	3	.59	.64	.58	.63	.51	.55	.54	.62	.56	.61	.60
	4	.61	.60	.54	.55	.56	.51	.52	.52	.63	.61	.59
	Total	.53	.58	.54	.57	.46	.50	.50	.55	.51	.57	.54
SAT-V+SAT-M	1	.45	.58	.47	.50	.43	.53	.53	.46	.42	.57	.51
	2	.51	.54	.51	.53	.42	.40	.45	.49	.50	.54	.51
	3	.60	.65	.59	.64	.52	.56	.55	.63	.57	.63	.61
	4	.61	.61	.54	.55	.57	.58	.53	.57	.63	.62	.60
	Total	.54	.59	.55	.58	.48	.52	.52	.56	.52	.58	.55
HSGPA+ SAT-V+ SAT-M	1	.55	.66	.53	.63	.51	.58	.61	.54	.53	.66	.61
	2	.60	.62	.59	.58	.44	.44	.52	.57	.61	.63	.61
	3	.65	.71	.63	.70	.56	.62	.60	.68	.63	.70	.67
	4	.69	.70	.61	.64	.61	.62	.61	.68	.72	.72	.69
	Total	.62	.67	.60	.64	.53	.57	.58	.63	.61	.67	.64
SAT Increment	1	.04	.08	.11	.18	.11	.11	.08	.12	.04	.08	.05
	2	.06	.08	.08	.11	.14	.08	.09	.08	.05	.07	.06
	3	.11	.12	.13	.12	.13	.10	.10	.13	.09	.10	.10
	4	.10	.09	.08	.08	.14	.21	.14	.13	.09	.08	.08
	Total	.08	.09	.10	.12	.13	.11	.10	.12	.06	.08	.07

Table B3

Prediction of Cumulative Social Science GPA by Gender, Race/Ethnicity, and College Selectivity; Corrected for Range Restriction

Predictor	*College-Selectivity Level*	*Gender and Race/Ethnicity*										
		Gender Total		*Asian American*		*African American*		*Hispanic*		*White*		*Total*
		M	*F*	*M*	*F*	*M*	*F*	*M*	*F*	*M*	*F*	*M+F*
HSGPA	1	.50	.57	.51	.38	.43	.49	.54	.53	.50	.58	.55
	2	.55	.58	.54	.53	.37	.41	.43	.54	.57	.61	.58
	3	.51	.58	.51	.56	.43	.48	.44	.55	.51	.59	.55
	4	.55	.60	.51	.54	.45	.35	.48	.48	.58	.63	.57
	Total	.53	.58	.52	.53	.42	.46	.46	.54	.54	.60	.56
SAT-V	1	.42	.53	.41	.36	.39	.51	.43	.46	.41	.52	.48
	2	.48	.56	.48	.52	.38	.43	.34	.50	.49	.57	.51
	3	.51	.59	.50	.57	.41	.53	.47	.54	.49	.59	.54
	4	.47	.54	.46	.46	.54	.44	.39	.52	.47	.54	.48
	Total	.48	.56	.48	.53	.41	.50	.42	.51	.47	.56	.51
SAT-M	1	.41	.53	.45	.31	.39	.53	.44	.44	.39	.52	.45
	2	.46	.54	.47	.52	.40	.45	.33	.51	.46	.55	.48
	3	.48	.59	.47	.55	.39	.48	.43	.53	.46	.58	.50
	4	.46	.53	.42	.47	.46	.37	.41	.48	.48	.54	.46
	Total	.46	.55	.46	.52	.40	.48	.40	.51	.44	.55	.48
SAT-V+SAT-M	1	.45	.57	.48	.49	.45	.57	.49	.50	.43	.56	.50
	2	.51	.59	.51	.57	.44	.48	.40	.55	.51	.60	.53
	3	.53	.64	.53	.60	.44	.55	.49	.58	.51	.63	.56
	4	.51	.57	.49	.51	.55	.51	.43	.55	.51	.58	.50
	Total	.51	.60	.51	.57	.46	.54	.46	.56	.49	.60	.53
HSGPA+ SAT-V+ SAT-M	1	.55	.65	.58	.59	.53	.62	.60	.59	.54	.65	.61
	2	.61	.67	.61	.64	.49	.52	.52	.63	.62	.69	.64
	3	.60	.70	.60	.66	.51	.60	.53	.64	.58	.70	.64
	4	.60	.67	.57	.60	.59	.54	.54	.61	.63	.70	.62
	Total	.59	.68	.60	.64	.52	.58	.54	.63	.59	.68	.63
SAT Increment	1	.05	.08	.08	.22	.10	.12	.06	.07	.04	.07	.05
	2	.06	.09	.07	.11	.11	.10	.09	.09	.05	.08	.06
	3	.09	.12	.09	.11	.07	.12	.09	.10	.08	.11	.09
	4	.05	.07	.07	.06	.14	.19	.07	.13	.05	.06	.05
	Total	.06	.09	.08	.11	.10	.12	.08	.09	.06	.09	.07

Table B4

Prediction of Cumulative Education GPA by Gender, Race/Ethnicity, and College Selectivity; Corrected for Range Restriction

Predictor	College-Selectivity Level	Gender and Race/Ethnicity										
		Gender Total		Asian American		African American		Hispanic		White		Total
		M	F	M	F	M	F	M	F	M	F	M+F
HSGPA	1	.35	.42			.22	.40		.53	.34	.41	.42
	2	.38	.39	.12	.19	.04	.21	−.07	.06	.38	.41	.39
	3	.42	.41	.64	.37	.27	.34	.40	.39	.38	.40	.44
	4	.62	.24							.58	.22	.36
	Total	.38	.41	.52	.32	.17	.31	.28	.35	.36	.41	.42
SAT-V	1	.25	.33			.13	.48		.24	.23	.30	.31
	2	.21	.27	.04	.05	−.12	.37	−.35	.08	.21	.26	.23
	3	.34	.38	.47	.38	.10	.28	.44	.35	.28	.34	.36
	4	.27	.27							.23	.14	.31
	Total	.26	.33	.36	.29	.01	.36	.24	.29	.24	.29	.31
SAT-M	1	.29	.33			.33	.39		.30	.28	.30	.31
	2	.23	.27	−.11	.06	−.02	.30	−.27	.04	.22	.26	.22
	3	.38	.40	.40	.37	.11	.23	.42	.38	.33	.35	.37
	4	.15	.24							.08	.19	.26
	Total	.29	.33	.28	.28	.07	.29	.24	.31	.27	.30	.30
SAT-V+SAT-M	1	.30	.36			.37	.53		.41	.30	.32	.34
	2	.26	.32	.39	.43	.30	.39	.35	.15	.26	.29	.27
	3	.39	.42	.55	.41	.14	.29	.46	.39	.34	.37	.39
	4	.29	.32							.30	.45	.33
	Total	.32	.37	.51	.42	.23	.38	.43	.35	.30	.33	.34
HSGPA+ SAT-V+ SAT-M	1	.39	.45			.38	.58		.63	.39	.43	.44
	2	.40	.43	.52	.50	.35	.39	.37	.16	.40	.44	.42
	3	.47	.47	.74	.48	.35	.38	.49	.45	.41	.44	.48
	4	.69	.36							.69	.48	.44
	Total	.42	.45	.69	.48	.35	.43	.46	.42	.40	.44	.45
SAT Increment	1	.04	.03			.16	.18		.09	.05	.02	.03
	2	.02	.04	.41	.31	.31	.18	.44	.10	.02	.03	.03
	3	.05	.06	.10	.11	.08	.04	.09	.05	.04	.05	.04
	4	.07	.12							.12	.26	.09
	Total	.04	.04	.17	.16	.19	.12	.18	.07	.04	.03	.03

Note: Some cells are empty because there were fewer than 25 students within the particular subgroup by college-selectivity level by SAT score combination.


CollegeBoard
connect to college success™