The College Board
Office of Research and Development

Research Summary
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Students with Discrepant High School GPA and SAT® Scores

SAT® I: Reasoning Test scores, combined with high school grades (e.g., GPA, rank), result in more accurate predictions of college success than either measure alone or any other combination of two measures. Overall, there is a strong positive relationship between high school (HS) grades and SAT scores. They each have components that measure different aspects of academic success in college. In 1990, ETS conducted a study of the characteristics of different students with discrepant HS GPAs and SAT scores.

Students at three colleges were classified into three groups depending on the relationship between their SAT scores and HS GPA:

1. Standardized HS GPA and SAT are within one standard deviation (SD) unit of each other. These students are referred to as nondiscrepant score (NDS) students, and the prediction of their freshman GPAs (FGPA) did not lead to discrepancies, whether the HS GPA or SAT scores were employed alone.
2. Standardized HS GPA is at least one SD above the standardized SAT scores. This group is referred to as HS GPA discrepant (HSD) because use of HS GPA alone will result in a higher predicted FGPA than the use of SAT scores alone.
3. Standardized SAT is at least one SD above the standardized HS GPA. This group is referred to as SAT discrepant (SATD) because use of SAT scores alone will result in a higher predicted FGPA than the use of HS GPA alone.

Approximately two-thirds of all students have nondiscrepant scores, meaning that their predicted FGPA will be similar whether SAT scores or HS GPA are used. The standardized SAT and HS GPA for these students are within one SD unit. The remaining one-third of students had discrepant scores, with either the HS GPA or the SAT scores one SD unit above the other measure. Nearly equal proportions of students are in each discrepant group. In these three colleges, 17.6 percent of the students were in the HSD group and 17.1 percent of students were in the SATD group.

When separate validity equations were estimated for each of these three groups at each of the three colleges, several findings emerged:

- Multiple correlations of HS GPA and SAT are lowest with the HSD group.
- Effects of group discrepancy status (e.g., similarity of standardized HS GPA and SAT scores) are larger than gender differences across all colleges.
- The SAT is more highly correlated with FGPA even for the HSD (HS GPA exceeds SAT) group at two of the three colleges.

Differences are also found in the demographic background of students in these three groups:

- Female and minority students are more highly represented in the HSD group than in the NDS and SATD groups. The proportion of African-American and Hispanic students in the HSD group is approximately twice that found in the SATD and about 1.5 times that in the NDS group. However, the proportion of minority students in the SATD group is not significantly different from the proportion in the NDS group.
- Family income and educational attainment are generally lower in the HSD group than in the NDS or SATD groups.
- No additional information was provided in this study concerning high school courses or other measures of academic preparation.

More interesting are differences between groups in their course selection during the college freshman year:

- Students in the SATD group are more likely to take more courses in mathematics, science, and arts, as well as advanced courses (i.e., 200 level) than NDS and HSD students.

- SATD students also take fewer remedial courses, while the HSD group takes the largest proportion of remedial courses.
- The HSD students also take a heavier concentration of social science and language courses during freshman year.
- All students appear to take about the same number of courses during their freshman year in college.

Results from the study do indicate that students whose SAT scores are substantially higher than a standardized measure of their HS GPA will take more advanced courses (200 level) in subjects having more stringent grading standards (math, science) during their freshman year in college.

These results may result in an artificially lower predictive validity for SAT scores when FGPA is used as the criteria rather than freshman course grades. Similarly, HS GPA is likely to show a higher predictive validity with FGPA because of these differential course-taking patterns, than when course grades are used. These findings have been confirmed in more comprehensive validity studies using a larger number of representative colleges (see Ramist, Lewis, and McCamley-Jenkins, 1993*).

More research is needed on the implications of discrepant scores on the prediction of minority student achievement in college and other factors that influence course selection differentially across these three groups of students.

*Ramist, Leonard, Charles Lewis, and Laura McCamley-Jenkins. 1993. *Student Group Differences In Predicting College Grades: Sex Languge, and Ethnic Groups* (CBR 93-1). New York: The College Board.

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