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Research Brief

Standardized Tests and Grades

Question: What is the correlation between grades and performance on SAT Tests?

Summary of Findings: There is decades of research on the correlation between grades and standardized test scores. Much of what I accessed was published in the 70s and 80s, partly because a scare around “the declining American SAT score” led to an examination of the tests (the drop can easily be explained by the fact that many students who might not have considered college in the past are now applying to and attending college).

For traditional, Caucasian college students, there seems to be a strong correlation between SAT scores and high school grades and between SAT scores and college freshman grades. High school grades are actually a stronger predictor of college freshman grades, than the SAT alone, but the combination of high school grades and SAT score are a stronger predictor of college freshman grades than either alone.

SAT scores are a poor predictor of college freshman grades for non-traditional students (students who return to college later in life, perhaps after a career or raising a family). SATs are also not valid for predicting college performance for African American students. SATs are not good at predicting the nonacademic factors that lead to persistence in college or success in life, and should only be considered predictors of performance in freshman year for traditional college students.

Online Resources:

The SAT[R] I and High School Grades: Utility in Predicting Success in College. Research Notes.

Camara, Wayne J.; Echternacht, Gary;

For more than 70 years researchers have studied the validity of the Scholastic Assessment Test I (SAT I) and its predecessor, the Scholastic Aptitude Test, through hundreds of validity studies conducted at various colleges using the SAT in their admission process. The majority of these studies use high school records and SAT scores as predictors and freshman grade point average as the criterion representing success in college. Validity studies have consistently found that high school grades and SAT scores together are substantial and significant predictors of achievement in college. In these studies, although high school grades are typically slightly better predictors of achievement, SAT scores add significantly to the prediction. Because persistence in college is influenced substantially by nonacademic factors, the validity coefficients for predicting persistence are slightly lower than for predicting specific academic criteria. For predicting nonacademic criteria and nonacademic criteria after college, high school grades and SAT scores are not good predictors.

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Correlations of SAT Scores with High School Record.

Jackson, Rex;

After examining the decline in average scores on the Scholastic Aptitude Test (SAT) from 1963 to the present, it has been suggested that, although SAT scores continue to contribute to effective prediction of college grades, the test may have been overtaken by changes in high school programs that have made the test increasingly less related to the learning that takes place at the secondary school level. The relationship between SAT scores and high school grades appears to have increased in recent (from mid 1960s to late 1970s) years.

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The Validity of the SAT as a Predictor of Grade Point Average for Nontraditional College Students.

Moffatt, Gregory K.;

This study of 570 (309 men and 261 women aged 16 to 60 years) undergraduate students in a small, regionally accredited, Southern church-related college was conducted to determine whether or not the Scholastic Aptitude Test (SAT) is a valid predictor of academic success for students who entered college late in life (after age 30 years). It is concluded that the SAT is a valid predictor of academic success for Caucasian students under age 30 years, and that it is not a valid predictor of academic success for students who took the SAT after age 30 years. The SAT was not found to be a valid predictor of GPA for Black students regardless of age.

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Predictions of Freshman Grade-Point Average from the Revised and Recentered SAT[R] I: Reasoning Test. College Board Research Report.

Bridgeman, Brent; McCamley-Jenkins, Laura; Ervin, Nancy;

The impact of revisions in the content of the Scholastic Assessment Test (SAT) and changes in the score scale on the predictive validity of the SAT were examined. Predictions of freshman grade-point average (FGPA) for the entering class of 1994 (who had taken the old SAT) were compared with predictions for the class of 1995 (who had taken the new SAT I: Reasoning Test). The 1995 scores were evaluated both on the original SAT Program scale and on the recentered scale introduced that year. The changes in the test content and recentering of the score scale had virtually no impact on



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predictive validity.

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An Investigation of School-Level Factors for Students with Discrepant High School GPA and SAT Scores.

Kobrin, Jennifer L.; Milewski, Glenn B.; Everson, Howard; Zhou, Ying;

This study used hierarchical linear modeling (HLM) to examine student- and school-level predictors of the discrepancy between students standardized high school grade point average (HSGPA) and standardized total Scholastic Assessment Test (SAT) scores. At the student level, academic curriculum intensity, socioeconomic status (SES), the difference between a students SAT mathematics and verbal scores (SATM-V), and gender were used to predict the HSGPA-SAT discrepancy within each school. Four factor scores (economic advantage, school size, computer technology, and school resources) based on a principal components analysis of 13 school-level variables were used to predict variation in the intercepts and slopes across schools. Data from the College Board for 18,674 students were used. All of the student-level variables except for curriculum intensity were significant predictors of discrepancy scores. Level-one intercepts as well as slopes for gender varied significantly across schools; the slopes for the other student-level variables did not. The school-level factor scores for economic advantage and school size significantly predicted a school's average discrepancy score (or level-one intercept), and the economic advantage factor also predicted a schools slope for gender. While several of the student-level variables were significant predictors of discrepancy scores, a substantial amount of the variance remained unexplained. This suggests that other variables not examined in this study are important predictors of the discrepancy between high school grades and SAT scores.

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SAT Scores and Academic Performance in High School.

Stricker, Lawrence J.;

The aim of this study was to appraise whether different forms of the Scholastic Aptitude Test (SAT) used since the mid 1970s varied in their correlations with academic performance criteria in the same cohort of examinees. A 1975 form and a 1985 form were administered to equivalent samples of high school juniors, and self-reported grade-point average and high school rank were obtained. The SAT Verbal and Mathematical scores generally had similar correlations with the grade criteria in the two samples, but the Verbal score had a significantly higher correlation with school rank in the 1985



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sample. The principal conclusion is that the 1975 form of the SAT does not have greater validity than the 1985 form in assessing academic performance, at least at the high school level. This outcome offers no support for the hypothesis that the decline in the SAT's ability to predict college grades since the mid 1970s, observed in recent research, is attributable to changes in the test.

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Predictive Validity within Categorizations of College Students: 1978, 1981, and 1985.

Morgan, Rick;

Scholastic Aptitude Test (SAT) scores, student-reported high school grades, and scores for four other Admissions Testing Program tests were correlated with freshman grade point average for 299,794 students at 198 colleges from the enrolling classes of 1978, 1981, and 1985. The purpose of the study was to determine whether observed changes in correlations between test scores and college grades were: (1) restricted to the SAT; (2) due to changes in student subgroups; and (3) comparable at different ability levels within the freshman class. Declines were found in the correlation of freshmen grades with three of the four achievement tests examined. The data were also analyzed for students classified according to sex, ethnic group, intended major, and SAT score level. Nearly all of these demographic subgroups had the pattern of a stronger relationship of SAT scores with freshman grades for the enrolling class of 1985. A minimal decline in SAT regression weights was found for students scoring in the upper third of SAT test takers within their college. The recent decline in the relationship between SAT scores and freshman grades may be largely focused on students with SAT scores in the lower two-thirds of their respective college classes

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