

# The Validity and Value of the SAT<sup>®</sup>: Prepping Your President

## The Higher Ed Environment

Presidents, provosts, and trustees are regularly called upon to describe—even defend—their institutional admissions and enrollment policies to a variety of constituencies. Keeping these stakeholders up-to-date is a key responsibility of enrollment leaders everywhere.

One of the most vital topics in these conversations is how standardized assessments are used in the undergraduate admissions process. Given the importance of college access, and to ensure that such assessments are used in thoughtful and discerning ways, questions about validity, fairness, and undue emphasis are not only appropriate but should be a catalyst for broader discussions about an institution's undergraduate admissions policies.

So, what *are* the most important messages to arm senior leaders with when it comes to your use of the SAT<sup>®</sup> and, by extension, your overall admissions practices? Every college and university will have its own unique perspective, but the issues are likely to be similar. What are the first principles of proper use? What does the research say about the SAT's utility, validity, and effectiveness in predicting student success at your institution? In what ways does the SAT provide you with an opportunity to craft a class that represents the mission of your institution?

This primer identifies issues that your institutional leaders may be called upon to address; providing data and resources that will help you respond to their questions and concerns about the value and validity of the SAT.

## What kind of a test is the SAT?

The SAT was completely redesigned in 2016 to serve as an achievement, not an aptitude test. The difference is key. The redesigned test rewards student study and practice on the skills that are most important to college success. The SAT is based on the core reading, writing, and math skills most commonly required in first-year college courses. By focusing on fewer and more essential skills, the

### Key Takeaways:

- The SAT is an achievement test, not an aptitude test, allowing students an opportunity to improve their scores, their study, and focused practice.
- The SAT is used by most colleges and universities as one element of its admissions process.
- Using the SAT in conjunction with HSGPA is the most powerful and accurate way to predict future academic performance.
- The SAT is useful beyond admissions; data show that SAT scores are important predictors of student retention to the second year and as a strategy to intervene academically for students at-risk for departure.
- College Board ensures that test items do not unfairly disadvantage certain groups of students; the use of the SAT and HSGPA is the most accurate strategy for predicting student performance in college.
- College Board in partnership with Khan Academy provides students with free and effective resources to prepare for the SAT.

redesigned SAT helps admissions professionals determine if applicants are ready to tackle challenging, college-level coursework. It also means that, unlike an aptitude test, students can *improve their scores* by completing rigorous high school courses and practicing the skills they've learned in those courses. Sustained effort and practice on core reading, writing, and math topics are at the heart of the redesigned SAT.

## Who uses the SAT?

Over 2.2 million students in the high school class of 2019 took the SAT. Moreover, all colleges and universities accept SAT (and ACT®) scores, and the vast majority require them during the application process. Even among institutions that have adopted test optional policies, most require students to submit SAT scores for course placement, academic advising purposes, and enrollment/completion research. In a national survey of admissions officers, standardized exams remain one of the most often used measures behind high school grades and college-preparatory coursework to evaluate students for admission (Clinedinst & Patel, 2018).

## Is the SAT valid?

A recently released national validity demonstration that the SAT is virtually as effective as high school grades in predicting students' college performance. ***The two measures combined, however, offer the most accurate understanding of student performance than either measure used alone.***<sup>1</sup> In this study, students' SAT scores and high school GPA (HSGPA) were analyzed to determine the extent to which these measures predict students' first-year college GPA (FYGPA). Table 1 shows the correlations of the singular predictors and combinations of predictors with FYGPA. Positive correlations indicate that students with higher SAT scores and HSGPAs tend to earn higher grades in college.<sup>2</sup>

**Table 1: Corrected (Raw) Correlations of Predictors with FYGPA**

Predictor(s)	Correlation <sup>3</sup>
SAT <i>plus</i> HSGPA	.61 (.42)
HSGPA	.53 (.33)
SAT	.51 (.32)
SAT Evidence-Based Reading and Writing (ERW)	.49 (.29)
SAT Math	.47 (.27)

Note:  $N = 223,858$ . References to "SAT" on its own include SAT ERW and SAT Math sections.

These results have implications for campus faculty and administrative leaders who must select students from among many applicants with strong and similar HSGPAs. In this study, for example, over two-thirds of the students report HSGPAs of A or above. When we hold HSGPA constant, however, we gain greater insight into the full range of students' capabilities by examining their SAT

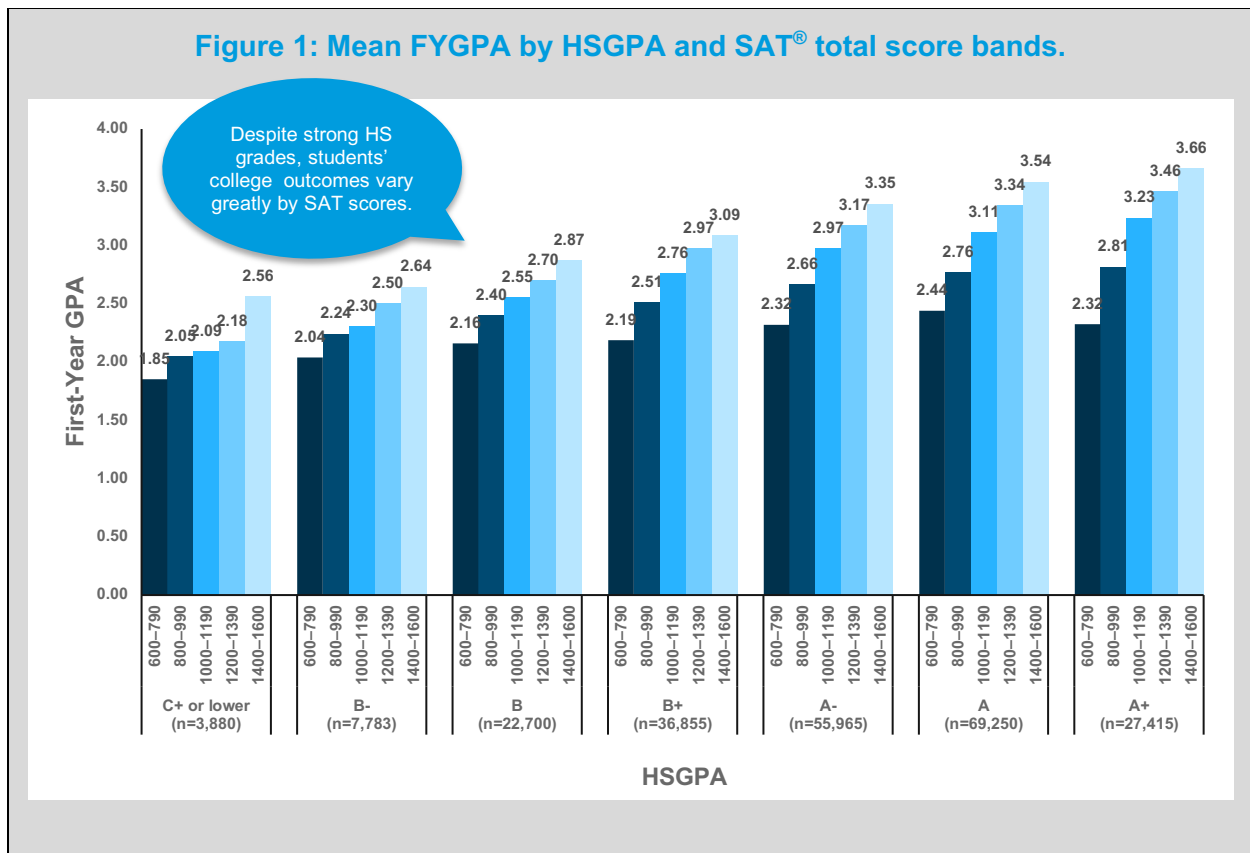
<sup>1</sup> 1. Readers are encouraged to consult the full study for complete details: *Validity of the SAT for Predicting First-Year Grades and Retention to the Second Year* (Westrick, Marini, Young, Ng, Shmueli, & Shaw, 2019).

<sup>2</sup> 2. Cohen (1988) defined correlations with absolute values of .50 or higher as large, correlations with absolute values less than .50 and greater than or equal to .30 as medium, and correlations with absolute values less than .30 but greater than or equal to .10 as small.

<sup>3</sup> 3. Correlations were calculated at the institution-level and then averaged, weighted by the number of students in each institutional analysis. Correlations were then adjusted to account for the selectivity of the student sample and restriction of range, consistent with the Standards for Educational and Psychological Testing (American Educational Research Association, American Psychological Association, and National Council on Measurement in Education, 2014).

scores (see Figure 1). Based on SAT Total score bands within each HSGPA category, the relationship between SAT scores and FYGPA remains positive and increases by SAT score. **In other words, despite earning similar grades in high school, these students display significantly different college outcomes.**

- As HSGPA increases from C+ or lower to A+, the gaps among students within the same HSGPA category, but within different SAT score bands, increase revealing marked differences in their college performance.
- Isolating those students with HSGPA averages of A+ (the rightmost panel in Figure 1), those earning SAT Total scores between 600 and 790 had a mean FYGPA of 2.32, but students earning SAT Total scores between 1400 and 1600 had a mean FYGPA of 3.66—more than a full letter grade higher than the students with the lower scores but in the same HSGPA group.



### In what ways is the SAT most effectively used?

College Board recommends that the SAT always be used in combination with other measures of student achievement. A single SAT score, just like a single HSGPA, can only illuminate one aspect of a student’s capabilities. Data show that student success in college is most accurately predicted when a variety of objective measures are applied. College Board also recommends that colleges and universities consider students’ qualifications in light of their educational circumstances; factors such as course rigor, which may shed light on students’ ability to succeed in college.<sup>4</sup>

4. For more information, see *Guidelines on the Uses of College Board Test Scores and Related Data*. Available at: <https://research.collegeboard.org/pdf/guidelines-uses-college-board-test-scores-and-data.pdf>

## How does the SAT serve higher education’s need to boost student retention and completion?

SAT scores also show a positive relationship with retention to the second year at the same institution. As SAT scores increase, the likelihood that a student will return for a second year also increases. Figure 2 shows the average second-year retention rate by SAT Total score bands for students retained at the same institution. For example, students with SAT Total scores between 800 and 990 had a mean retention rate of 72%. In contrast, students with SAT Total scores between 1400 and 1600 had a mean retention rate of 92%.

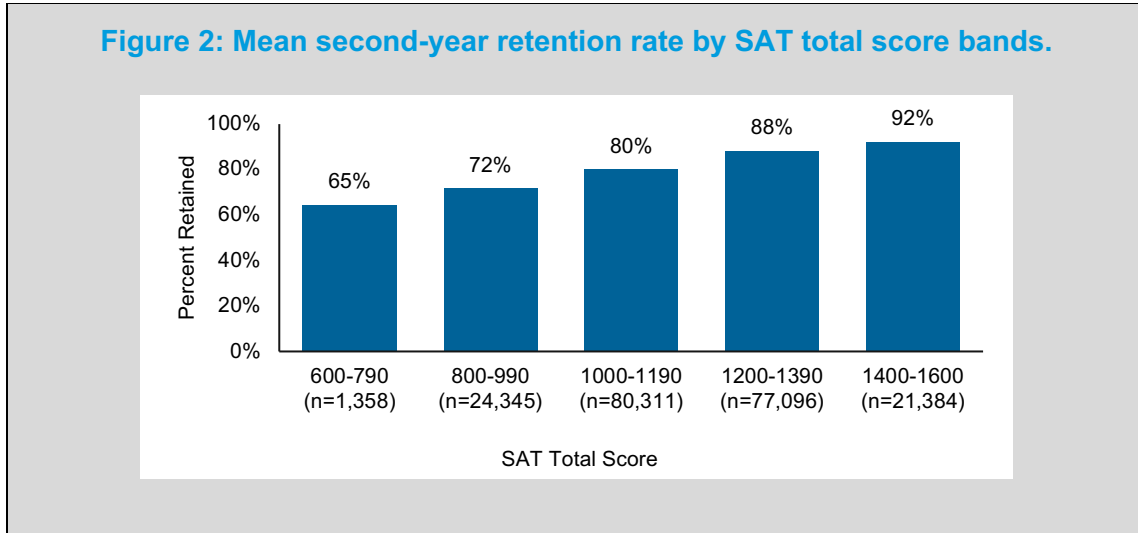
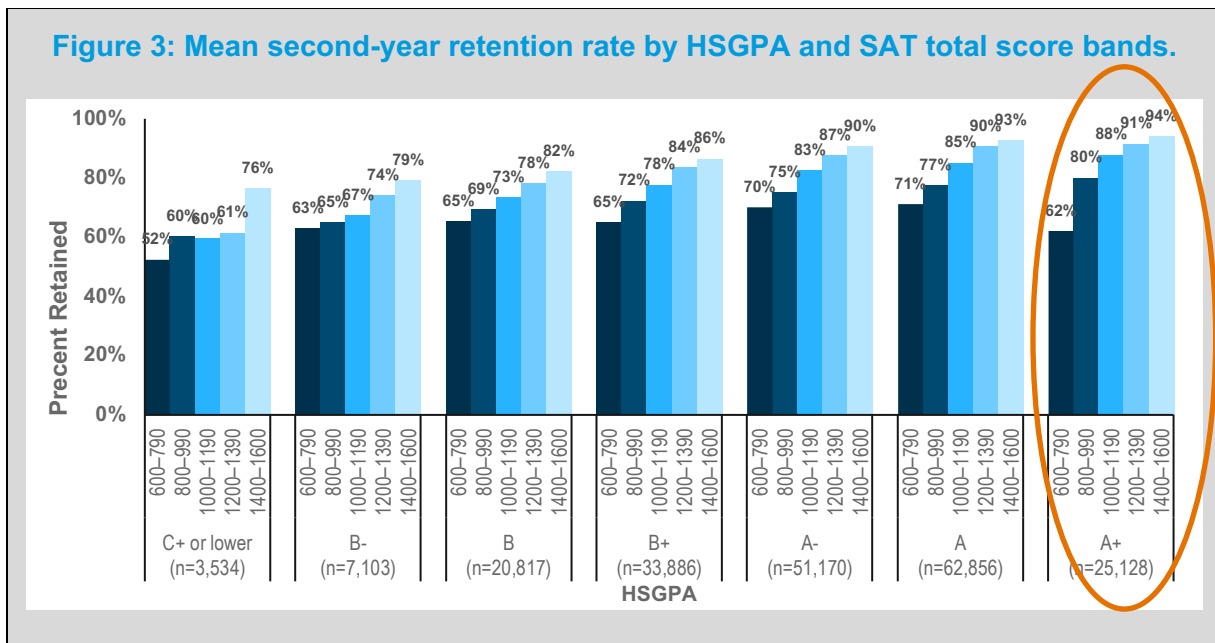


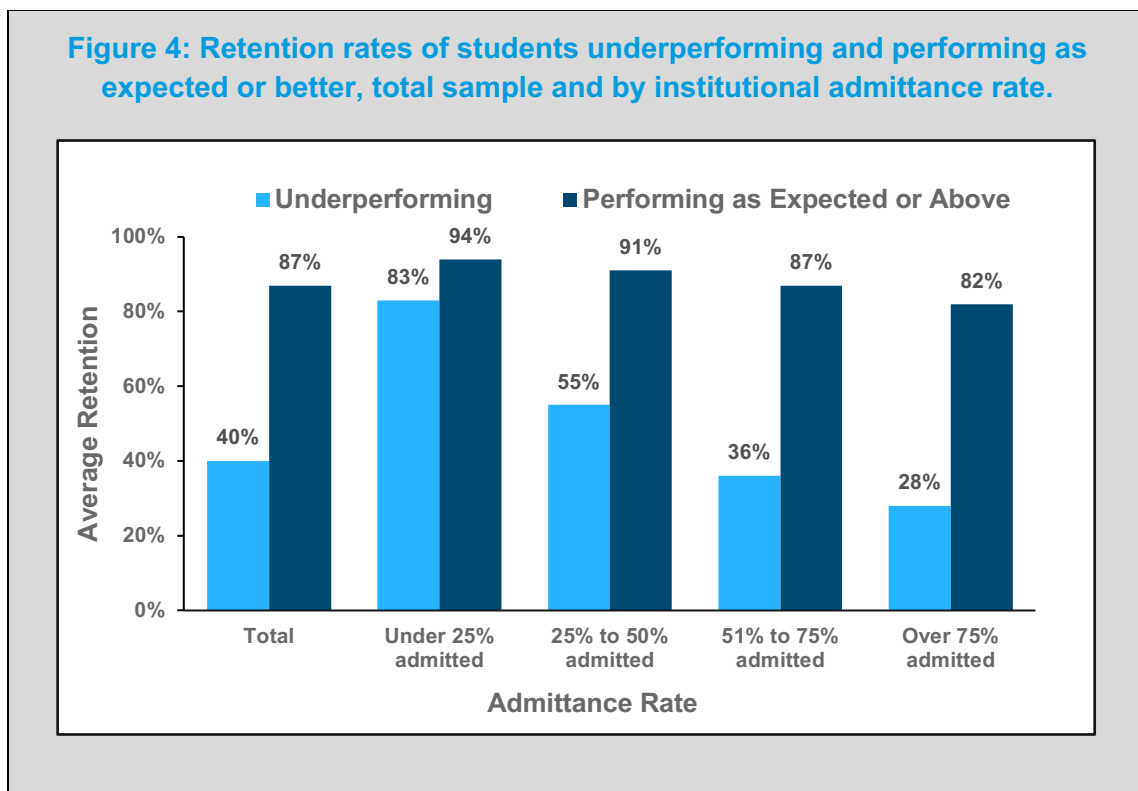
Figure 3 depicts second-year retention rates when using HSGPA and SAT scores jointly. It reveals a positive relationship between SAT scores and retention across all HSGPA categories, especially for students within who earned A’s and B’s in high school (who represented more than 98% of the students in this study). ***Even among students with highest HSGPAs, we see substantive differences in retention rates. For example, students’ retention in college vary by as much as 30 percentage points despite earning A+ grades in high school (see circle bars below).***



## How does the SAT help identify students at risk for departure from college?

Retaining students who are otherwise performing well in college is a critical element of a fully effective student-success strategy. Yet colleges and universities at all levels of selectivity struggle with the dilemma of students who depart their campuses without evident cause or reason. Research indicates that students who under- or overperform in college—compared to their predicted performance based on SAT and HSGPA—are at greater risk for departure from college compared to students who perform as expected (Shaw & Mattern, 2013). It is important to stress that students who may depart are not necessarily in academic jeopardy.

Figure 3 shows retention rates for students who underperform in college relative to students who perform as well as expected or better. Eighty-seven percent of students who performed as expected or better returned for the second year, while only 40% of students who underperformed returned for the second year. The likelihood of underperforming students returning for the second year dramatically decreases as institutional admission selectivity decreases.



Arriving at a predicted FYGPA for students using both HSGPA and SAT scores and using such data to monitor in comparison to a student's actual college performance is a simple and powerful way to find and serve students who may be at risk for leaving the institution. Of course, not all students classified as underperforming, and therefore at greater risk for departure, have a low FYGPA. In this sample, 24% of the students classified as underperforming had a FYGPA of 2.00 or higher, a FYGPA that many consider an acceptable minimum for avoiding academic probation. By taking account of their predicted performance (based on SAT scores and HSGPA), admissions and enrollment leaders have information to proactively flag students as being at risk for dropping out.

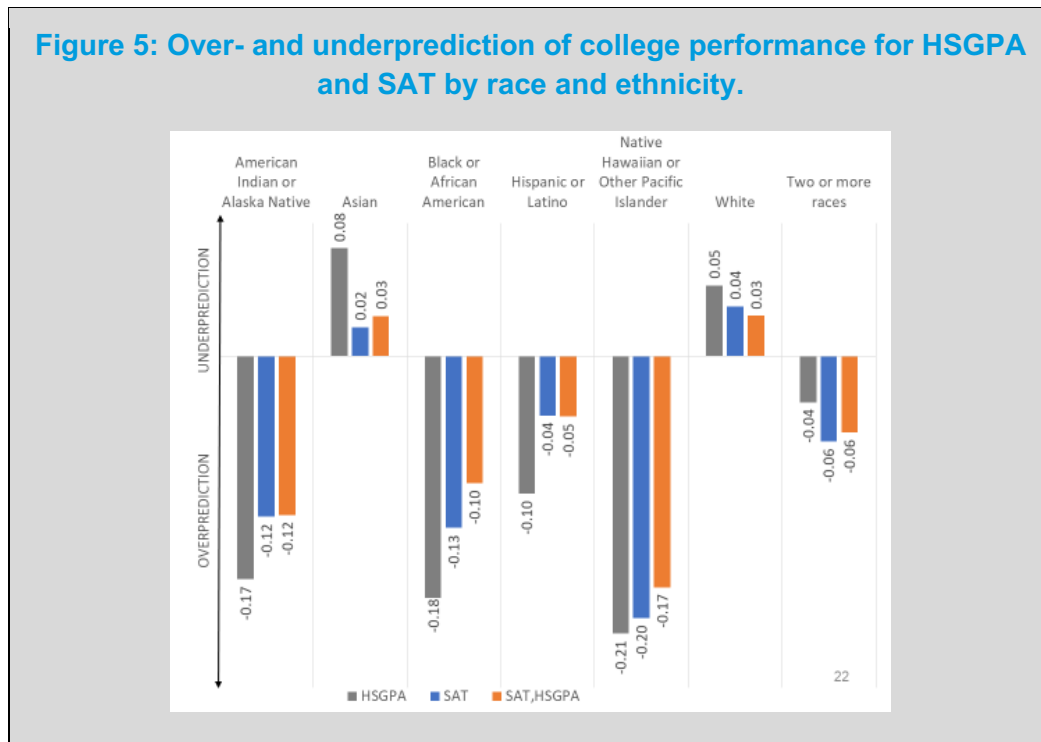
## How does College Board ensure that the SAT's questions are fair?

All of the questions on the SAT are tested to guarantee that they do not unfairly or inappropriately impact any group of students. College Board staff collaborate with curriculum specialists and higher ed faculty from across the country, to create the SAT questions. Each question is individually prepared and evaluated to make sure that it only measures what it's supposed to measure and does not give one group of students an unfair advantage over others. Next, the questions are pretested on a sample of roughly 3,000 students that resemble the SAT test-taking population. **The pretesting process allows College Board to evaluate the difficulty of the question and determine whether the question adequately differentiates between lower- and higher-achieving students without penalizing students from specific racial, ethnic, and income groups** But If it does, the question is eliminated and never used on an SAT test form. This entire process takes about two years to complete (College Board, 2015).

## Is the SAT biased against some underrepresented student populations?

If College Board throws out all questions that unfairly penalize students from certain groups, why do we still see differences in SAT outcomes for certain groups of students? Unfortunately, the SAT and other standardized assessments such as the ACT and the GRE reflect disparities in American society and access to educational resources. It would be enormously satisfying if the SAT revealed no differences among different groups of students in U.S. society, but all students do not have equal access to the kinds of educational resources that matter for college readiness.

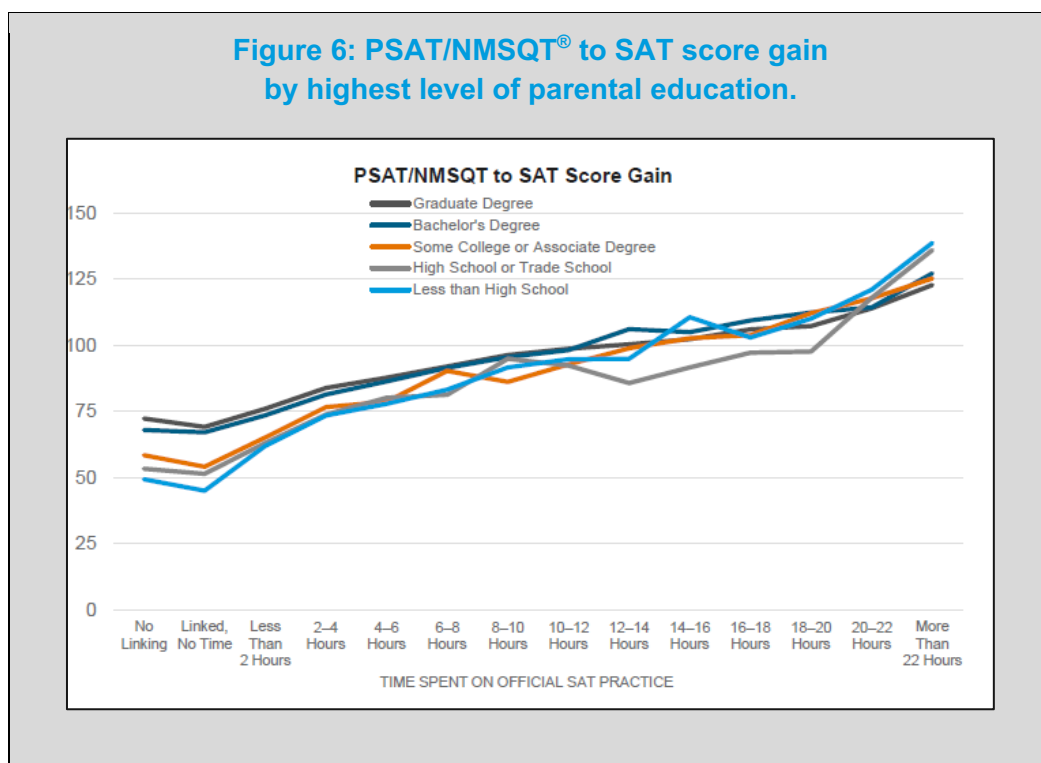
Despite these differences, data reveal that when the SAT is used to predict the performance of students in college, it tends to *overpredict*, by a small amount, the performance of African American, American Indian, and Hispanic/Latino, as well as students from low-socioeconomic backgrounds (Figure 5). In other words, research indicates that students from these groups, on average, will perform slightly better in college than they actually do. *In other words, if the SAT were biased against these groups of students, the opposite would be predicted.* (Marini, Westrick, Young, Ng, Shmueli, & Shaw, 2019).



Using high school grades alone to predict college performance reveals a similar bias in overpredicting the performance of African American and Hispanic/Latino students. However, **when SAT and HSGPA data are combined, both measures collectively provide the most accurate prediction of students' performance in college for students from underrepresented groups.**

### Does the SAT favor affluent families that can afford expensive test preparation services for their sons and daughters?

The redesigned SAT was developed to eliminate unequal access to test preparation and practice. By partnering with Khan Academy®, all official preparation for the SAT is free. Since College Board began promoting access to free, high-quality, personalized Official SAT Practice through Khan Academy in June 2015, students from every socioeconomic group have used those resources and have practiced at nearly equal rates. Not surprisingly, more practice is associated with greater score gains, and these increases are similar across race, ethnicity, and parental education. Figure 6 presents score gains for students by highest level of parental education.



### References and Resources

- American Educational Research Association, American Psychological Association, and National Council on Measurement in Education (2014). *Standards for educational and psychological testing*. Washington DC: AERA.
- Clinedinst, M., & Patel, P. (2018). *State of college admission*. Washington DC: National Association for College Admission Counseling. Retrieved from [https://www.nacacnet.org/globalassets/documents/publications/research/2018\\_soca/soca18.pdf](https://www.nacacnet.org/globalassets/documents/publications/research/2018_soca/soca18.pdf)

- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Erlbaum.
- College Board (2018). *Guidelines on the uses of College Board test scores and related data*. New York: College Board. Available at: <https://research.collegeboard.org/pdf/guidelines-uses-college-board-test-scores-and-data.pdf>
- College Board (2015). *Test specifications for the redesigned SAT*. New York: College Board. Available at <https://collegereadiness.collegeboard.org/pdf/test-specifications-redesigned-sat-1.pdf>
- Marini, J. P., Westrick, P. A., Young, L., Ng, H., Shmueli, D., & Shaw, E. J. (2019). *Differential validity and prediction of the SAT: Examining first-year grades and retention to the second year*. New York: College Board. Available at [www.sat.org/validitystudy](http://www.sat.org/validitystudy)
- Shaw, E. J., & Mattern, K.D. (2013). Examining student under- and overperformance in college to identify risk of attrition. *Educational Assessment*, 18(4), 251–268.
- Westrick, P. A., Marini, J. P., Young, L., Ng, H., Shmueli, D., & Shaw, E. J. (2019). *Validity of the SAT for predicting first-year grades and retention to the second year*. New York: College Board. Available at [www.sat.org/validitystudy](http://www.sat.org/validitystudy)

© 2019 College Board. PSAT/NMSQT is a registered trademark of College Board and National Merit Scholarship Corporation. All other marks are the property of their respective owners.  
 Khan Academy is a registered trademark in the United States and other jurisdictions.  
 01541-103