

Do standardized tests such as
SAT and ACT have good
predictive validity ?

Introduction

- Many supporters of standardized tests have claimed that test scores are highly predictive of success in college.
- Colleges will have a standardized measure to determine college readiness and aptitude that can be used to allow comparison between students in different states and schools.
- Yet, others have argued that academic success is heavily influenced by other factors such as family wealth, etc (Dixon-Roman et al., 2013).
- So, to solely rely on standardized test scores is unfair.

Problem statement

- Therefore, the aim of this study is to determine if ACT and SAT have good predictive validity.
- In other words, can ACT and SAT scores predict academic success in college students? Academic success will be determined by the GPA scores in college.

Method

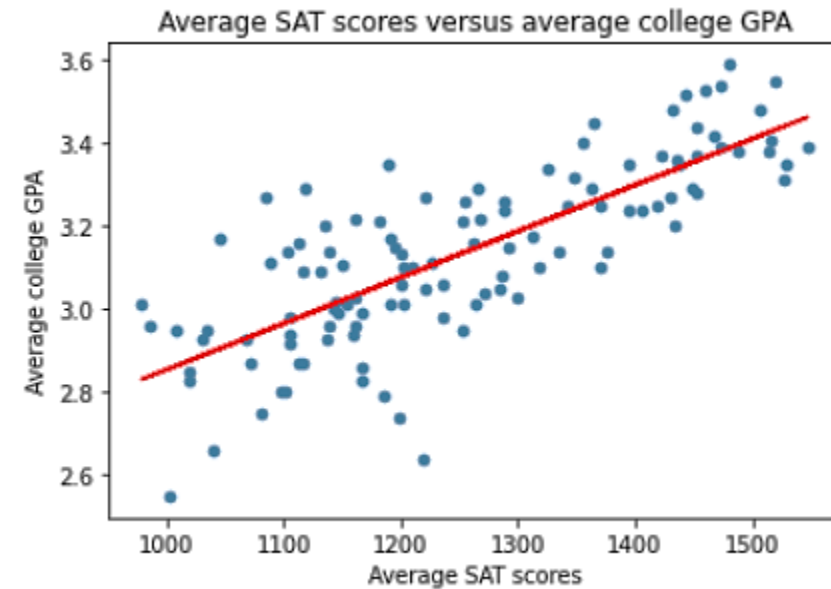
- Data used:
 - SAT and ACT scores were taken from College Scorecard (US Department of Education). Downloaded data files were for the academic year 1996-97 to 2019-20.
 - Average undergraduate GPA scores were taken from [gradeinflation.com](https://www.gradeinflation.com/). The downloaded data files were of reported GPA scores from colleges in the years 2002-2015.

Method

- To determine if SAT and ACT have good predictive validity, a correlation coefficient is needed.
- Correlation coefficient is used to determine how strong a relationship there is between SAT/ACT scores and GPA scores.

Results

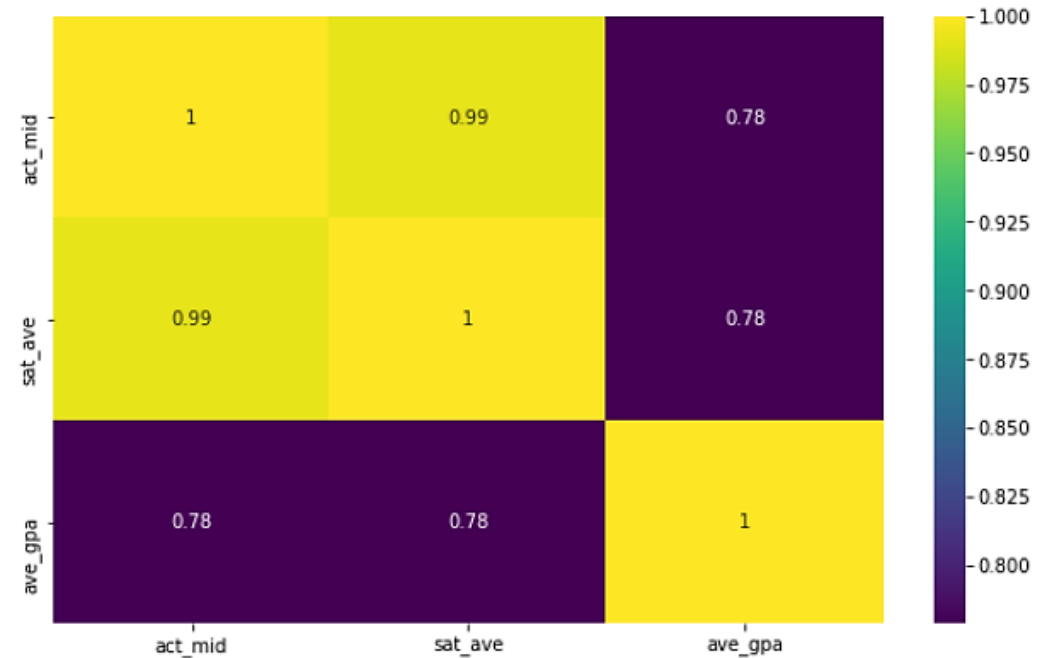
- There is a positive correlation between both SAT/ACT scores and GPA scores.
- This means that students with a higher SAT score or ACT score also achieved a high GPA score while in college.



Positive correlation between SAT scores and GPA scores

Results

- The correlation between median ACT scores and average college GPA scores is 0.76.
- The correlation between average SAT scores and average college GPA scores is 0.75.
- So both SAT and ACT have similar measure of predictive validity of academic success.



Quality correlation matrix between median ACT scores (act_mid), average SAT scores (sat_ave) and average college GPA scores (ave_gpa)

Conclusion

- The results showed that there is a correlation between SAT/ACT scores and college GPA scores.
- In addition, both SAT and ACT scores have similar validity in predicting future academic success in students entering college.
- Till there is a better (and fairer) way to determine college admission, sidelining standardized tests such as the SAT and ACT tests will not provide a standardized measure for colleges to decide which students to admit into their study programs.