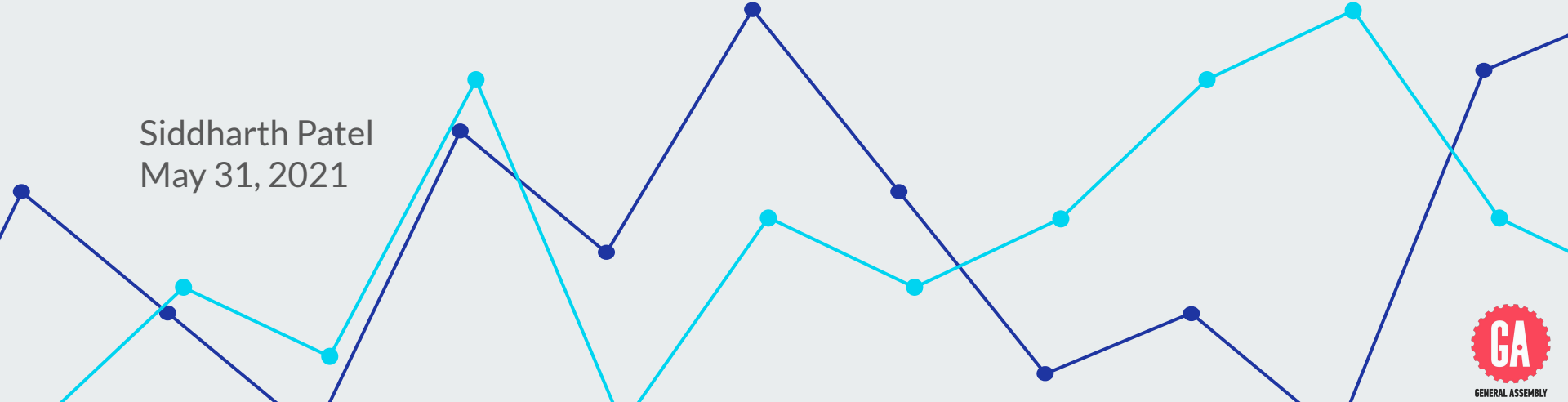




SAT-ACT Analysis

Siddharth Patel
May 31, 2021

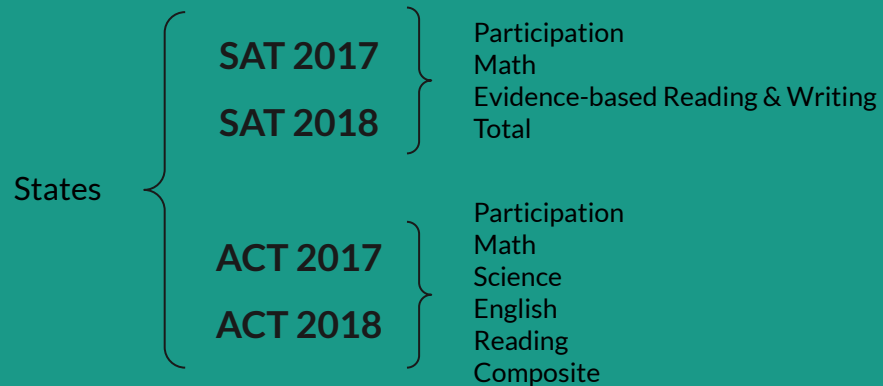




Problem

From the SAT & ACT datasets from 2017 and 2018 for all states in US, analyze and make recommendations to improve the SAT participation rates.

Understanding Data



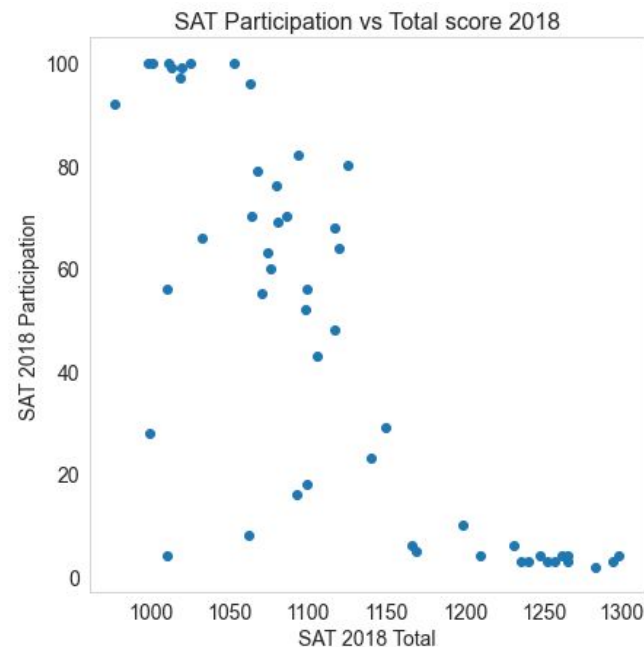
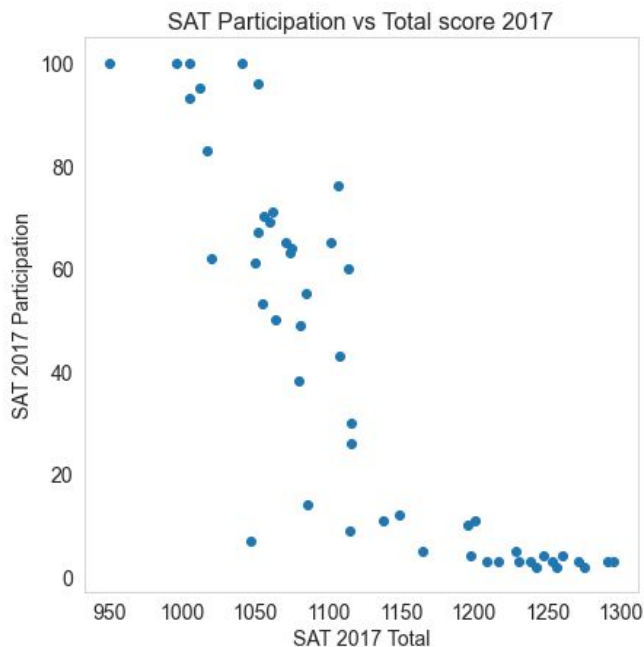
Exploratory Data Analysis

Criteria	States
Highest SAT 2017 participation	<i>District of Columbia, Michigan, Connecticut, Delaware</i>
Highest SAT 2018 participation	<i>Colorado, Michigan, Connecticut, Delaware, Idaho</i>
Highest SAT participation rate change from 2017-2018	<i>Colorado, Illinois</i>
>50% Participation in SAT & ACT 2017	<i>Florida, Georgia, Hawaii, South Carolina</i>
>50% Participation in SAT & ACT 2018	<i>Florida, Georgia, Hawaii, North Carolina, South Carolina</i>

SAT Participation vs Total

With Increase in participation rates of the SAT, the average total score reduces, and vice-versa.

Alternatively, it can be said that the SAT & ACT participation rates are *negatively correlated*.

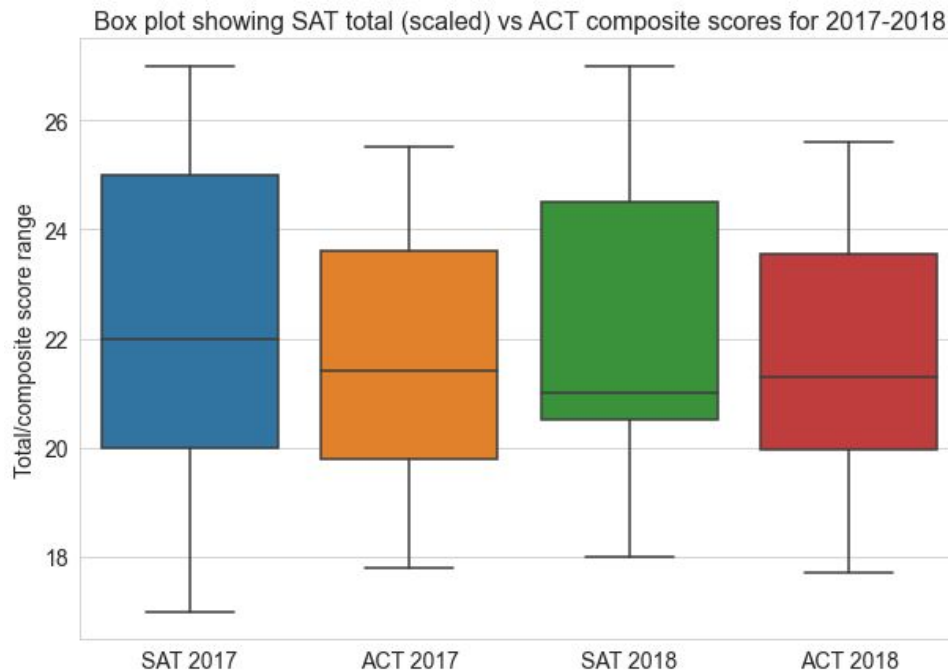


SAT vs ACT

Scaled SAT Total vs ACT Composite

When the SAT score and ACT scores are compared on a similar scale, using concordance table for conversion, the average SAT scores are higher than ACT.

However, this ties to the previous trend that the higher average means fewer students are taking the SAT.



State of Interest - Illinois

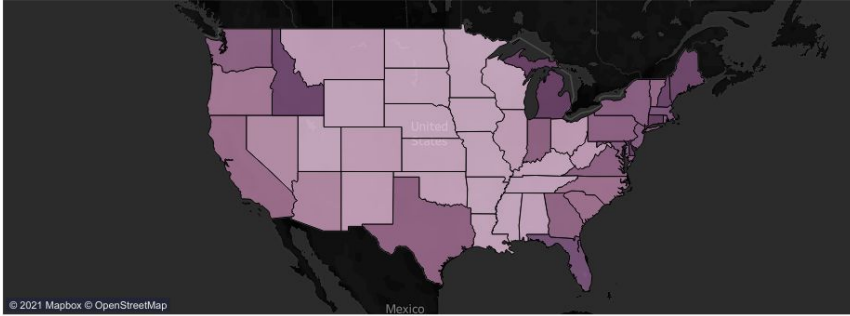
- Illinois saw 90% increase in SAT participation from 2017 to 2018
- It awarded College Board a multi-year deal to make SAT available to its students for free
- Additionally, it also had a deal to conduct PSAT, Pre-SAT, for 9th and 10th grade students
- ACT participation due to this dropped about 50% in 2018

Choropleth Map: SAT & ACT Trends

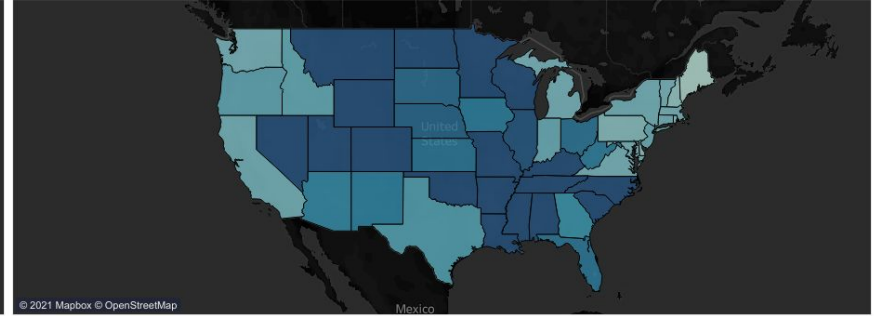
Item 1

Item 2

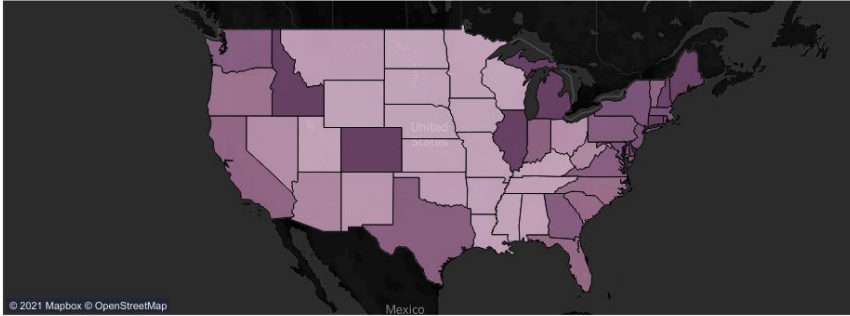
SAT 2017



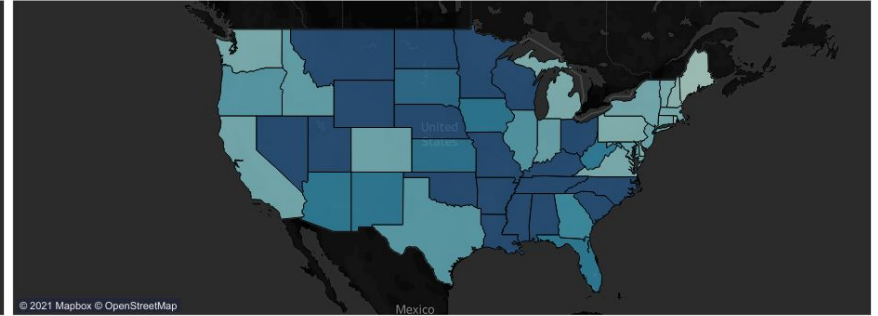
ACT 2017



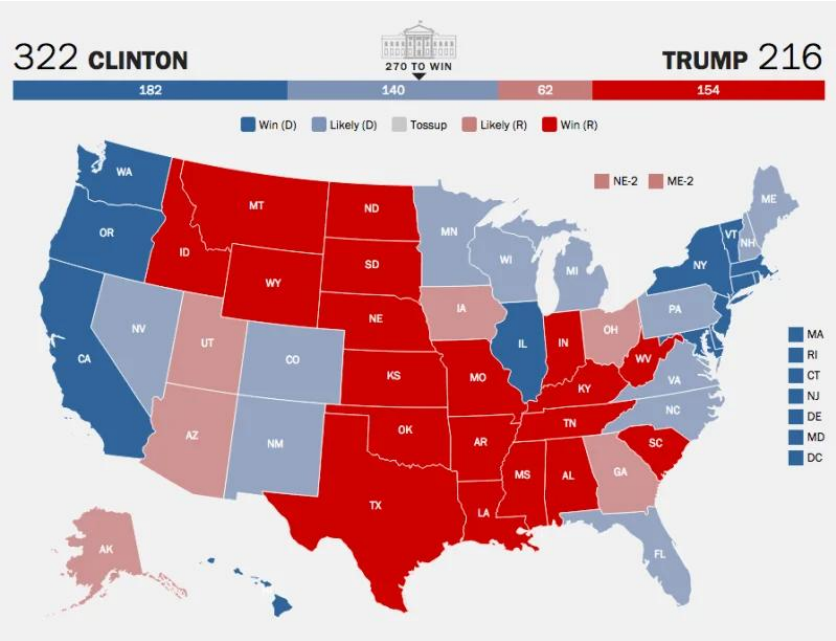
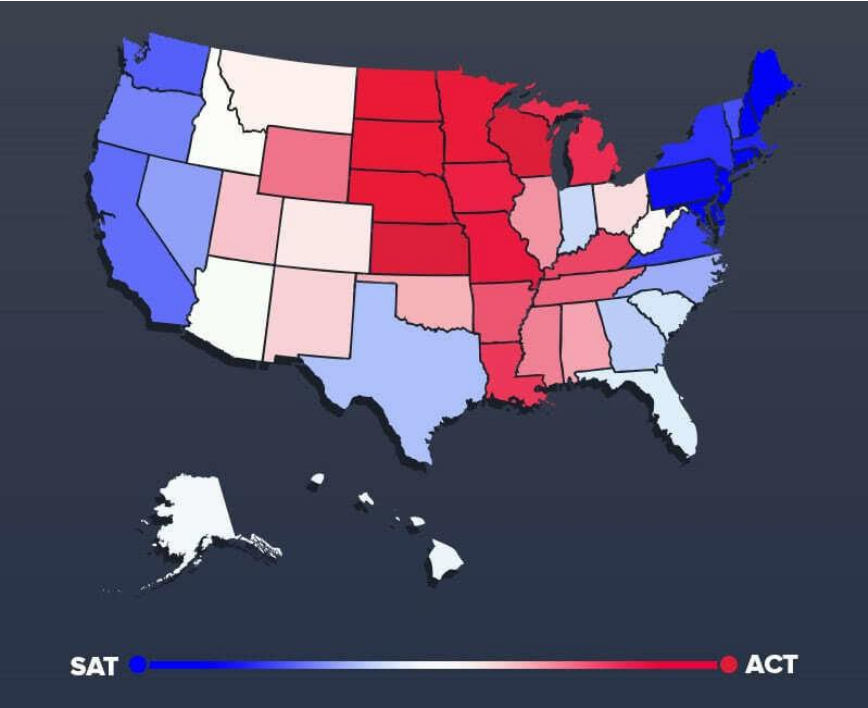
SAT 2018



ACT 2018



Uncanny Resemblance



Conclusions

- States have inherent preference to either SAT or ACT
- There is an uncanny resemblance between the test a state prefers vs its political alignment
- Increase in participation rate of a test in a state results in lower average final score
- When ACT scores are compared to scaled SAT scores, students seems to fare better in the latter

Recommendations

- Collaborate with schools to organize “school days” as it has the following benefits:
 - Test fee waiver
 - Test during school days
- Make deals with States directly to make SAT the preferred test
- Organize PSAT for juniors in schools so they become familiar with the format
- Partner with schools and coaching institutes to provide SAT training at low-cost/free
- Make use of the fact that there are studies which report that a good test score is a measure of how well the student does in the university

Thank You!