

Identifying target States in USA for SAT participation growth

A STATISTICAL
ANALYSIS OF SAT/ACT
STANDARDIZED
TESTING IN
2017/2018

A Brief History of SATs and ACTs

- College Board was founded in 1899 and designed the first SATs in 1929.
- American College Testing (ACT) program was created in 1959.
- The two standardized tests have since been widely accepted across US universities hence are direct competitors to one another
- In 2010, ACTs overtook the SATs in terms of participation rate
- In 2013, SATs underwent a major redesign to better suit the needs of students and colleges.

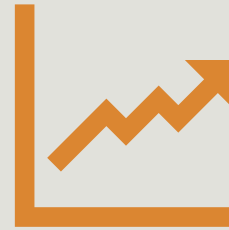
Exploratory Data Analysis



Data types

SAT/ACT participation rates by state

Individual and total/composite test scores by state



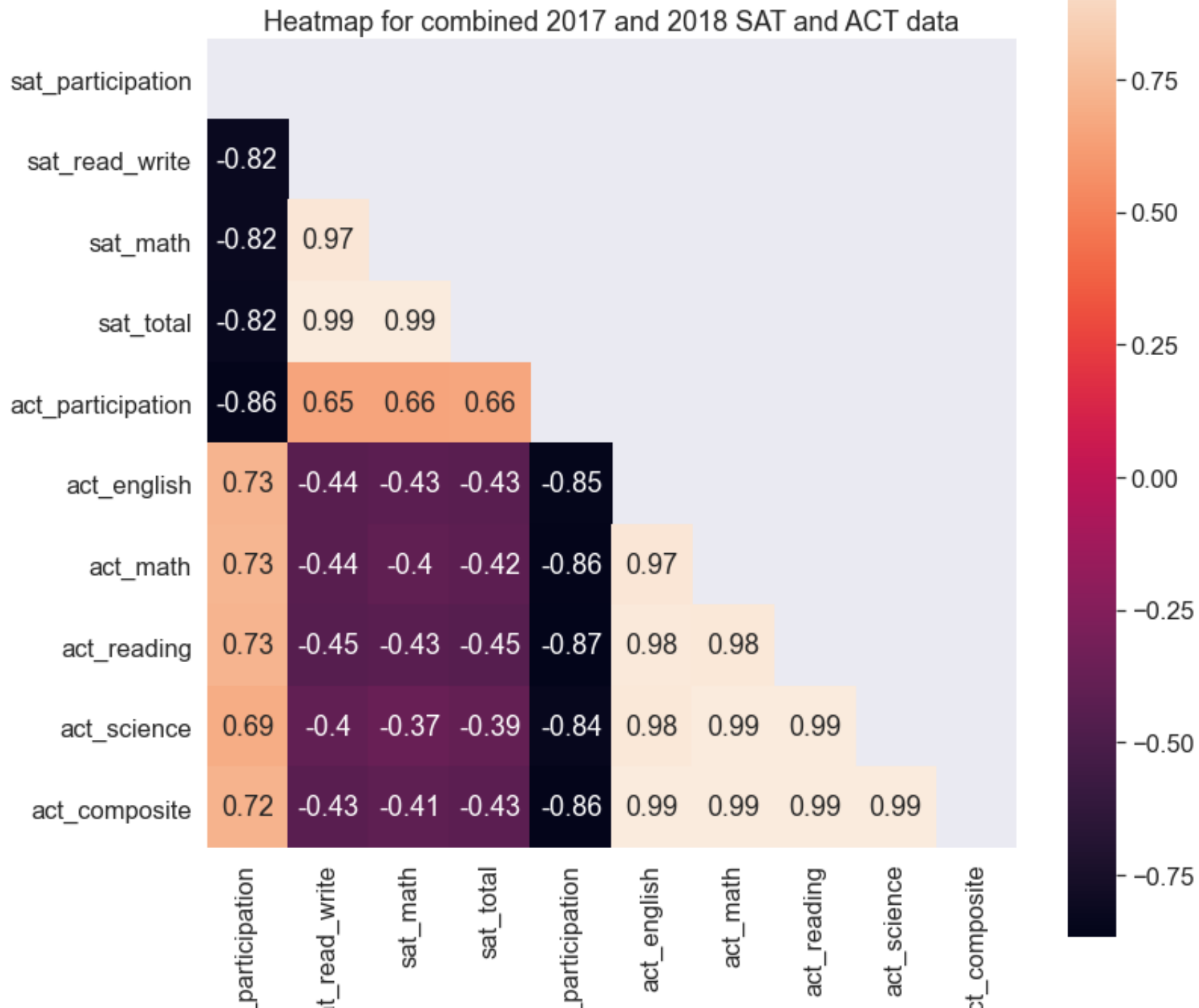
Trends/correlations

SAT vs ACT participation rates

Participation rates vs Mean test scores

Heatmap

- Strong negative correlations between participation rates for both tests. (SAT participation vs ACT participation)
- Strong negative correlations between participation rate and mean test score for a given test. (E.g. SAT participation vs SAT test score)



States by lowest and highest mean SAT scores

- States with low mean scores tend to have higher participation rates
- Interesting exception is West Virginia which has a moderately low participation rate and low mean total score.

2017 SAT lowest mean scores		
State	Mean Total Score	Participation Rate
District of Columbia	950	100 %
Delaware	996	100 %
Idaho	1005	93 %

2017 SAT highest mean scores		
State	Mean Total Score	Participation Rate
Minnesota	1295	3%
Wisconsin	1291	3%
Iowa	1275	2%

2018 SAT lowest mean scores		
State	Mean Total Score	Participation Rate
District of Columbia	977	92%
Delaware	998	100 %
West Virginia	999	28%

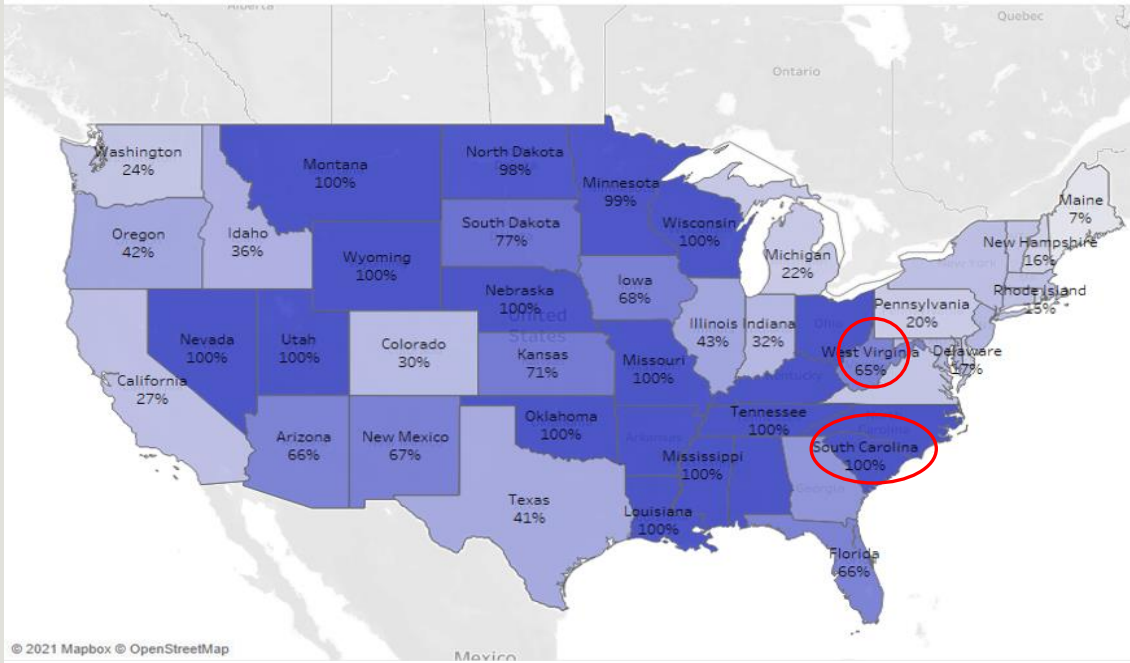
2018 SAT highest mean scores		
State	Mean Total Score	Participation Rate
Minnesota	1298	4%
Wisconsin	1294	3%
North Dakota	1283	2%

Largest changes in SAT/ACT participation

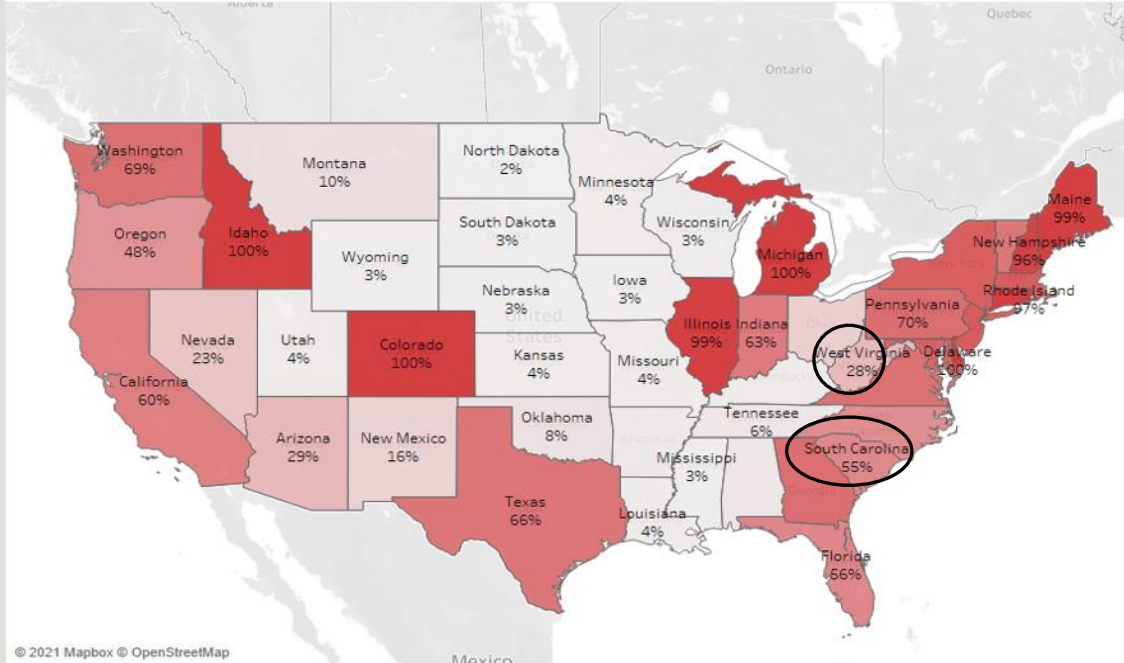
State	SAT 2017	SAT 2018	ACT 2017	ACT 2018
Illinois	9%	99%	93%	43%
Colorado	11%	100%	100%	30%

- There were significant changes in SAT/ACT participation in Illinois and Colorado
- In 2016, College Board won the bid to change the state policy for mandatory standardized testing in Illinois and Colorado.

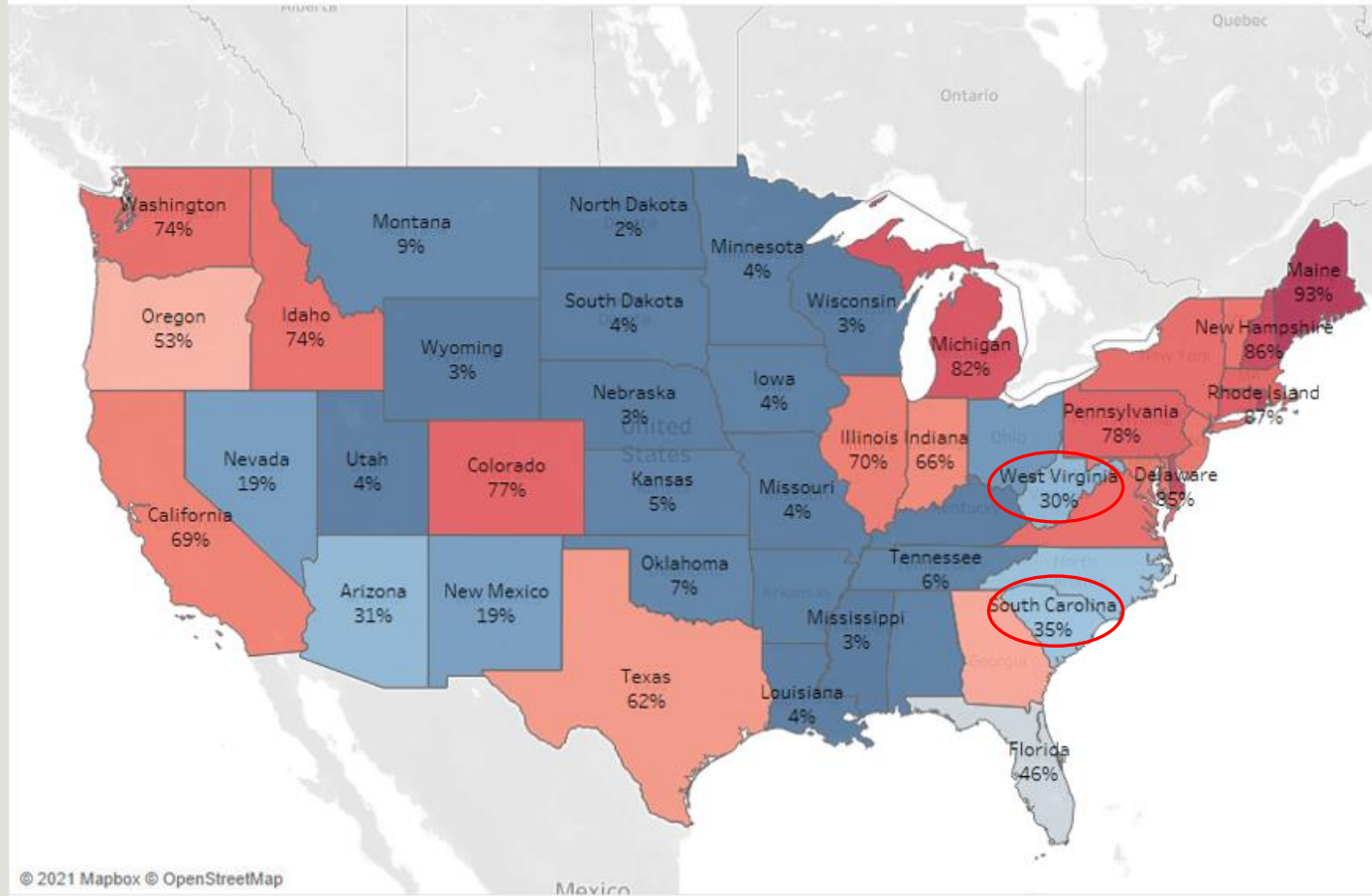
ACT participation by state 2018



SAT participation by state 2018



SAT participation in 2018 as a percentage of total participation for SAT and ACT



SAT participation in 2018 as a percentage of total SAT and ACT participation

- More students take the ACTs than the SATs in West Virginia and South Carolina
- South Carolina implements mandatory testing for ACTs, yet participation rate for SATs is > 50%
- West Virginia experienced a 100% increase in SAT participation from the previous year despite ACTs being the predominant choice

Recommendation 1: South Carolina

South Carolina	2017	2018
SAT Participation Rate	50%	55%
ACT Participation Rate	100%	100%

- ACT testing is mandatory, yet > 50% of students are taking SATs
- The participation rate even increased from 50% in 2017 to 55% in 2018 indicating a growing interest for SATs amongst students there.
- With public support amongst students for the SATs, it may be easier to secure a bid to change the state mandates for standardized testing.

Recommendation 2: West Virginia

West Virginia	2017	2018
SAT Participation Rate	14%	28%
ACT Participation Rate	69%	65%

- ACT is the predominant choice in this state.
- Yet there was a 100% increase in SAT participation from 2017 to 2018, indicating a strong interest among students there to take the SATs.
- This can make for a strong case when bidding for state contracts mandating standardized testing.
- Furthermore, West Virginia was amongst the bottom scoring states for the SATs in 2018. This shows that despite the increased interest, there is a need for additional student resources to better prepare them for the test.

Recommendation 3: Alaska

Alaska	2017	2018
SAT Participation Rate	38%	43%
ACT Participation Rate	65%	33%

- Mandatory testing was dropped in 2016 resulting in a 50% decrease in ACT participation from 2017 to 2018
- Yet SAT participation improved by 13% (38% to 43%), showing that students in Alaska continue to show increased interest in taking the SATs.
- It would make sense to take advantage of the current trend to increase its rate of growth.

Conclusions

- State policies which mandate participation in either SAT or ACT are the largest contributing factors to participation rates.
- Lobbying to change state mandates is a good strategy to flip participation rates in favour of SATs
- **South Carolina** was identified to have growing interest for taking the SATs between 2017 and 2018 but have a high ACT participation rate due to existing state policy
- **West Virginia** showed a significant growth in SAT participation, yet ACTs is dominant. Mean test scores are also amongst the lowest indicating a need for additional student resources.
- **Alaska** dropped mandatory testing for ACTs and had an increase in SAT participation. It may be a good idea to take advantage of the current growth trend