
Project 1: SAT & ACT Analysis

Members: Group 7
Akhila, HueeMing, Gim Pei

Problem Statement

How to increase SAT's participation rate among high school students based on SAT and ACT datasets in 2017, 2018

Provide recommendation to the College Board on how to improve the SAT participation rate.

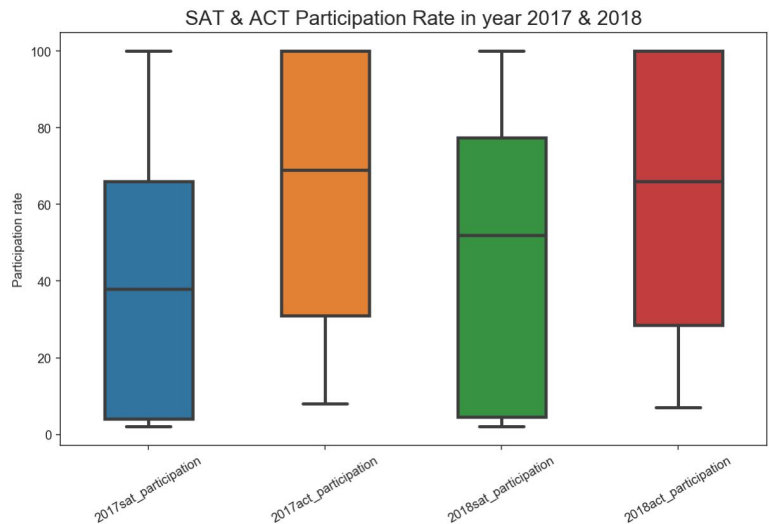
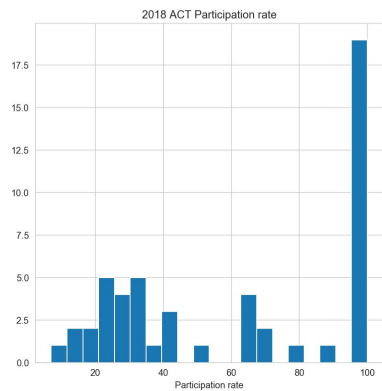
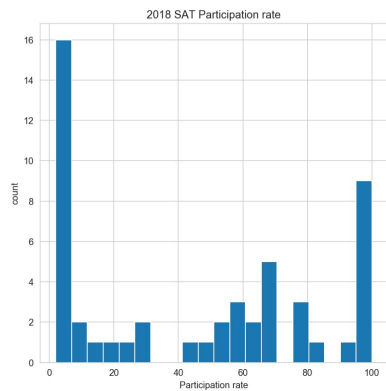
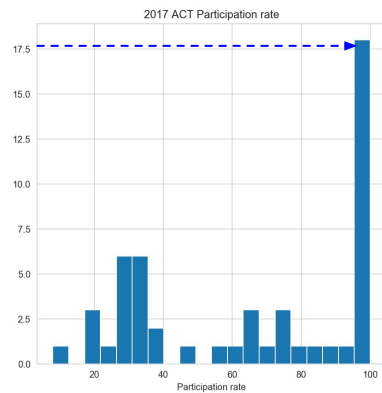
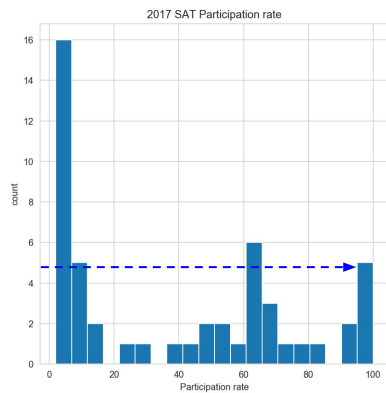
Overview of available data

	State	Participation	Evidence-Based Reading and Writing	Math	Total
0	Alabama	5%	593	572	1165
1	Alaska	38%	547	533	1080
2	Arizona	30%	563	553	1116
3	Arkansas	3%	614	594	1208
4	California	53%	531	524	1055
5	Colorado	11%	606	595	1201
6	Connecticut	100%	530	512	1041
7	Delaware	100%	503	492	996
8	District of Columbia	100%	482	468	950
9	Florida	83%	520	497	1017

	State	Participation	English	Math	Reading	Science	Composite
0	National	60%	20.3	20.7	21.4	21.0	21.0
1	Alabama	100%	18.9	18.4	19.7	19.4	19.2
2	Alaska	65%	18.7	19.8	20.4	19.9	19.8
3	Arizona	62%	18.6	19.8	20.1	19.8	19.7
4	Arkansas	100%	18.9	19.0	19.7	19.5	19.4
5	California	31%	22.5	22.7	23.1	22.2	22.8
6	Colorado	100%	20.1	20.3	21.2	20.9	20.8
7	Connecticut	31%	25.5	24.6	25.6	24.6	25.2
8	Delaware	18%	24.1	23.4	24.8	23.6	24.1
9	District of Columbia	32%	24.4	23.5	24.9	23.5	24.2

- **Average scores by States**
- **SAT total score is the sum of ERW and Math scores.**
- **ACT composite score is the average of Math, Reading, and Science scores.**

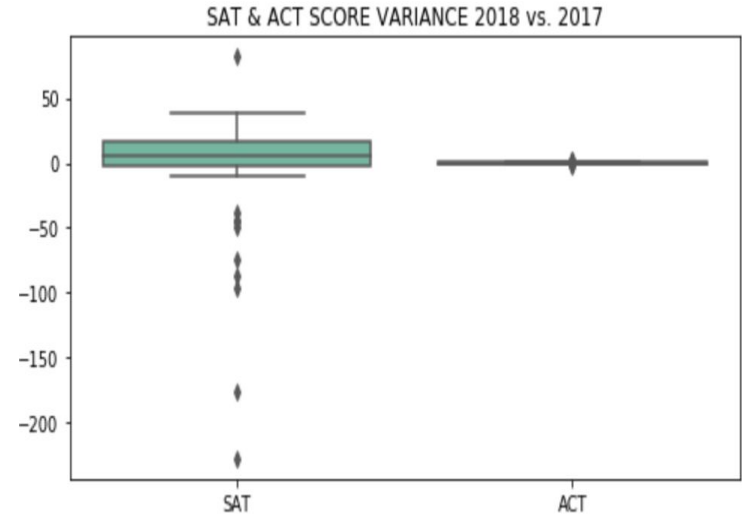
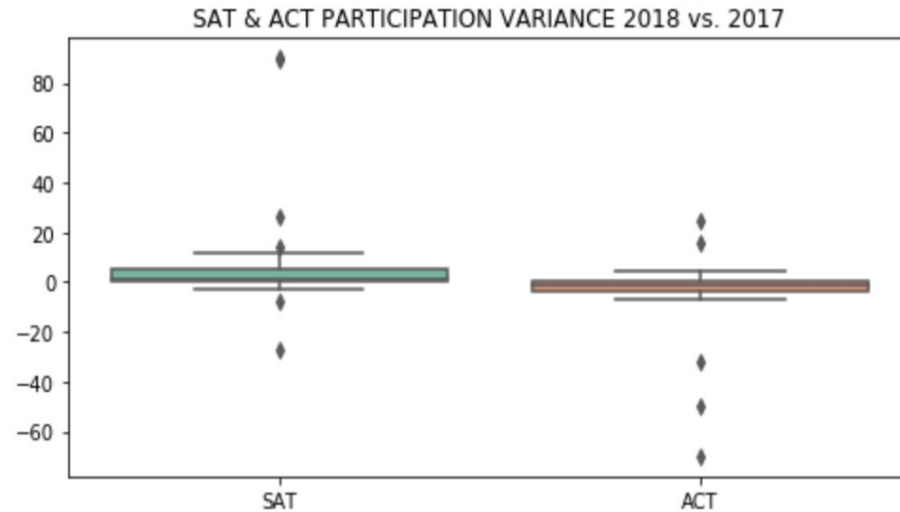
Participation rates



100% Participation rate

- ➔ SAT : 4 States (Connecticut, Delaware, Michigan, District of Columbia (2017))
- ➔ ACT : 17 States (2017)

Variance in SAT Participation Rate 2018 vs. 2017



- No huge variance noted in participation rate for both tests
- SAT clearly shows growth in participation rate with **Colorado & Illinois** being the key contributors
- The same states contributed to the decline of ACT participation rate
- With the increase in participation, the total mean scores

Variance in SAT Participation Rate 2018 vs. 2017

	state	sat17_participation	sat18_participation	sat_participation_var	
13	Illinois	9.0	99.0	90.0	SAT test mandated in 2016-2017
5	Colorado	11.0	100.0	89.0	
39	Rhode Island	71.0	97.0	26.0	
48	West Virginia	14.0	28.0	14.0	Organic growth in participation
30	New Jersey	70.0	82.0	12.0	
32	New York	67.0	79.0	12.0	

Variance in SAT Participation Rate 2018 vs. 2017

Which state had the largest negative changes in participation (SAT)?

Florida

The biggest drop in Participation rate is Florida, down from 83% in 2017 to 56% in 2018, or 32.5% decrease.

	state	sat_participation_change
8	Florida	-27
27	Nevada	-3
2	Arizona	-1
49	Wyoming	0
48	Wisconsin	0

Conclusions and Recommendations

- 1) Influence state policy
- 2) School day program
- 3) Subsidies - Fee waiver, Free study materials
- 4) Educate students how to improve their SAT score
- 5) Improve public perception of SAT

Iowa, Kansas, New Mexico, and South Dakota are the list of states with lowest SAT participation rate and where ACT is optional.