

Which are the states that can  
increase the participation rates  
for ACT and SAT scores?

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# Introduction

- States and school districts are focusing on ensuring that students move to college and a career after graduating from high school.
- However, there are limited resources to be given to each state to encourage their students to take the tests, provide training programs, hire career guidance coaches, etc.
- So we need to focus and identify states that have potential to further increase than mean participation rate.

# Aim

- Identify which states with higher than mean participation rates, to further increase their participation rates for both the ACT and SAT scores.
- Note that the aim is NOT to identify states with the lowest participation rates.

# Methods

- The datasets are from year 2017 and 2018. They are organized at the state level with participation rates and Total, Composite and component (English, Math, Reading, Science) scores. The ACT components in 2018 are not available.
- This allows for a state-by-state comparison of participation rates and scores for each test.

# Methods

Test components					
	state	part_sat_2018	erw_sat_2018	math_sat_2018	total_sat_2018
0	Alabama	0.06	595	571	1166
1	Alaska	0.43	562	544	1106
2	Arizona	0.29	577	572	1149
3	Arkansas	0.05	592	576	1169
4	California	0.60	540	536	1076
5	Colorado	1.00	519	506	1025
6	Connecticut	1.00	535	519	1053
7	Delaware	1.00	505	492	998
8	District Of Columbia	0.92	497	480	977
9	Florida	0.56	550	549	1099
10	Georgia	0.70	542	522	1064
11	Hawaii	0.56	480	530	1010
12	Idaho	1.00	508	493	1001
13	Illinois	0.99	513	506	1019
14	Indiana	0.63	542	532	1074
15	Iowa	0.03	634	631	1265
16	Kansas	0.04	633	631	1265
17	Kentucky	0.04	630	618	1248
18	Louisiana	0.04	615	595	1210
19	Maine	0.99	512	501	1013
States					

SAT 2018 mean scores, by state, by component



Which states have the lowest SAT participation rate?

	state	part_sat_2017		state	part_sat_2018
34	North Dakota	0.02	34	North Dakota	0.02
24	Mississippi	0.02	50	Wyoming	0.03
15	Iowa	0.02	41	South Dakota	0.03
25	Missouri	0.03	27	Nebraska	0.03
44	Utah	0.03	49	Wisconsin	0.03

SAT 2017, 2018 participation rates by states

Which states have the highest ACT participation rate (normalized)?

	state	part_act_2017		state	part_act_2018
0	Alabama	1.0	0	Alabama	1.0
3	Arkansas	1.0	3	Arkansas	1.0
5	Colorado	1.0	17	Kentucky	1.0
17	Kentucky	1.0	18	Louisiana	1.0
18	Louisiana	1.0	24	Mississippi	1.0
23	Minnesota	1.0	25	Missouri	1.0
24	Mississippi	1.0	26	Montana	1.0
25	Missouri	1.0	27	Nebraska	1.0
26	Montana	1.0	28	Nevada	1.0
28	Nevada	1.0	33	North Carolina	1.0
33	North Carolina	1.0	35	Ohio	1.0
36	Oklahoma	1.0	36	Oklahoma	1.0
40	South Carolina	1.0	40	South Carolina	1.0
42	Tennessee	1.0	42	Tennessee	1.0
44	Utah	1.0	44	Utah	1.0
49	Wisconsin	1.0	49	Wisconsin	1.0
50	Wyoming	1.0	50	Wyoming	1.0

ACT 2017, 2018 participation rates by states

# Methods

	state	part_sat_2017
34	North Dakota	0.02
24	Mississippi	0.02
15	Iowa	0.02
25	Missouri	0.03
44	Utah	0.03
41	South Dakota	0.03
27	Nebraska	0.03
49	Wisconsin	0.03
23	Minnesota	0.03
50	Wyoming	0.03
3	Arkansas	0.03
16	Kansas	0.04
17	Kentucky	0.04
18	Louisiana	0.04
0	Alabama	0.05
42	Tennessee	0.05
36	Oklahoma	0.07
13	Illinois	0.09
26	Montana	0.10
5	Colorado	0.11

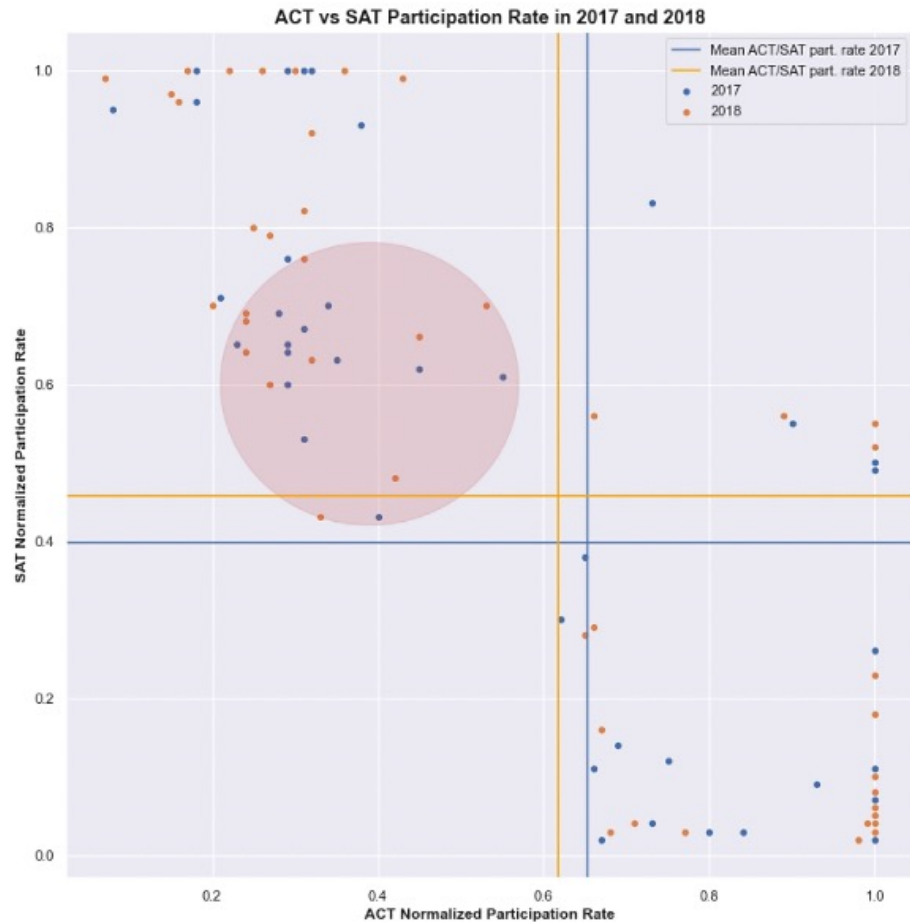
*SAT 2017 lowest participation rate by states*

	state	part_sat_2018
5	Colorado	1.00
6	Connecticut	1.00
7	Delaware	1.00
22	Michigan	1.00
12	Idaho	1.00
19	Maine	0.99
13	Illinois	0.99
39	Rhode Island	0.97
29	New Hampshire	0.96
8	District Of Columbia	0.92
30	New Jersey	0.82
21	Massachusetts	0.80
32	New York	0.79
20	Maryland	0.76
38	Pennsylvania	0.70
10	Georgia	0.70
47	Washington	0.69
46	Virginia	0.68
43	Texas	0.66
45	Vermont	0.64

*SAT 2018 highest participation rate by states*

- It can be observed that there was a significant increment in the SAT participation rate for Illinois and Colorado by ~90% from 2017 to 2018
- Due to change in policy, SAT is mandatory to all high schools juniors for college admissions from 2017

# Higher than mean SAT participation

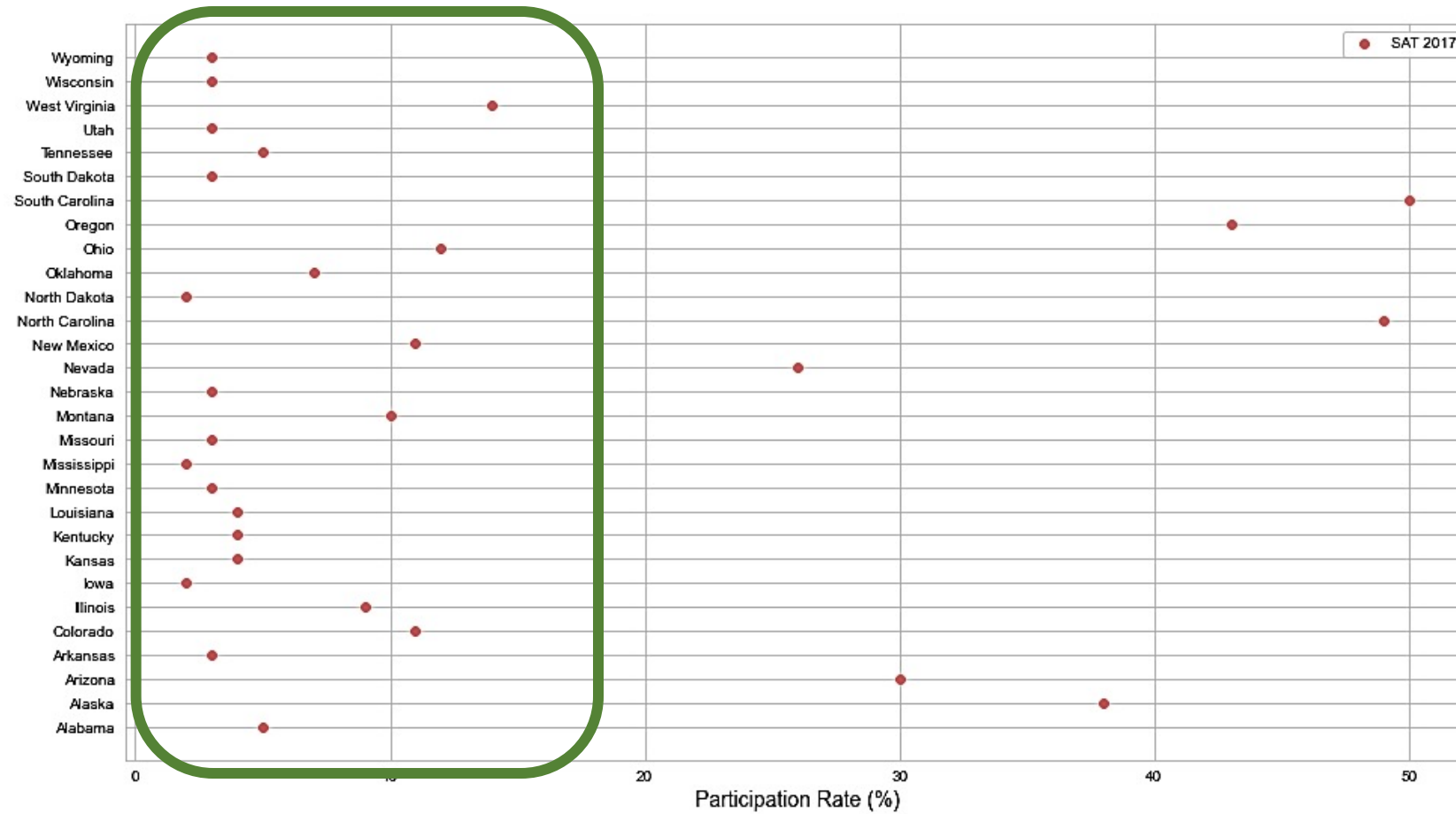


*SAT vs ACT participation rate by state 2017 and 2018*

## 9 states that fall within the red circle

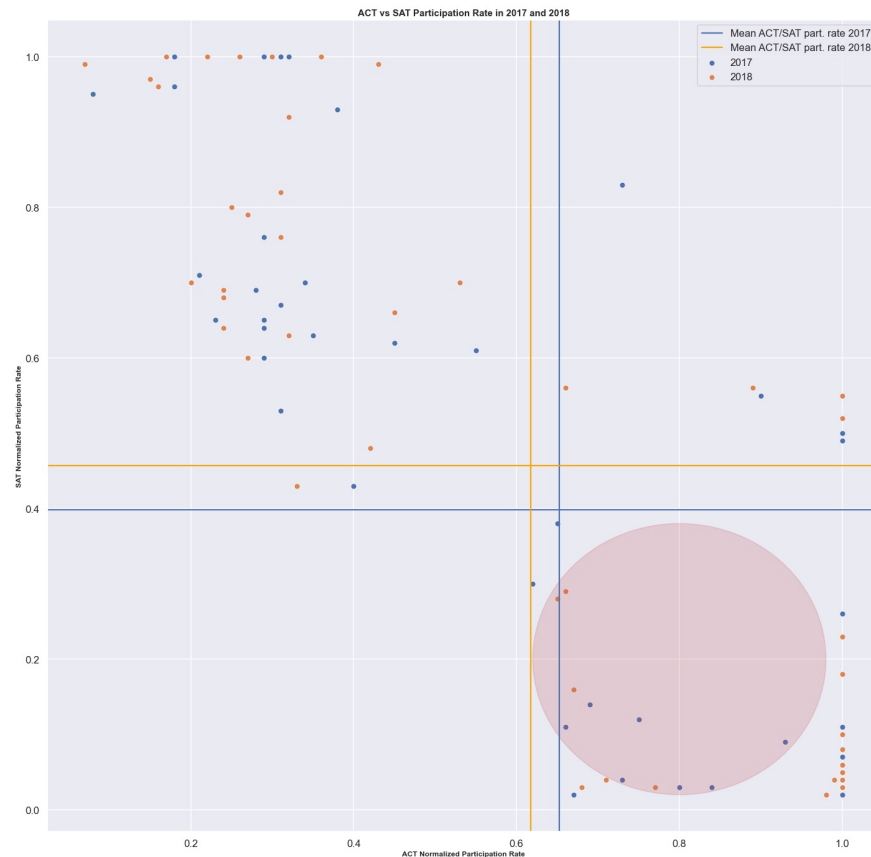
California, Georgia, Indiana, Maryland, Oregon, Texas, Vermont, Virginia and Washington

# Participation rates for SAT scores in 2017





# Higher than mean ACT participation



*SAT vs ACT participation rate by state 2017 and 2018*

	state	act_17_participation	sat_17_participation	act_18_participation	sat_18_participation
16	Kansas	0.73	0.04	0.71	0.04
31	New Mexico	0.66	0.11	0.67	0.16
41	South Dakota	0.80	0.03	0.77	0.03
48	West Virginia	0.69	0.14	0.65	0.28

**4 states that fall within the red circle**  
Kansas, New Mexico, South Dakota and West Virginia

# Conclusion and Recommendation

- 9 states (California, Georgia, Indiana, Maryland, Oregon, Texas, Vermont, Virginia and Washington) have relatively higher than mean participation rates in SAT.
- 4 states (Kansas, New Mexico, South Dakota and West Virginia) have relatively higher than mean participation ACT.
- So these 13 states have potential to further encourage students to participate in these standardized tests.