

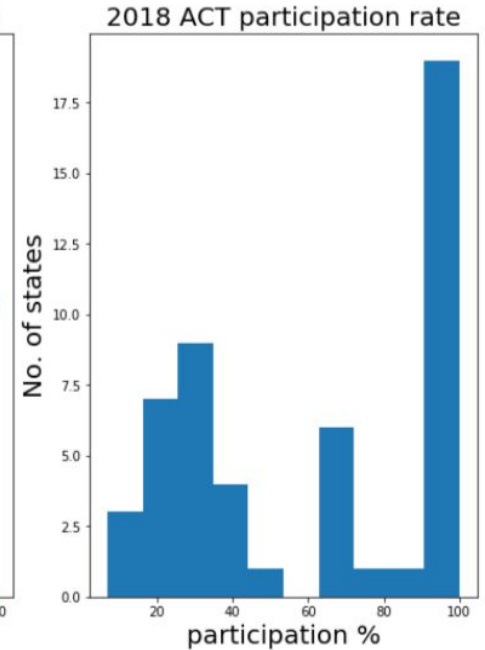
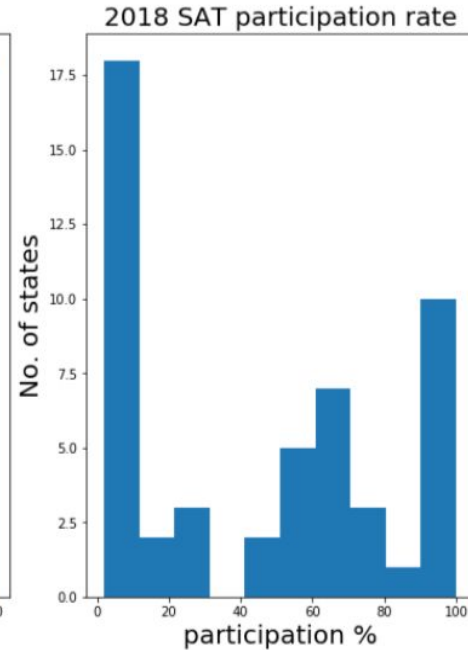
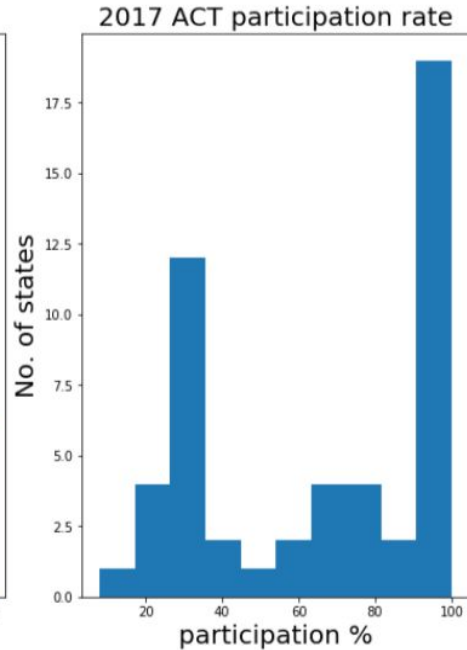
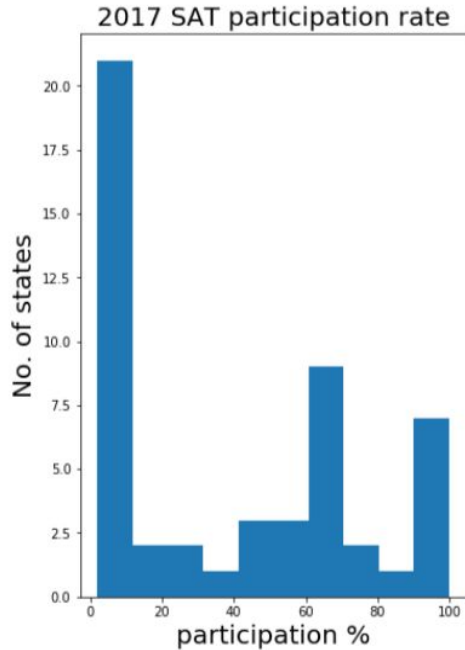
# Analysis of SAT and ACT

# Problem Statement

SAT and ACT are standardised tests used for college admission into US universities. ACT tests have historically had higher participation rates till recently when SAT participation rates beat ACT's rates.

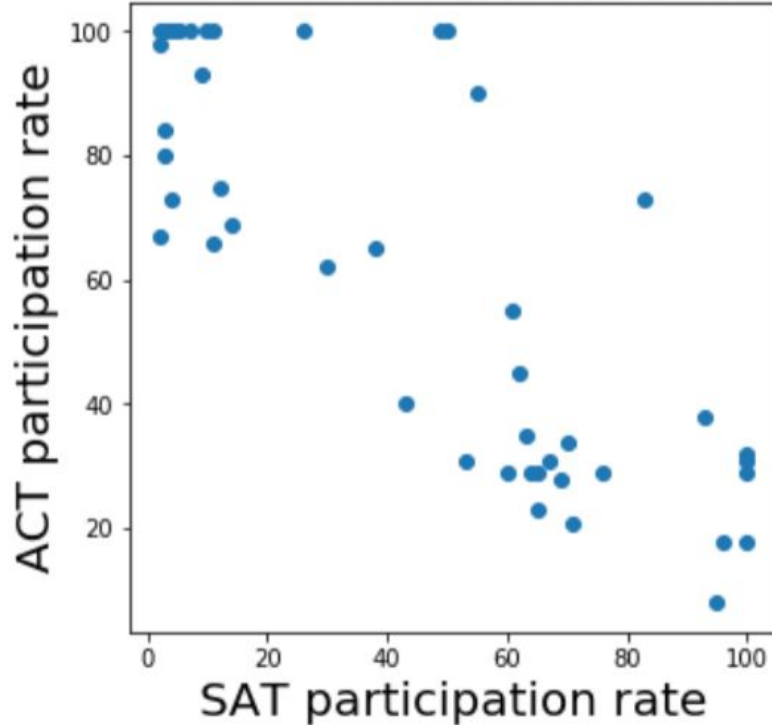
College Board would be interested to maintain that lead as it owns the test and identify factors to increase participation rates and a suitable state to implement them.

# SAT vs ACT participation rate

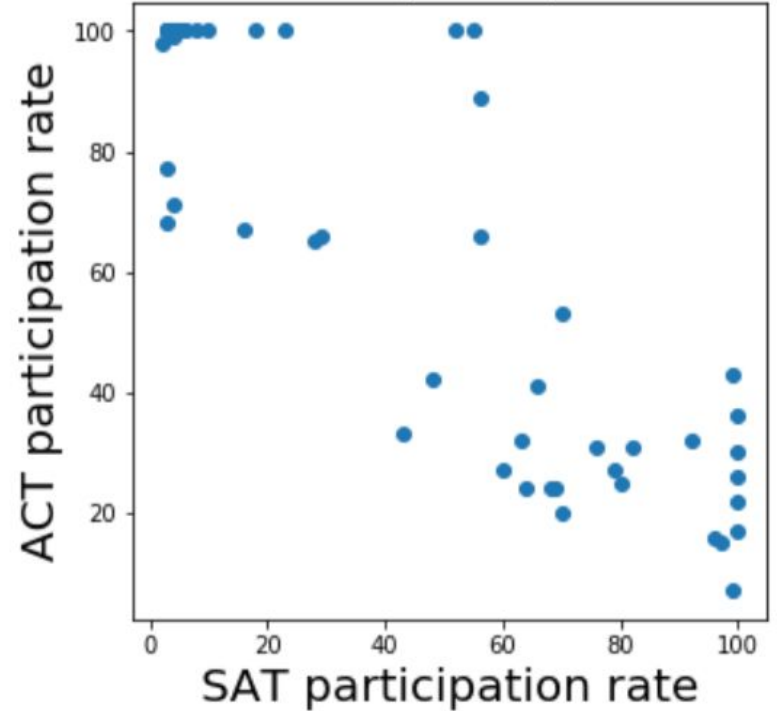


# SAT vs ACT participation rate

2017 SAT vs ACT participation rate



2018 SAT vs participation rate



# Interpretation

- No. of states with 100% participation rate in ACT tests > SATs
- No. of states with 0% participation rate in SAT tests > SATs
- The participation rates are negatively related

# Further Analysis

	state	participationpct_act_2017	participationpct_act_2018	participationpct_sat_2017	participationpct_sat_2018
0	Alabama	100.0	100.0	5.0	6.0
3	Arkansas	100.0	100.0	3.0	5.0
17	Kentucky	100.0	100.0	4.0	4.0
18	Louisiana	100.0	100.0	4.0	4.0
24	Mississippi	100.0	100.0	2.0	3.0
25	Missouri	100.0	100.0	3.0	4.0
26	Montana	100.0	100.0	10.0	10.0
28	Nevada	100.0	100.0	26.0	23.0
33	North Carolina	100.0	100.0	49.0	52.0
36	Oklahoma	100.0	100.0	7.0	8.0
40	South Carolina	100.0	100.0	50.0	55.0
42	Tennessee	100.0	100.0	5.0	6.0

Missouri, Tennessee and South Carolina were selected for further analysis as they have 100% ACT participation rates but ACT is not mandated.

Research shows its due to state policies such as funding to take the test or retake the test.

# Conclusions

Students mostly take either SAT or ACT.

Due to different policies by each state:

- Mandatory testing of only one test
- State fund for test taking

# Recommendation

	state	participationpct_act_2018	participationpct_sat_2018
1	Alaska	33.0	43.0
37	Oregon	42.0	48.0

Oregon selected : low ACT , low SAT participation, higher population

State does not mandate taking test and no funding provided

Actions College Board can take:

- Advocate State policy change- mandate test taking, state funding
- Increase spread of SAT Day program
- Fee Waivers
- Reduced fees



# Other considerations

- Total number of students are not provided therefore states with higher population could have a lower participation rate even though the same number of participants may have taken the test compared to another state with lower population.
- It does not indicate which are the states whereby these tests are compulsory (as the participation rates are different) which again will increase the number of participants and correspondingly, the participation rates.

# References

<https://blog.prepscholar.com/act-vs-sat>  
<https://bolt.mph.ufl.edu/6050-6052/unit-1/one-quantitative-variable-introduction/describing-distributions/>  
<https://www.roberthiles.com/stats/stddev.shtml>  
[http://sphweb.bumc.bu.edu/otlt/MPH-Modules/BS/BS704\\_Probability/BS704\\_Probability12.html](http://sphweb.bumc.bu.edu/otlt/MPH-Modules/BS/BS704_Probability/BS704_Probability12.html)  
<https://blog.prepscholar.com/which-states-require-the-act-full-list-and-advice>  
<https://blog.prepscholar.com/which-states-require-the-sat>  
<https://www.tn.gov/education/news/2018/10/31/tn-students-break-records-with-highest-ever-act-score-and-participation-rate.html>  
<https://dese.mo.gov/communications/news-releases/missouri-act-scores-released-class-2018>  
<https://www.thestate.com/news/politics-government/article236809728.html>  
<https://www.greenvilleonline.com/story/news/education/2019/09/24/sat-scores-drop-more-sc-students-take-sat-standardized-test/2427143001/>  
[https://www.washingtonpost.com/local/education/sat-scores-drop-for-2019-class-but-participation-rises-through-testing-in-schools/2019/09/23/332fc4d0-de11-11e9-8dc8-498eabc129a0\\_story.html](https://www.washingtonpost.com/local/education/sat-scores-drop-for-2019-class-but-participation-rises-through-testing-in-schools/2019/09/23/332fc4d0-de11-11e9-8dc8-498eabc129a0_story.html)  
<https://www.edweek.org/ew/articles/2018/10/31/sat-scores-rise-as-number-of-test-takers.html>  
<https://www.hanoverresearch.com/media/Best-Practices-to-Increase-SAT-Participation-1.pdf>  
<https://www.opb.org/news/article/oregon-high-school-state-tests/>  
<https://www.oregonlive.com/education/2020/03/oregons-public-universities-wont-ask-for-sat-scores-in-college-applications-anymore.html>