



**SAT<sup>®</sup>**

# To SAT or not to SAT

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# Problem Statement

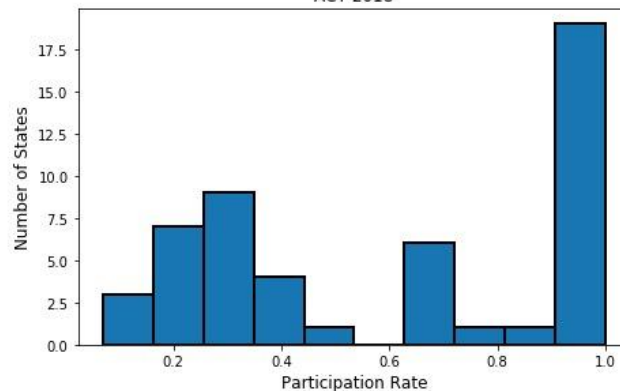
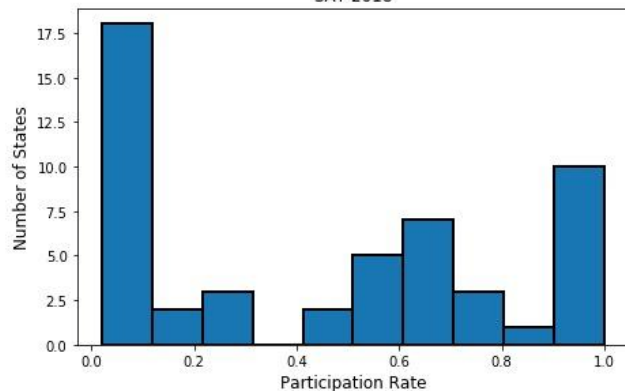
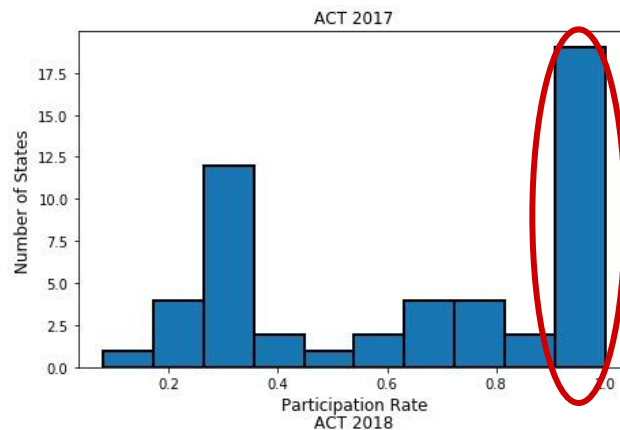
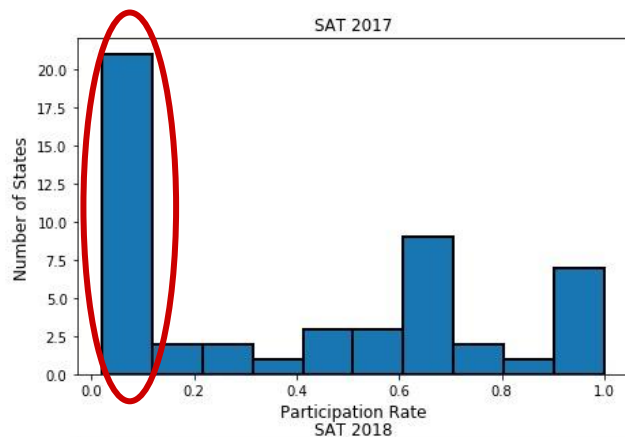
SAT and ACT are standardised tests used for college admission into US universities. ACT tests historically had higher participation rates till recently when SAT participation rates beat ACT's rates.

College Board is interested to maintain that lead and identify factors to **increase participation rates** and a suitable **state** to implement them.

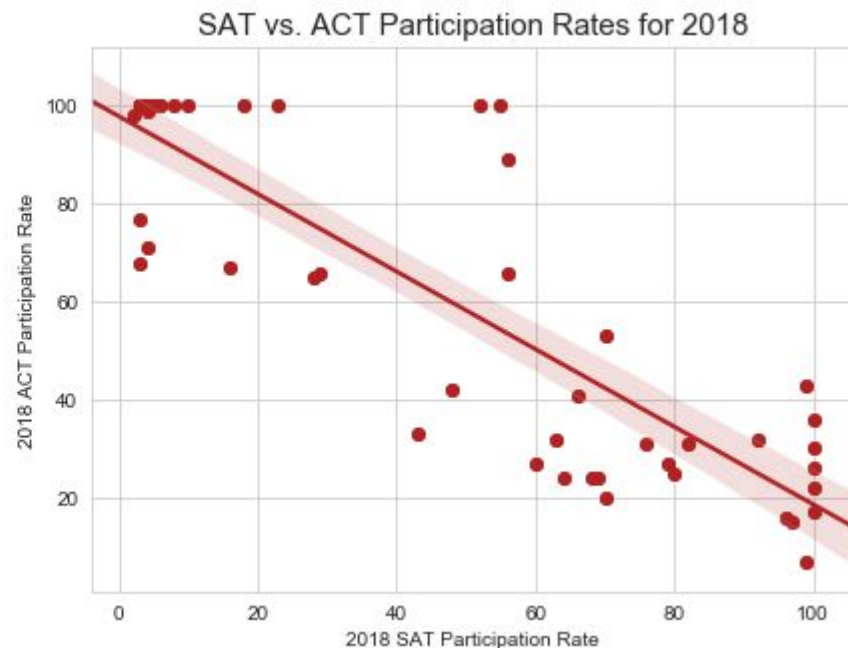
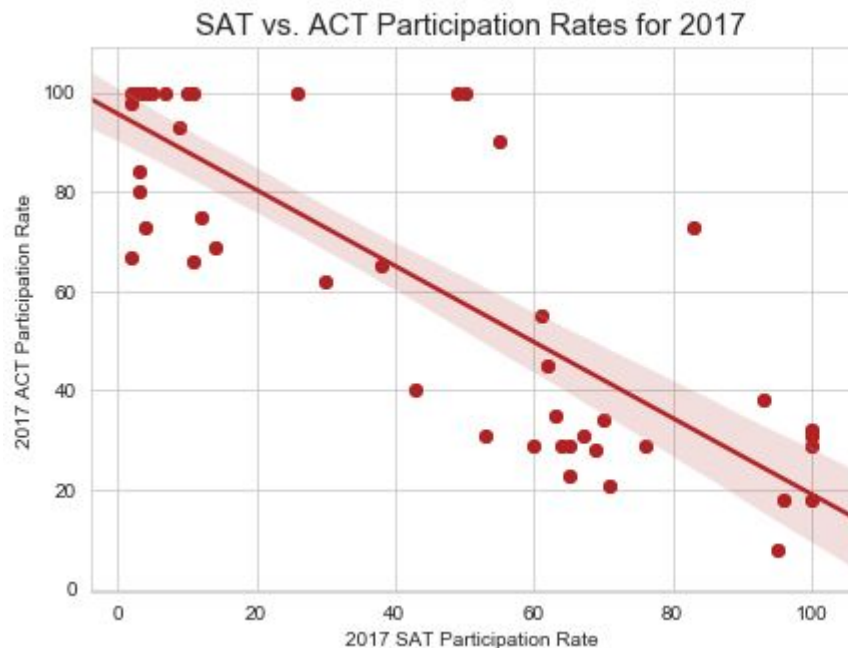
# Contents

- Exploratory Data Analysis
  - Participation Rates
  - Test Scores
- Conclusion
- Recommendations

## Low SAT participation rate is mirrored by high ACT participation rate

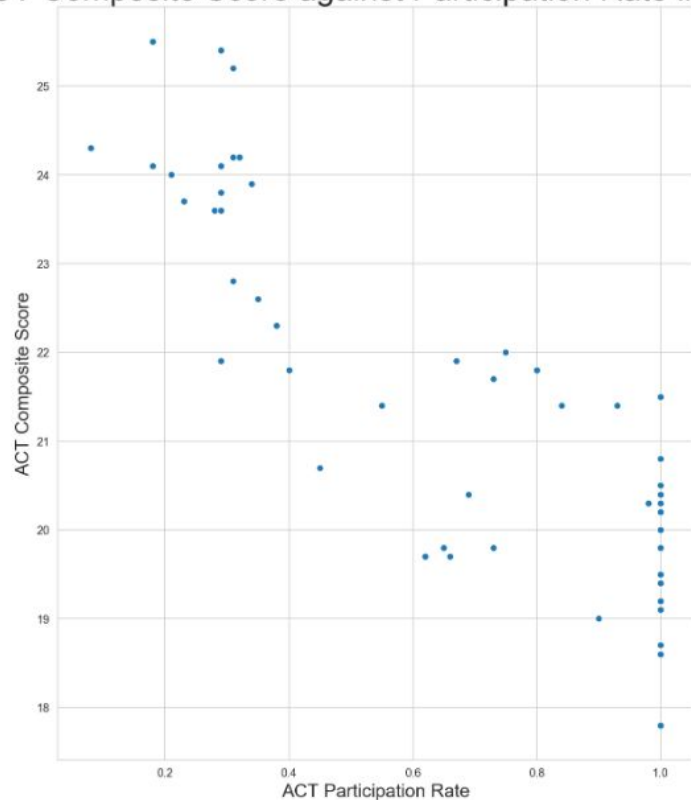


## Inverse relationship between SAT and ACT participation rates due to the mandatory testing requirements of each state

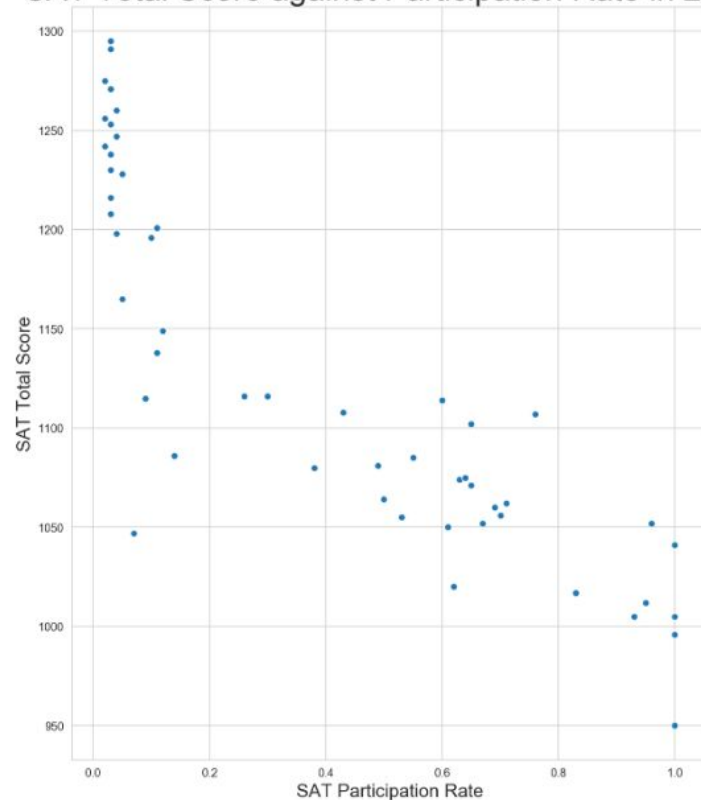


# Selection bias drives the inverse relationship between scores and participation rates

ACT Composite Score against Participation Rate in 2017

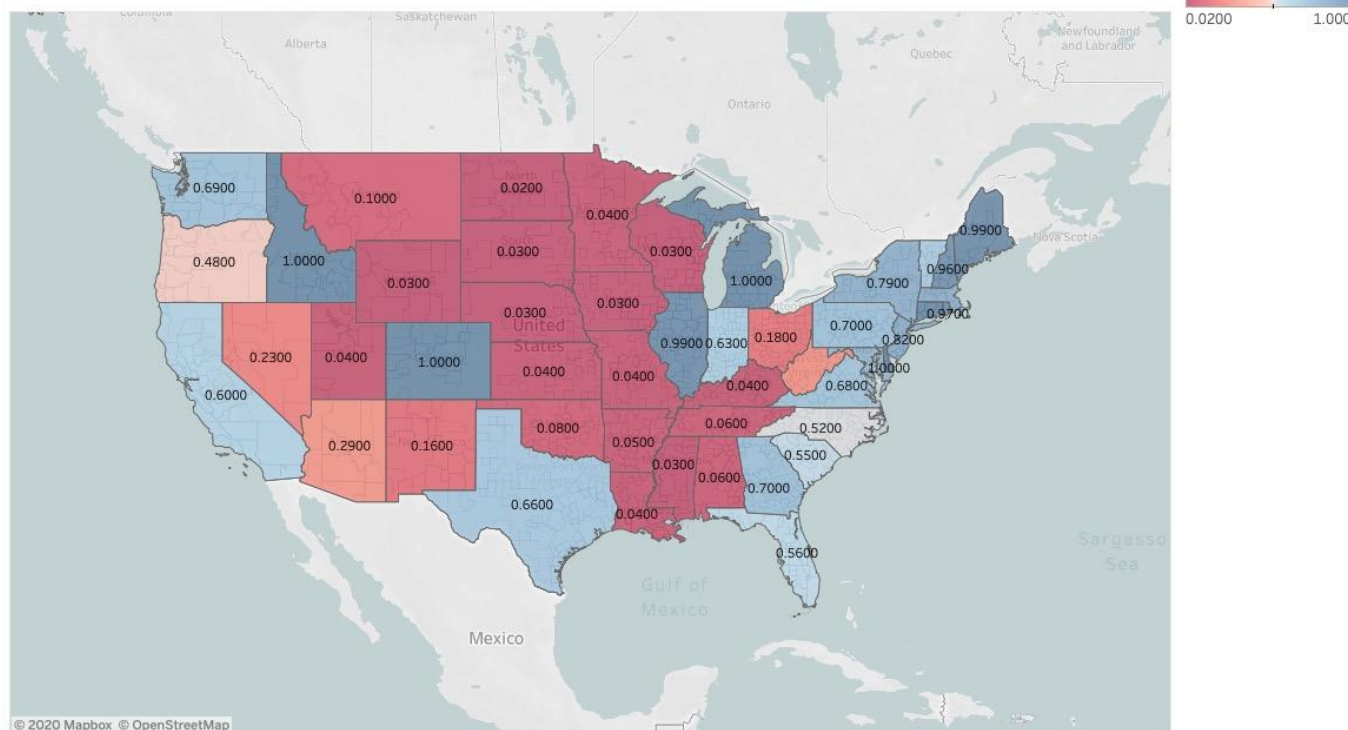


SAT Total Score against Participation Rate in 2017



# The coastal regions have a higher SAT participation rate

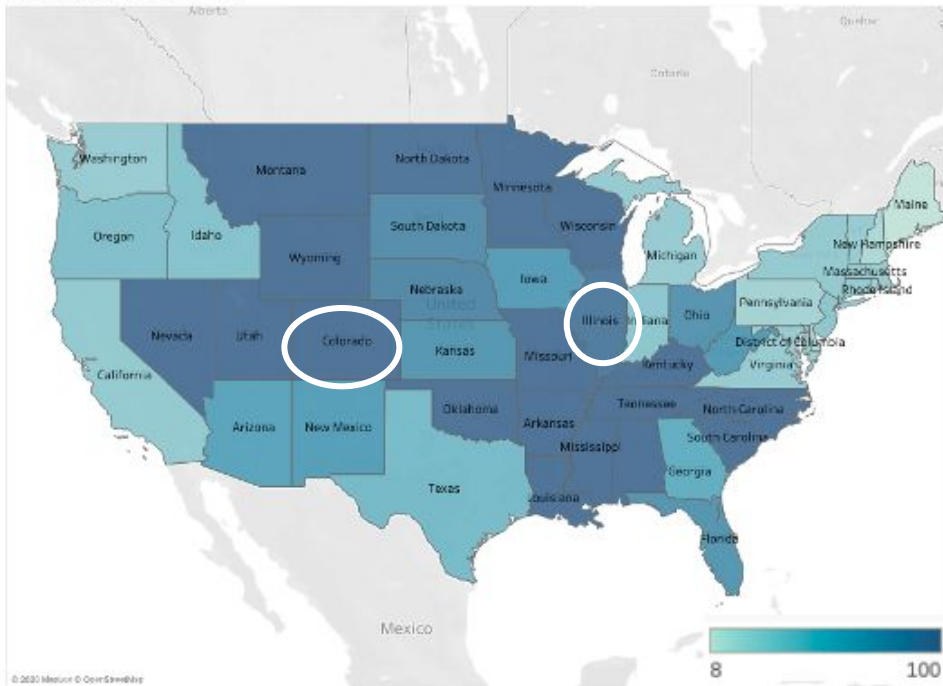
SAT vs ACT 2018



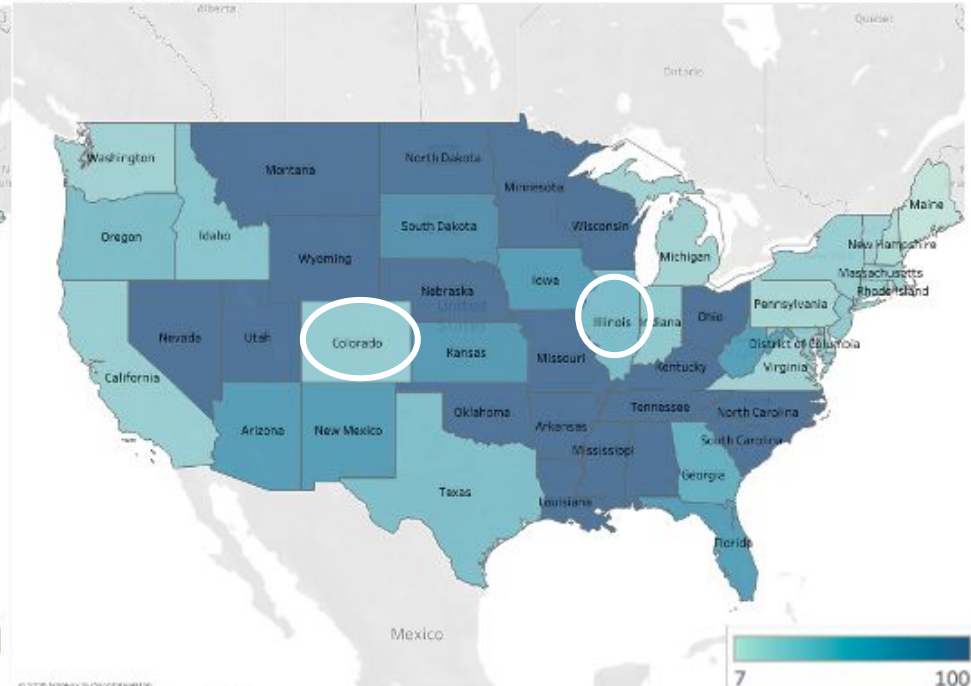
This map shows the participation rates of SAT vs ACT in 2018. Blue indicates a higher participation rate for SAT vs red for higher participation rate for ACT. Details are shown

# Colorado's and Illinois' ACT participation fell in 2018

ACT Participation 2017



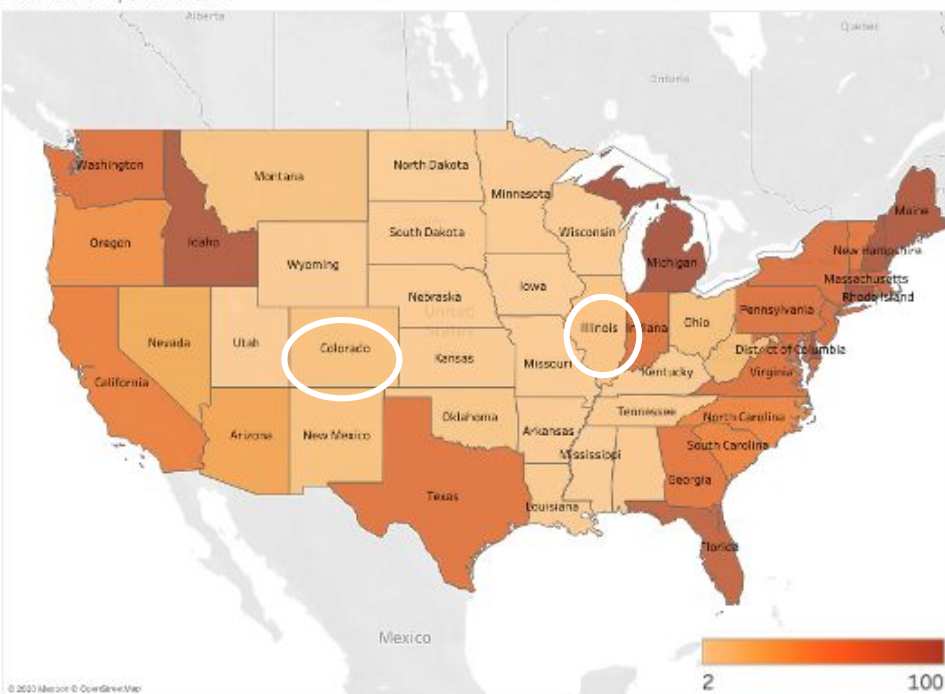
ACT Participation 2018



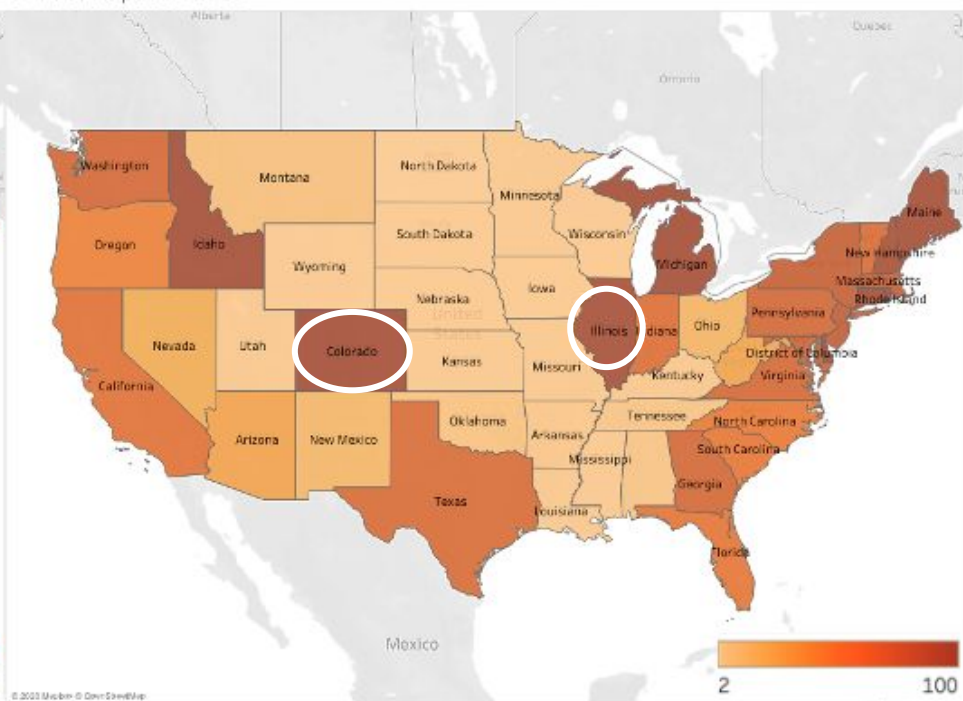


# Colorado's and Illinois' SAT participation rose in 2018

SAT Participation 2017

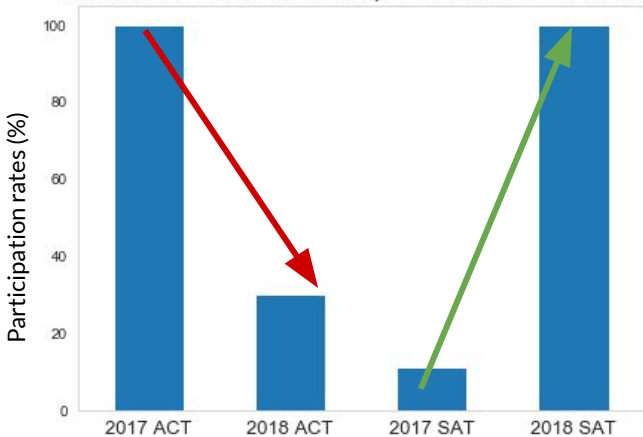


SAT Participation 2018

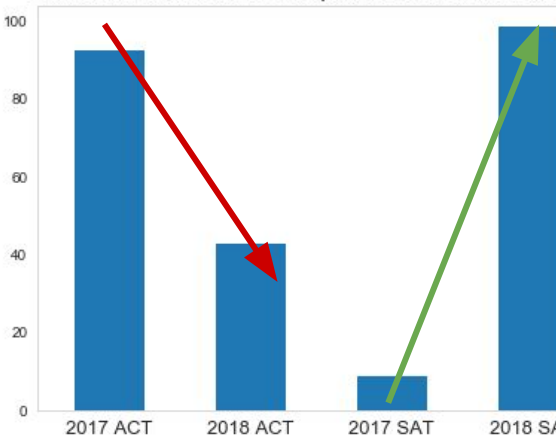


# Mandatory, state-funded testing is a strong determinant in a test's participation rate

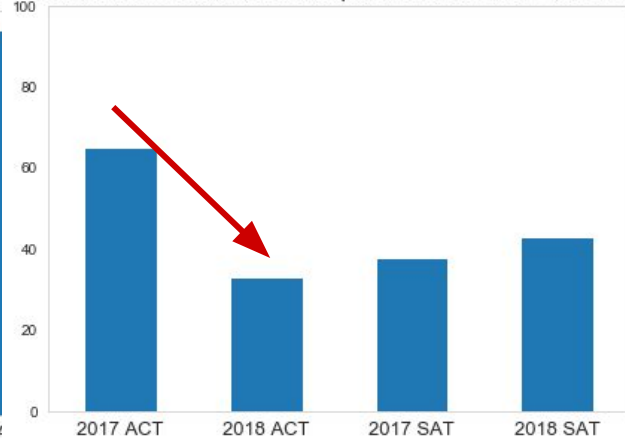
Colorado's ACT and SAT Participation Rates in 2017 vs 2018



Illinois's ACT and SAT Participation Rates in 2017 vs 2018



Alaska's ACT and SAT Participation Rates in 2017 vs 2018



# Conclusion

Negative correlation between SAT and ACT .

Due to different policies by each state:

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

# Recommendation

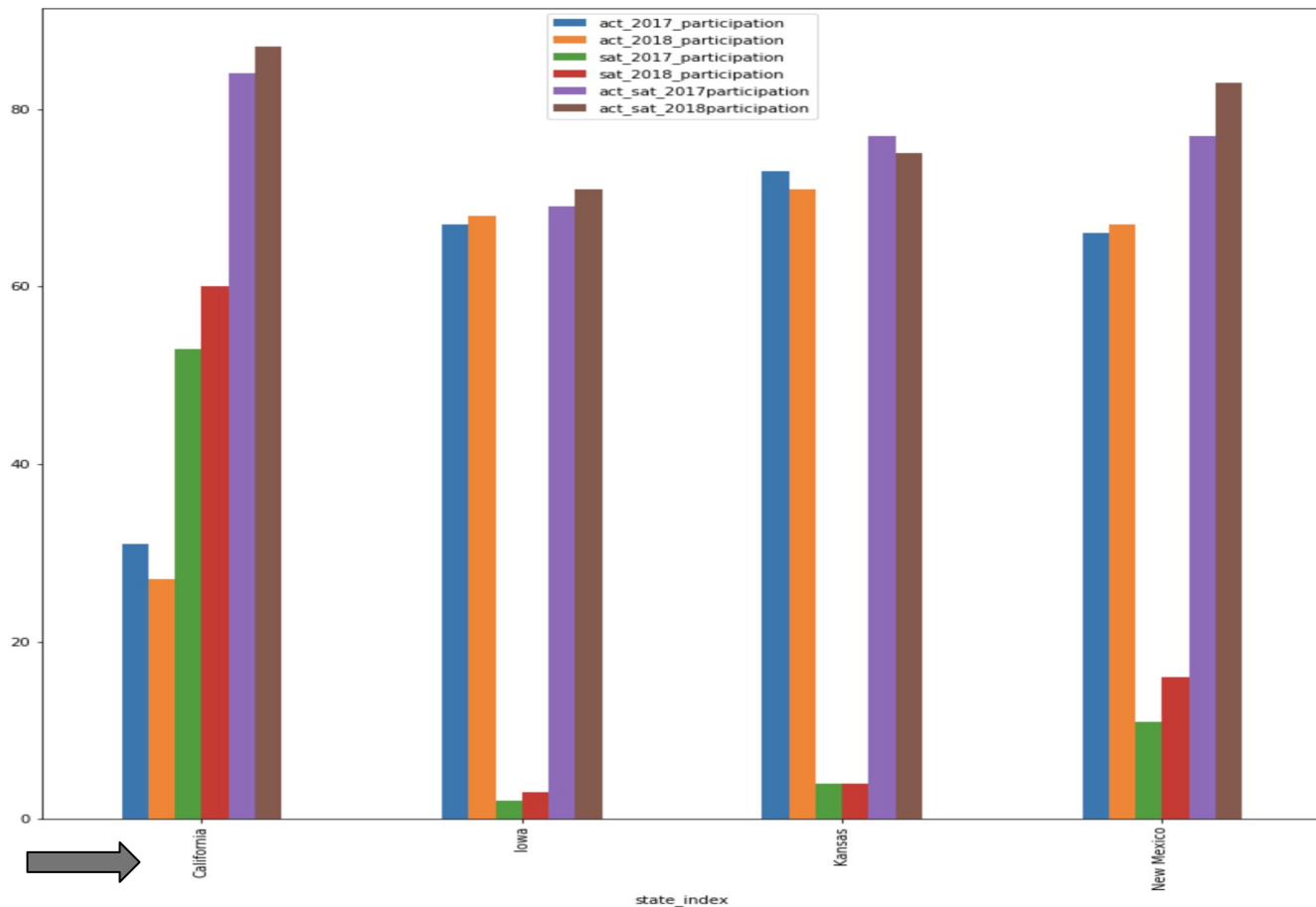
State Selection criteria: Participation rate of both SATs and ACTs with less than 100%

Examples: Colorado, Alaska, California , Illinois

Actions to take:

- State policy change- mandate test taking, state funding
- SAT Day
- Fee Waivers
- Reduced fees
- Free SAT preparation course online via Khan Academy
- Align SAT tests to Common Core standards
- Marketing

# State for consideration, California!



In California, 60% of the graduating class took the SAT as compared to 27% who took the ACT, combining for a total of 87% participation. That equates to about 850,000 students not covered by either the ACT or SAT test in California based on National Center for Education Statistics for Enrollment in public schools.

# 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.

# Bibliography

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<https://www.adn.com/alaska-news/education/2016/06/30/students-no-longer-need-national-tests-to-graduate/>

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<https://blog.prepscholar.com/which-states-require-the-sat>

<https://magoosh.com/hs/act/2017/states-that-require-the-act-or-sat/>

# Appendix



# Notes

Will: Good point on how mid-land states like carolina, tennessee had participation rate of 1.00 despite having no mandate

Tennessee offering a free retest of ACT, making the test participation easier than SAT?

<https://www.commercialappeal.com/story/news/education/2017/07/06/tennessee-offer-free-act-retake-all-high-school-seniors-fall/455619001/>

[https://www.ecs.org/wp-content/uploads/State-Information-Request\\_Use-of-ACT-SAT-and-PSAT-for-High-School-Testing-as-Required-by-ESSA.pdf](https://www.ecs.org/wp-content/uploads/State-Information-Request_Use-of-ACT-SAT-and-PSAT-for-High-School-Testing-as-Required-by-ESSA.pdf)