

PROJECT 1: SAT & ACT Analysis

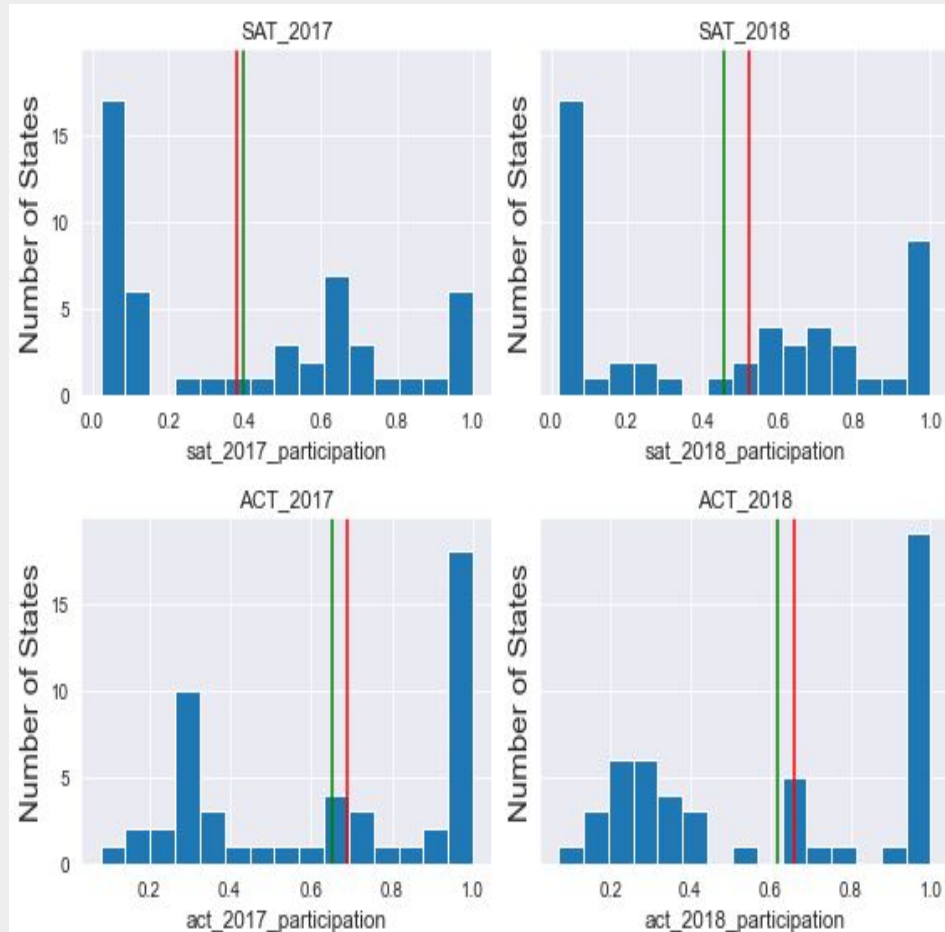
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PROBLEM STATEMENT

What actions to be taken in order to increase the participation rate of SAT Test among the high school students?

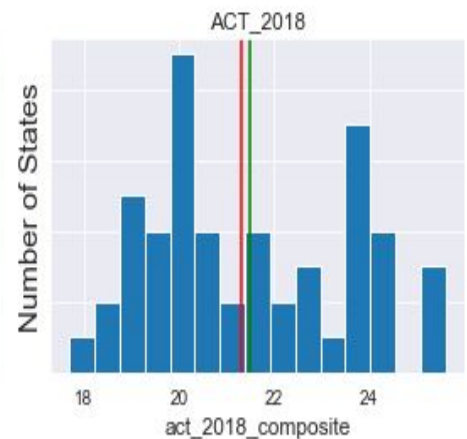
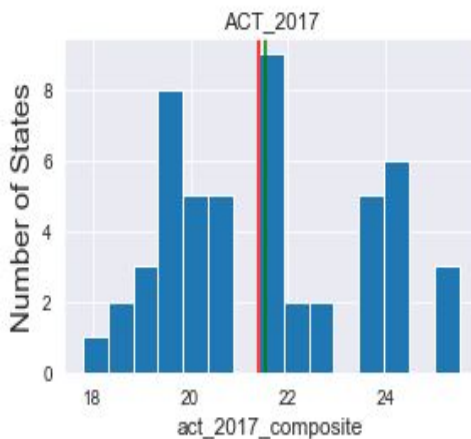
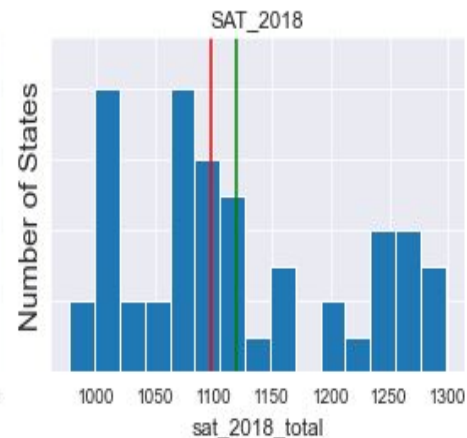
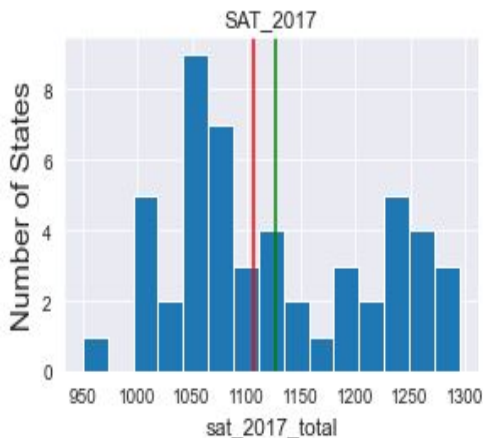
PARTICIPATION RATES

- Participation rates vary across states with participation rates reaching very low (below 10%) and very high (100%)
- SAT participation rate is low and ACT participation rate is high as 18 states requires ACT compared to SAT(11 states)^[1]
- However SAT participation can be seen having a spike on the right side with 90-100% due to growing popularity in recent years.



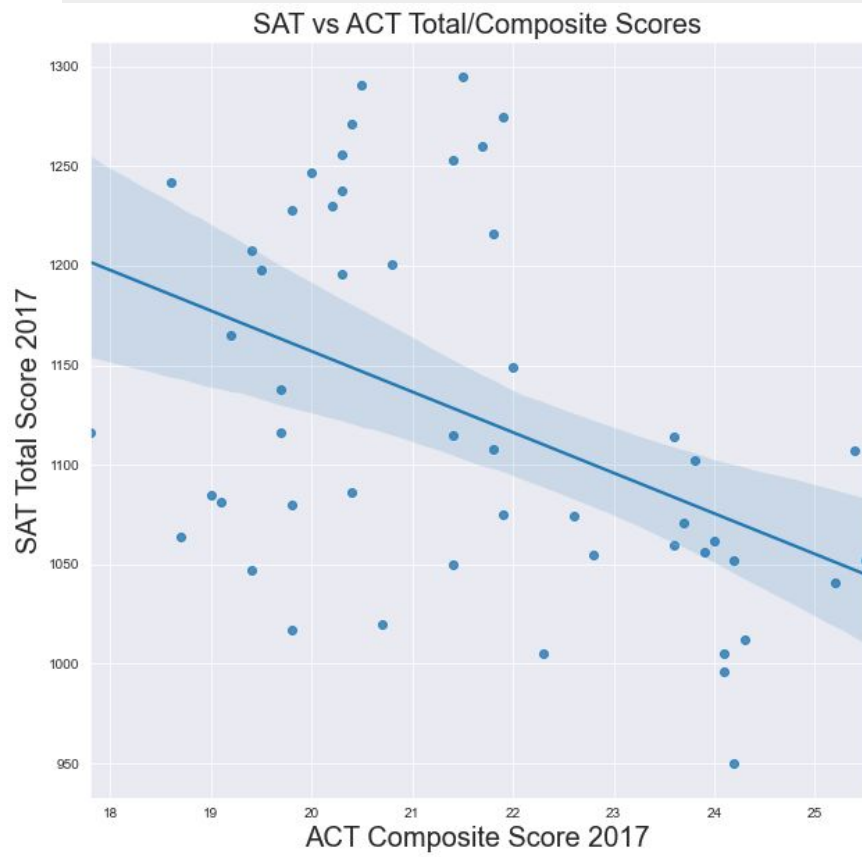
TEST SCORES

- SAT and ACT test scores almost remained the same in both years.



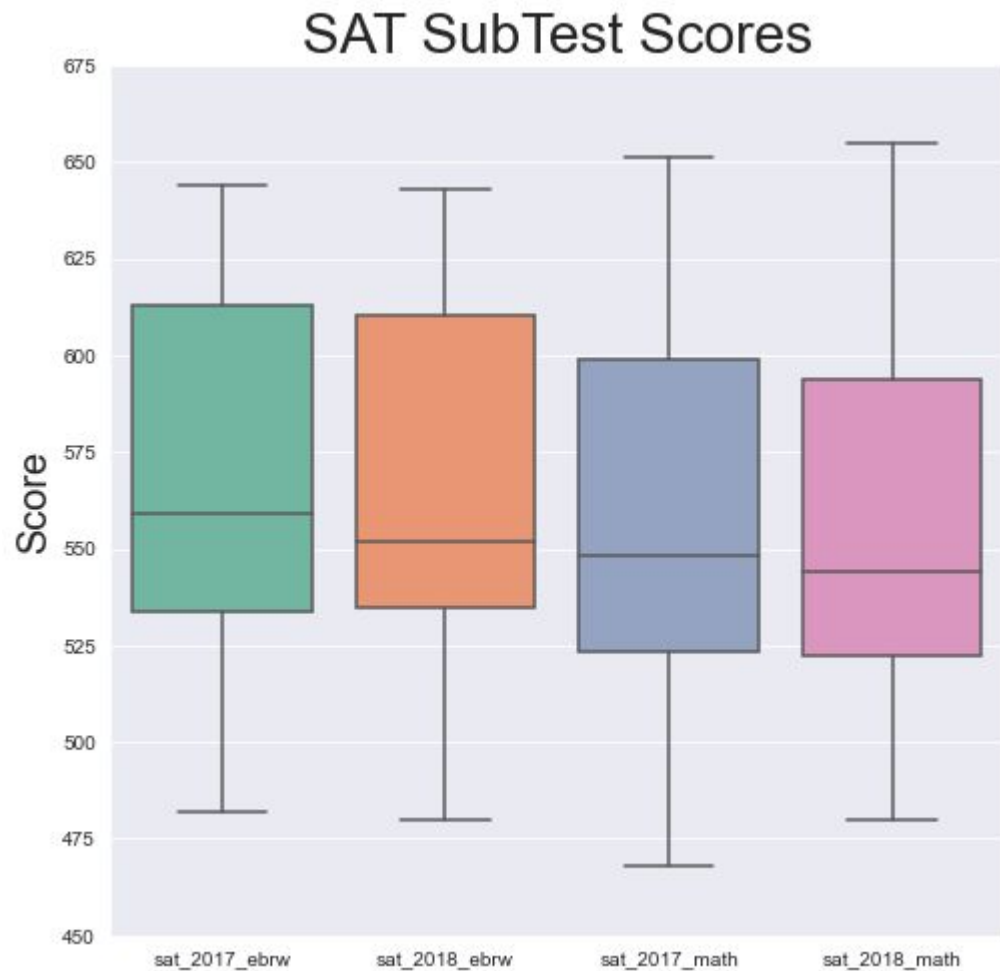
TEST SCORES

- There is an inverse relationship between SAT and ACT scores.
- Higher the score for one test in a state, lower is the score for the other test.
- This relationship can be seen in the downward line of the regression line on the scatterplot showing the average SAT and ACT test scores for 2017.



SAT SUBTEST SCORES

- SAT subtest scores for Reading and Math fairly remained the same for both years whereas students outperformed in reading than math.
- However the maximum Math scores in both years is greater than those of EBRW.
- It also shows slight reduction of mean in 2018 Math because of increased participation rate.



SAT AND ACT REGULATIONS

- Each state treats SAT and ACT differently. Some requires mandatory SAT, some ACT and some neither.
- 16 states provide ACT for free or reduced fees.
- 8 states provide SAT for free or reduced cost.
- 14 states require mandatory ACT score
- 9 states require mandatory SAT score
- 3 states require either SAT or ACT
- Therefore analyse the remaining states and target the state for increased participation.

STATES WITH HIGH PARTICIPATION RATES

- Illinois, Colorado and Rhode Island saw significant increase in their SAT scores and reduction in their ACT
- Illinois SAT participation rate increased from 9% to 99% and Colorado increased from 11% to 100%. Their ACT percentages reduced by almost 50% from 93% to 43% for Illinois and from 100% to 30% for Colorado.
- Whereas Rhode Island's SAT participation rate increased from 71% to 97% and ACT reduced from 21% to 15%.

OBSERVATIONS

- Illinois recently began offering the SAT to all juniors in public high schools. As a result, SAT usage in that state spiked by 90%^[3].
- SAT usage also spiked in Colorado because of a contract with the College board which resulted in almost 89% spike in participation rate. SAT/PSAT are required tests for high school students in Colorado^[4].
- Rhode Island saw an increase from 71% to 97 % in SAT participation rate. In 2018, the SATs and PSATs became a graduation requirement, part of the state's federal education plan in Rhode Island. Rhode Island is one of the 10 states to give SAT to students for free^[5].

RECOMMENDATIONS

SAT PARTICIPATION TARGET CALIFORNIA

- Highly populated state in U.S
- No mandatory test^[2].
- California had 7% increase in SAT participation rate in 2018 and 4% decrease in ACT participation.
- From these observations it is recommended that efforts need taken to increase participation rate of California.

STRATEGY

1. Engage with State Government or Local resources

- SAT can be offered for free or for reduced price than other tests.
- Efforts can be made to provide readily available free resources to encourage more students to participate.

2. Invest in Marketing efforts

- Since students are offered to choose from one of three tests, potential customers can be reached effectively

References

1. <https://magoosh.com/hs/sat/states-that-require-the-act-or-sat/>
2. <https://edsource.org/2018/californias-sat-scores-rise-beat-national-averages/603943>
3. <https://www.washingtonpost.com/education/2018/10/23/sat-reclaims-title-most-widely-used-college-admission-test/>
4. <https://www.denverpost.com/2017/03/06/colorado-juniors-sat-college-exam/>
5. <https://www.providencejournal.com/news/20181025/with-sat-required-ri-sees-jump-in-participation-decline-in-scores>