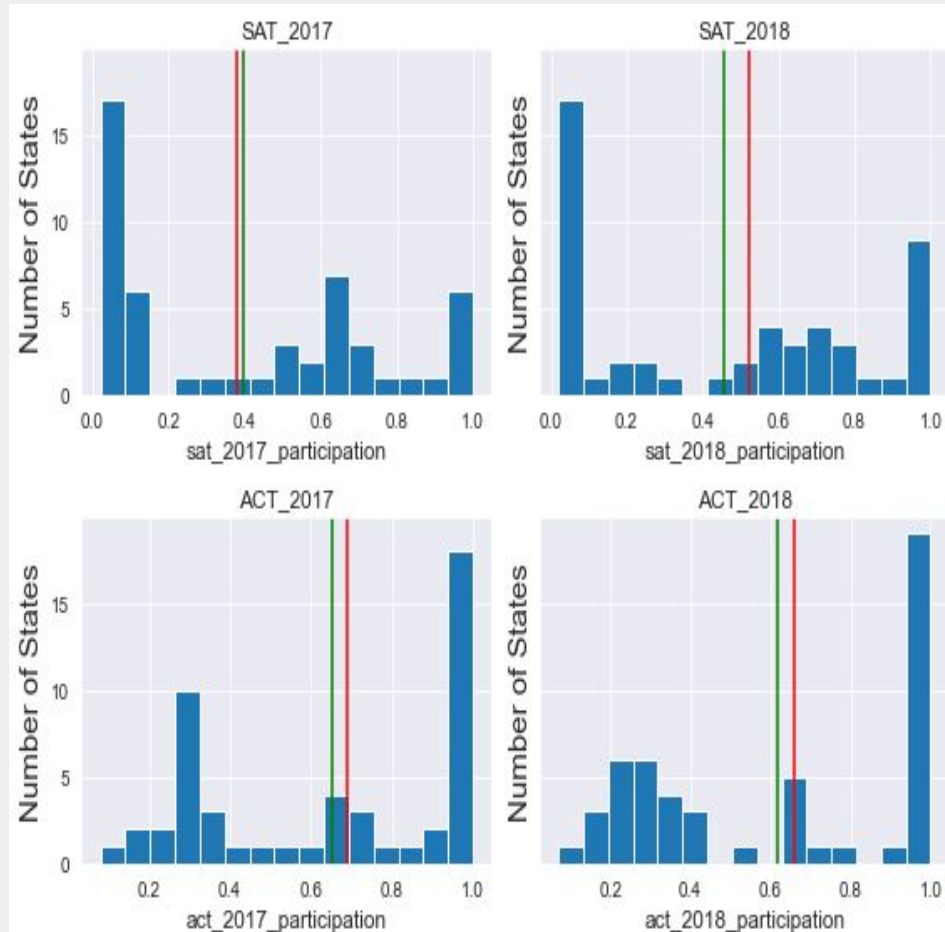# PROJECT 1: SAT & ACT Analysis

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DSI-20

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.
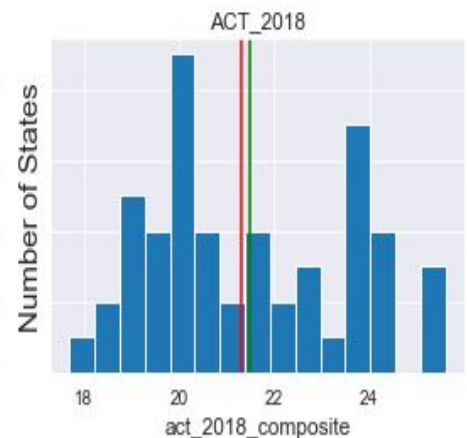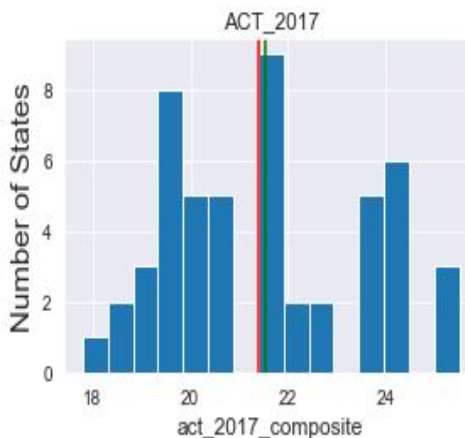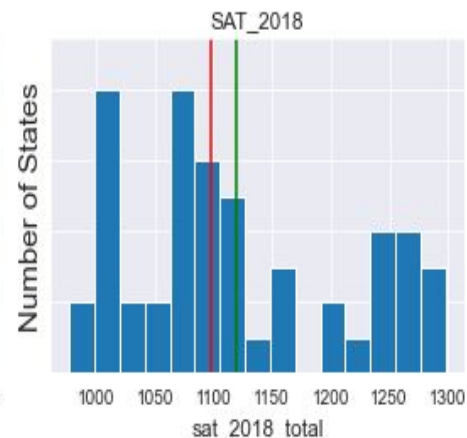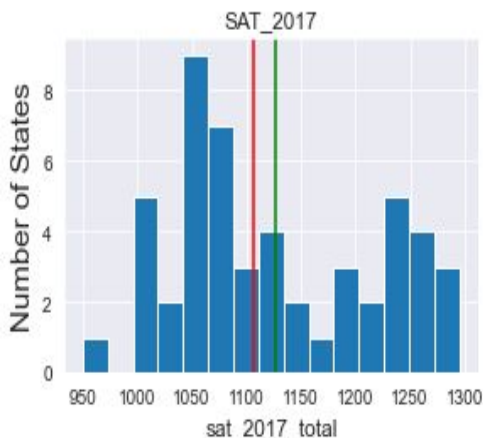
PROBLEM STATEMENT

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

TEST SCORES

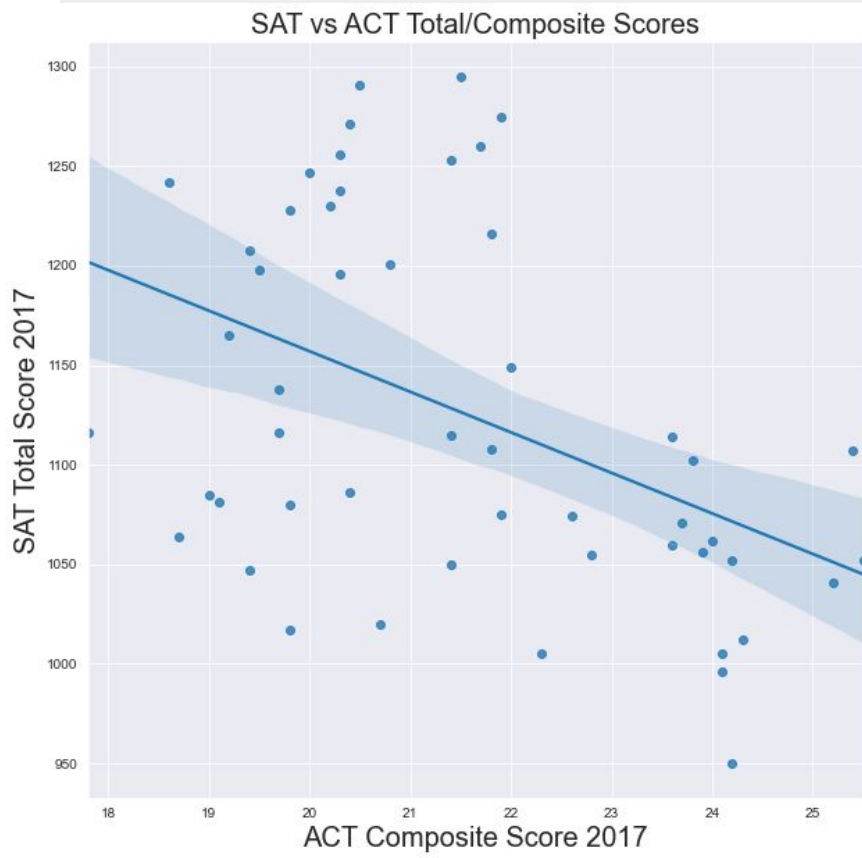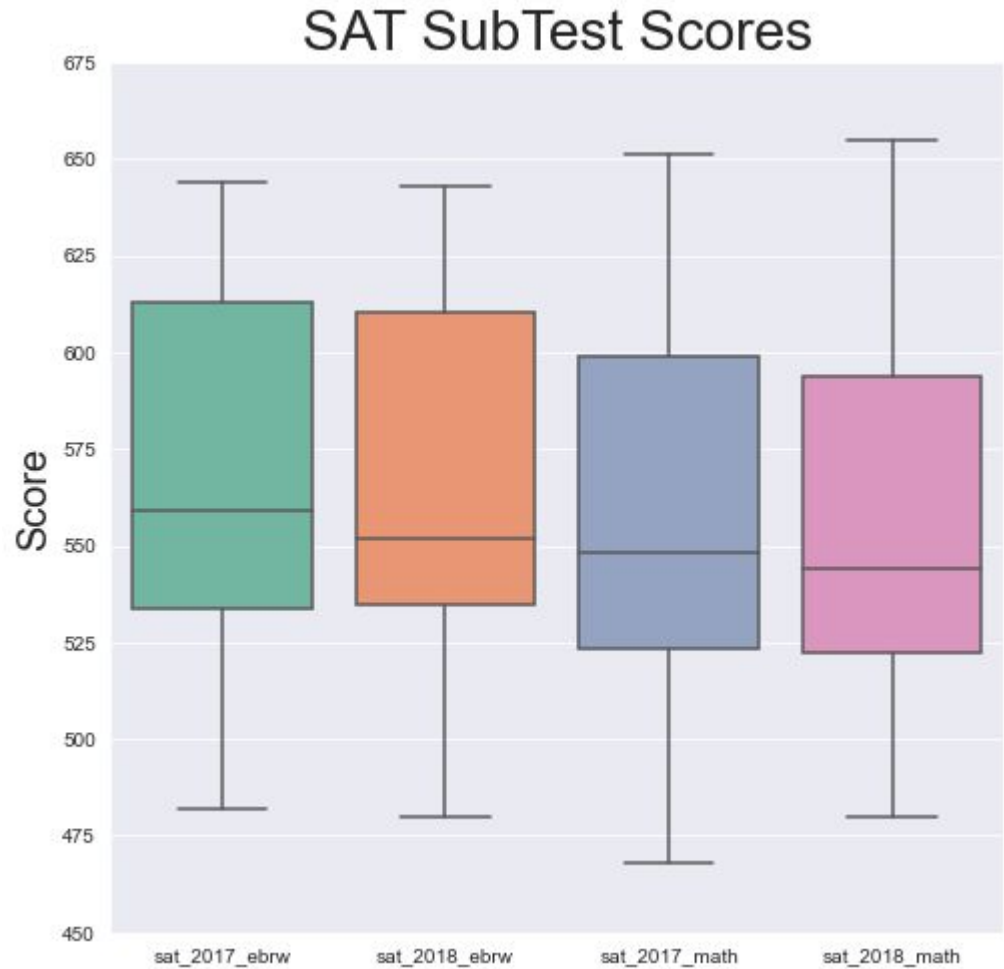- SAT and ACT test scores almost remained the same in both years.

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 vs ACT Total/Composite Scores

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 SubTest Scores

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

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