

Project 1: SAT & ACT Analysis

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Problem Statement

- New SAT format beginning 2016
- Observed changes in SAT/ACT participation
- Any benefits in the change?

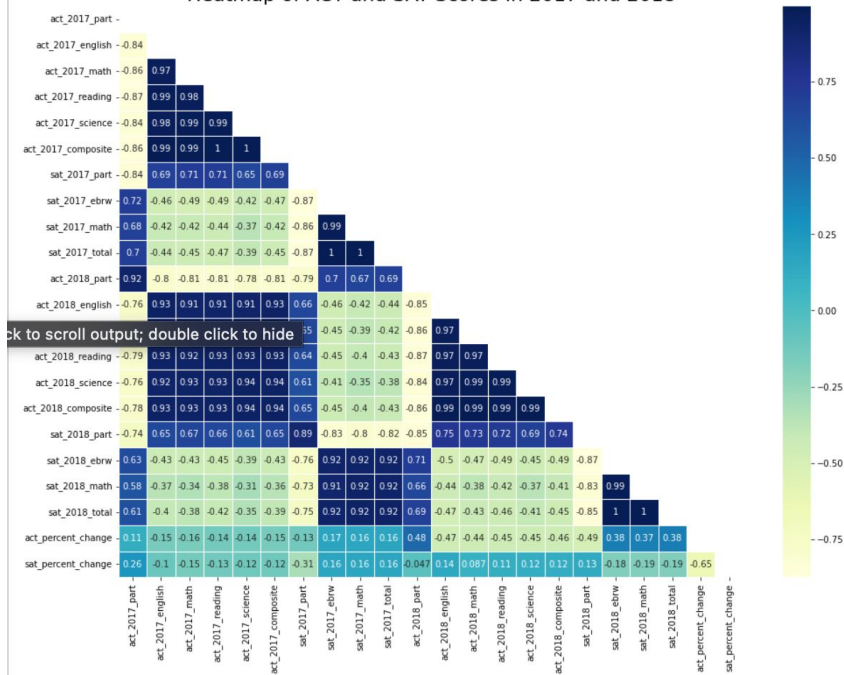
Additional Research

Additional research was conducted in order to double check the accuracy of the data given and append existing data

- Comprehensive 2017/2018 SAT scores: https://nces.ed.gov/programs/digest/d19/tables/dt19_226.40.asp
- Comprehensive 2018 ACT scores: https://nces.ed.gov/programs/digest/d18/tables/dt18_226.60.asp

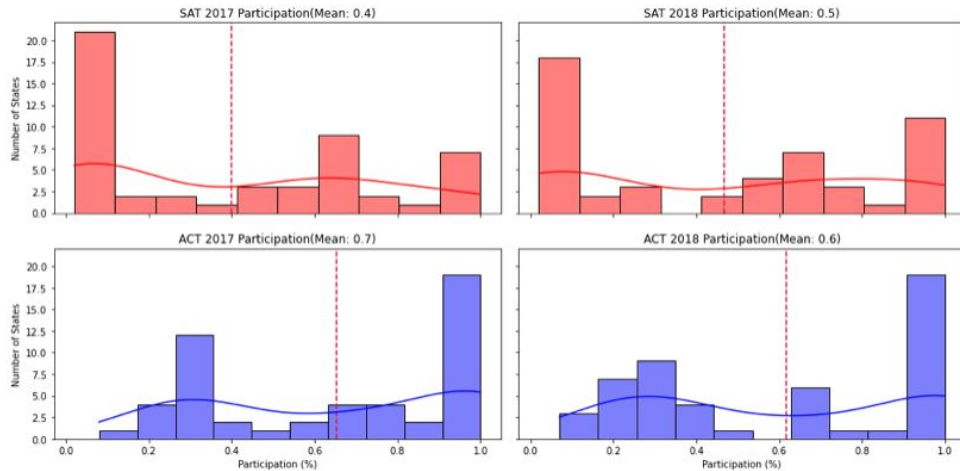
Heatmap

Heatmap of ACT and SAT Scores in 2017 and 2018



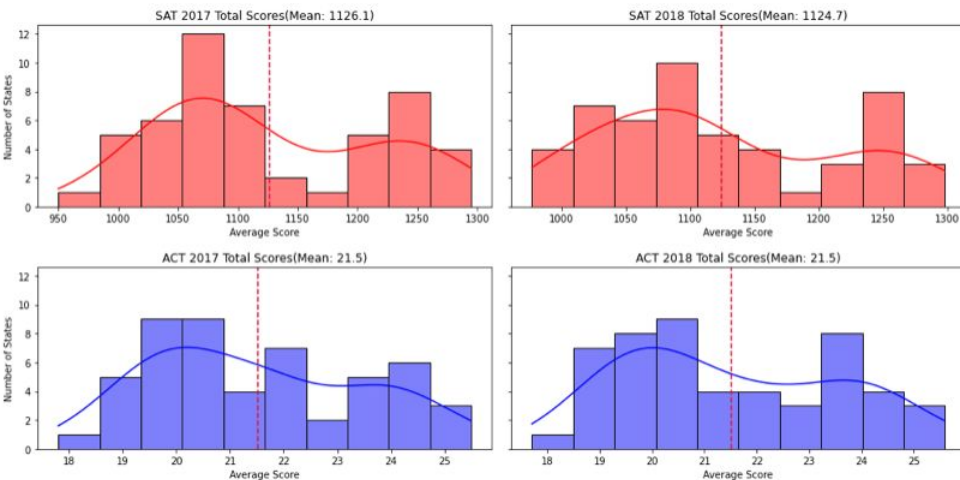
- Strong negative correlation of participation rate and scores for both tests
- Strong positive correlation between scores in 2017 and 2018
- Negative correlation between participation of one test compared to the other

SAT Participation in 2017/2018



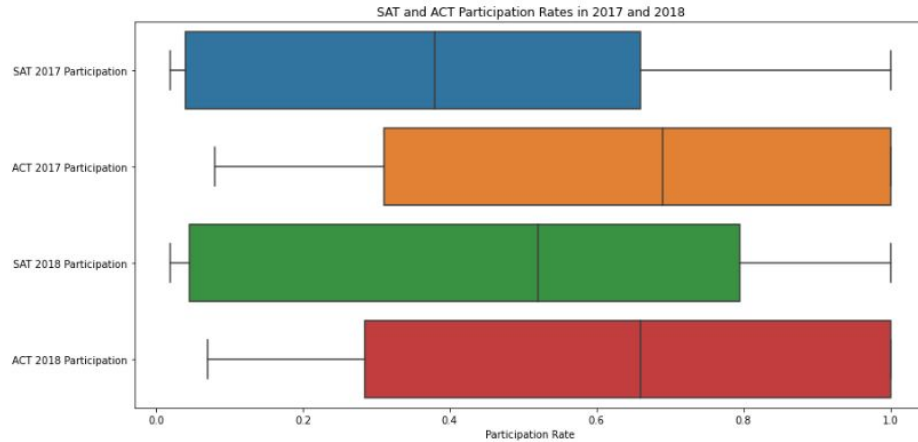
- Large amount of states have low participation with the SAT
- ACT has many states with high participation rate

ACT/SAT Total Scores



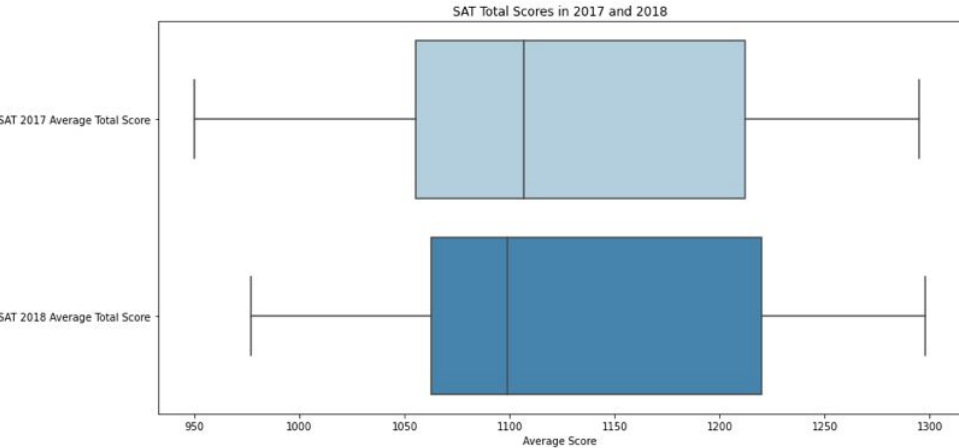
- SAT reflects bimodal distribution
- SAT mean 1126.1 → 1124.7
 - 1.4 point decrease
- ACT mean 21.5 → 21.5
 - No change

Boxplot: Participation



- ACT has a higher median for both years
- The median for the SAT increased from 2017 to 2018 while the ACT median decreased
 - Could mean that the SAT participation rate is increasing

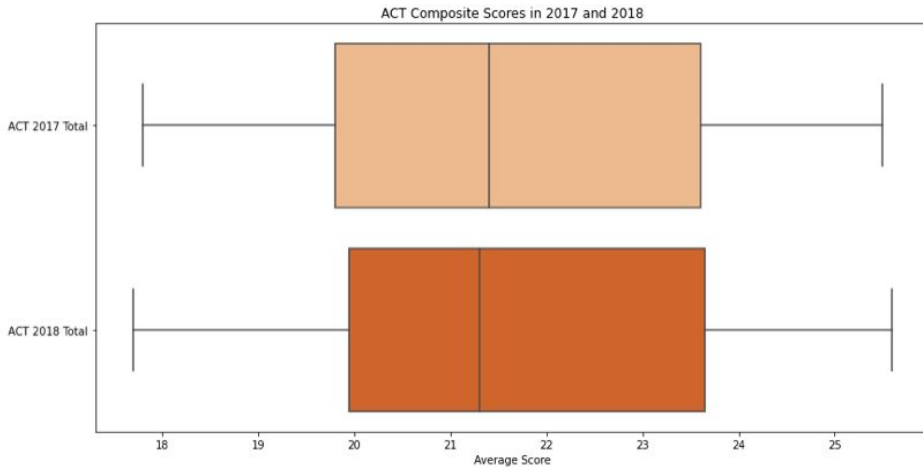
Boxplot: SAT Total Score



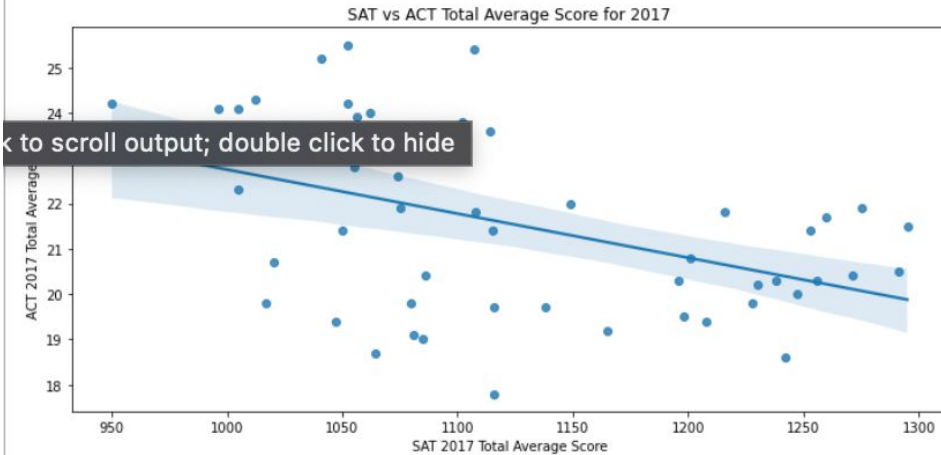
- There is a median decrease in SAT score from 2017 to 2018
 - No statistical significance

Boxplot: ACT Composite Scores

- Similar trend to the SAT



Scatterplot: Total Score



- Negative correlation between the scores between ACT and SAT
 - Difficult to perform well in both tests
 - State's curriculum lacks support for both tests

Conclusions

- Slight increase in SAT participation from 2017 to 2018
- Slight decrease in SAT performance from 2017 to 2018
 - Could be due to sudden change in test format
- No significant change in ACT

Recommendations

- Observe states that have made the switch for couple more years before making any drastic changes
 - No significant change in scores
- If the new analysis shows increase in scores relative to ACT and is safe to conclude change was beneficial, we would recommend to more states to transition to the SAT

Recommendations

- Push against standardized testing
 - Questions its effectiveness in predicting success in higher education
- Conduct additional research that ties SAT/ACT with success
- Could consider other forms of testing that better caters to each student
 - Portfolio-based assessment