

SAT PARTICIPATION

2017-2018

KEY STATS FOR 2017:

Participation rate across the country : **39.8%**

States with full participation:

1. District of Columbia
2. Michigan
3. Conneticut
4. Delaware

KEY STATS FOR 2018:

Participation rate across the country : 45.75% ▲

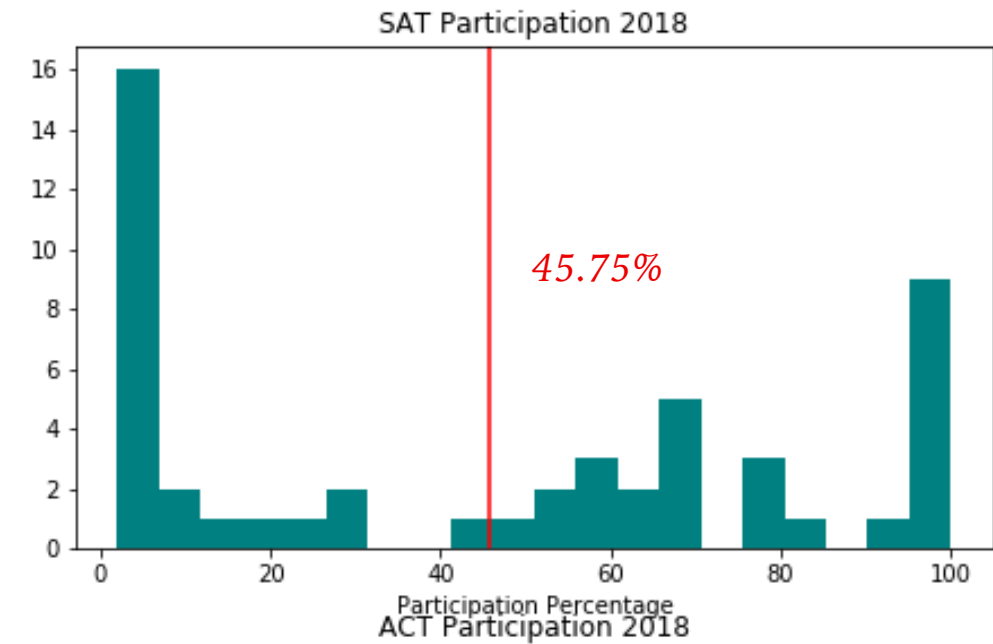
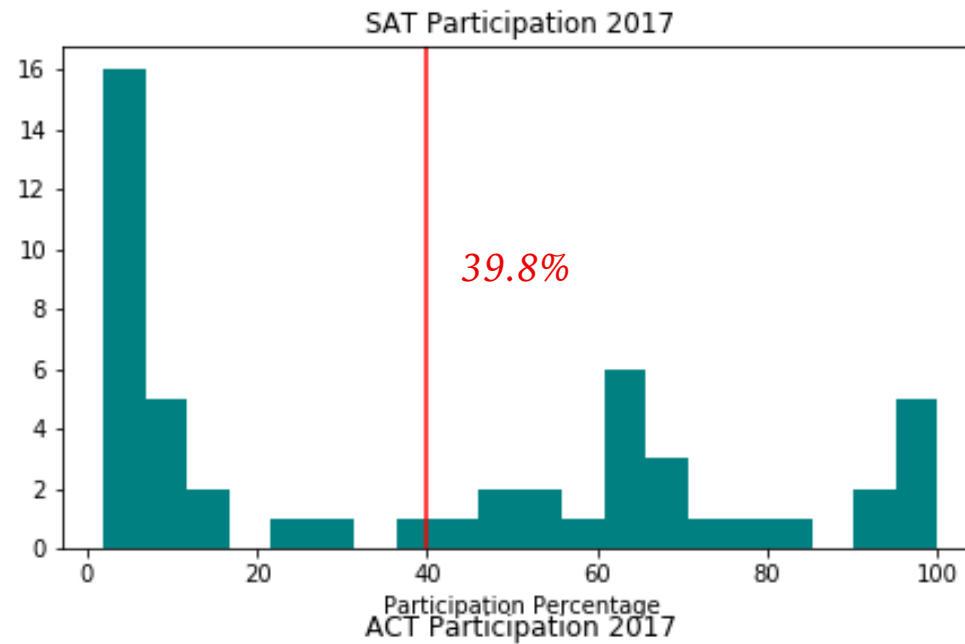
States with full participation:

1. Colorado
2. Idaho
3. Michigan
4. Conneticut
5. Delaware

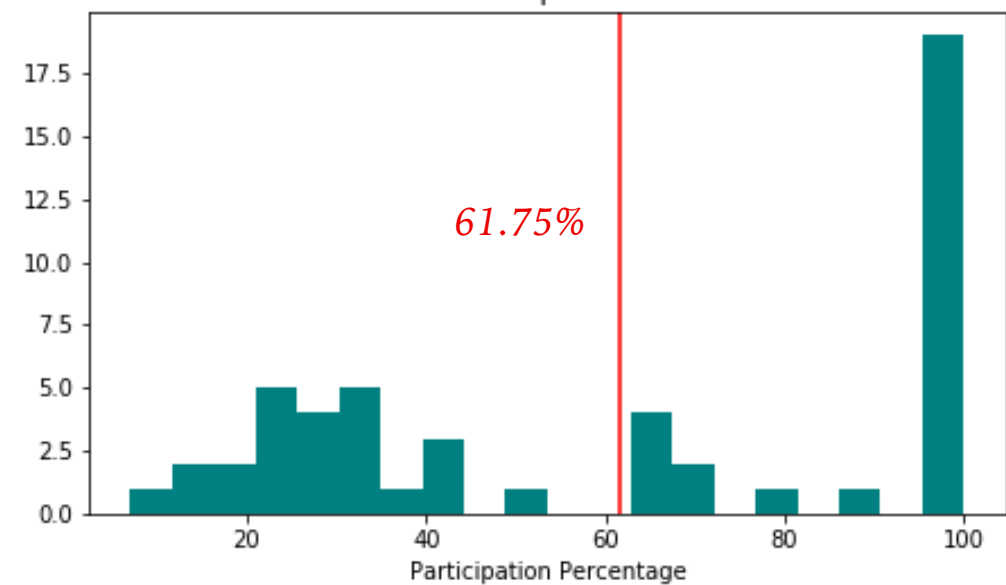
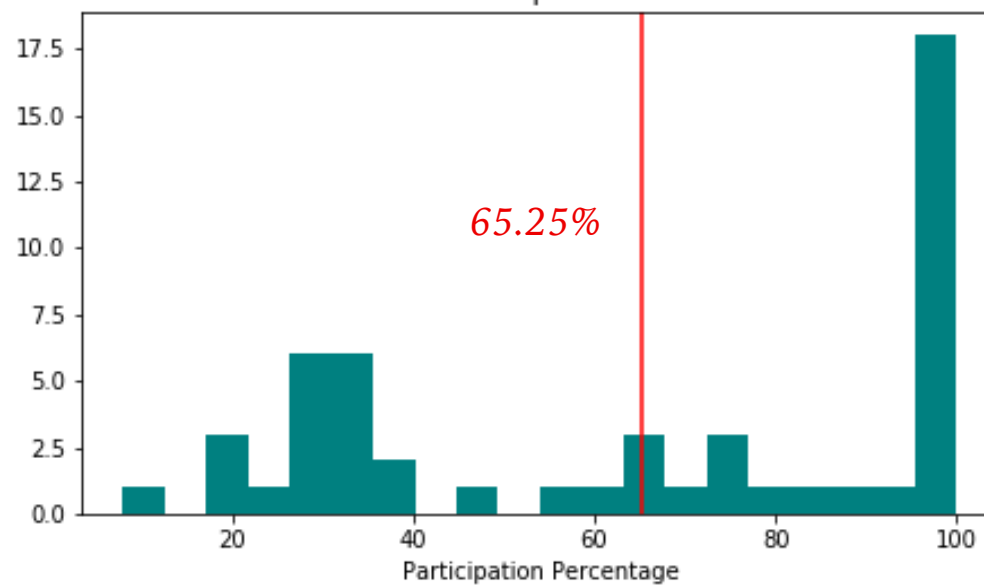
MEASURING AGAINST THE COMPETITION: ACT

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SAT

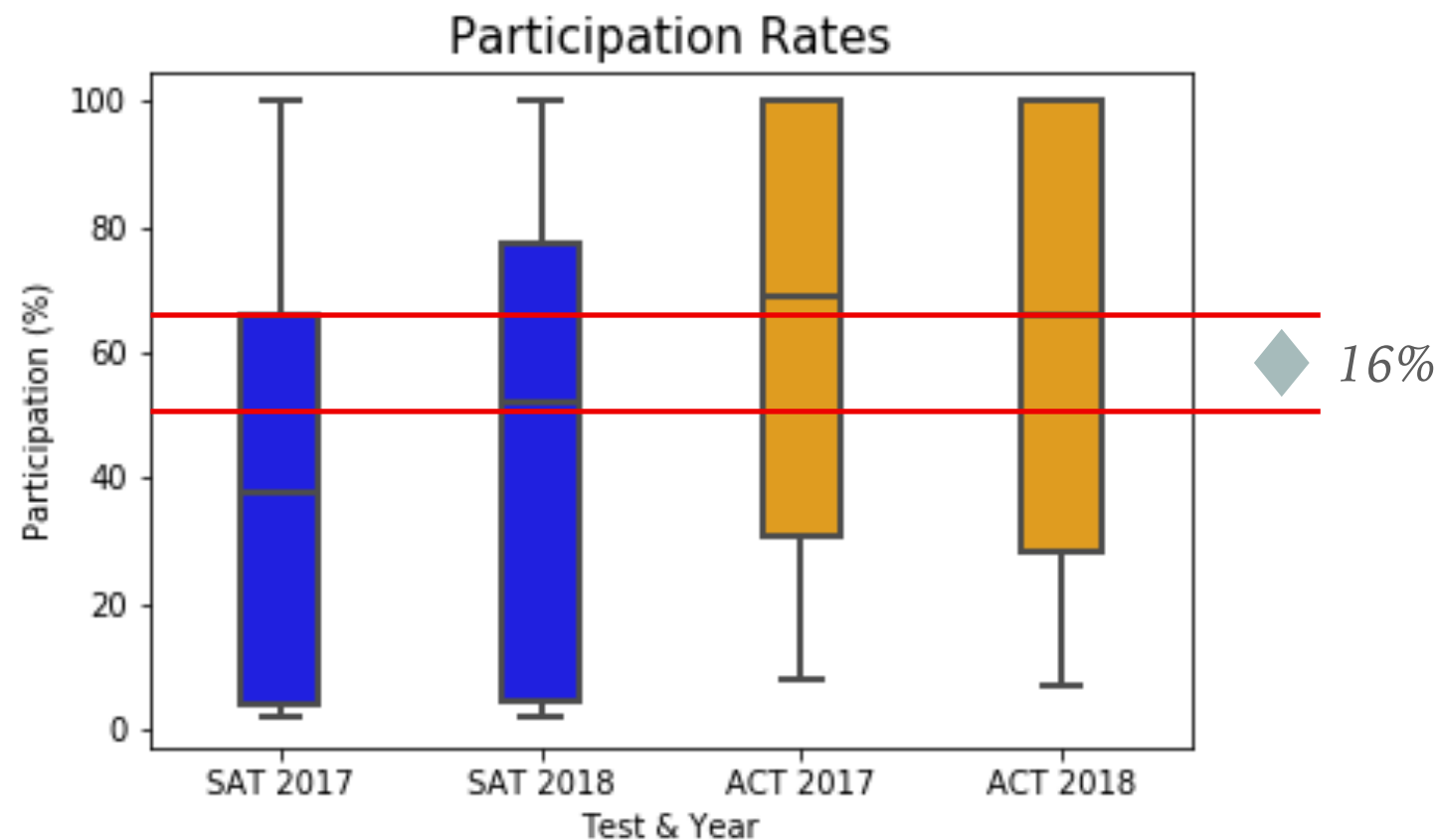


ACT



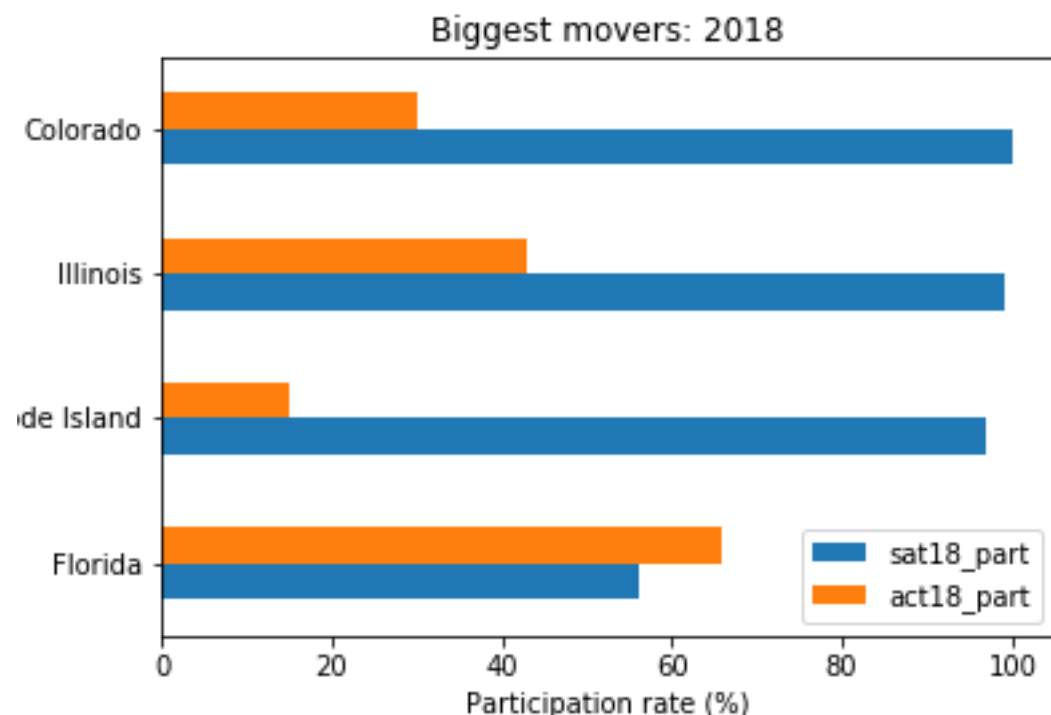
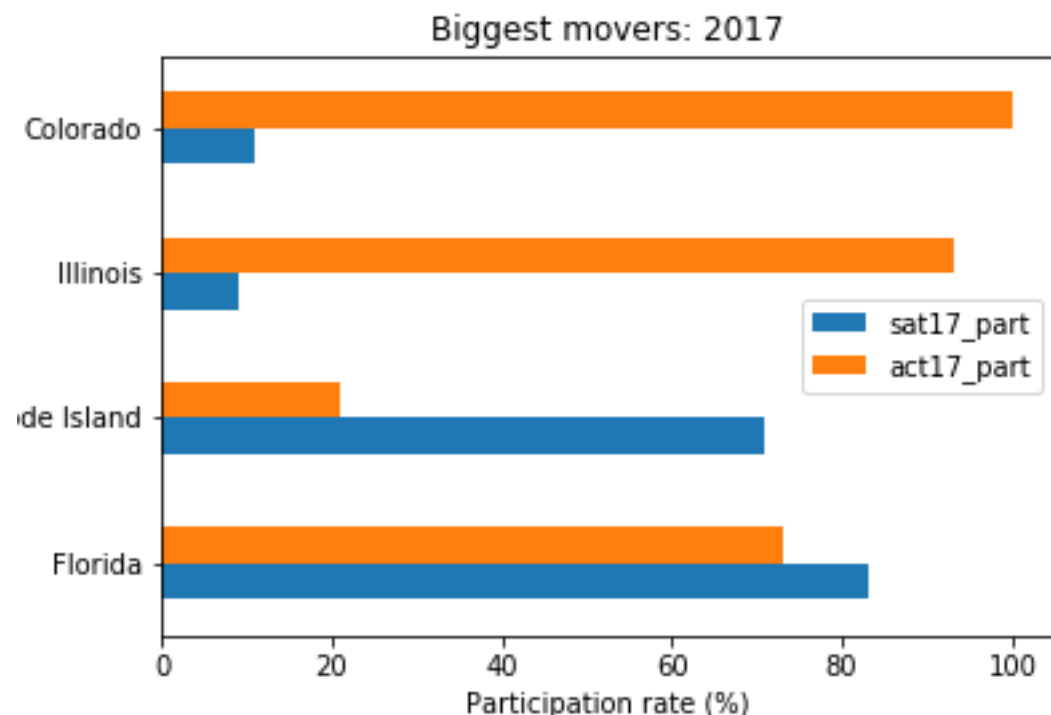
MEASURING AGAINST THE COMPETITION: ACT

- The gap between SAT and ACT has decreased from 25.45% to 16%.



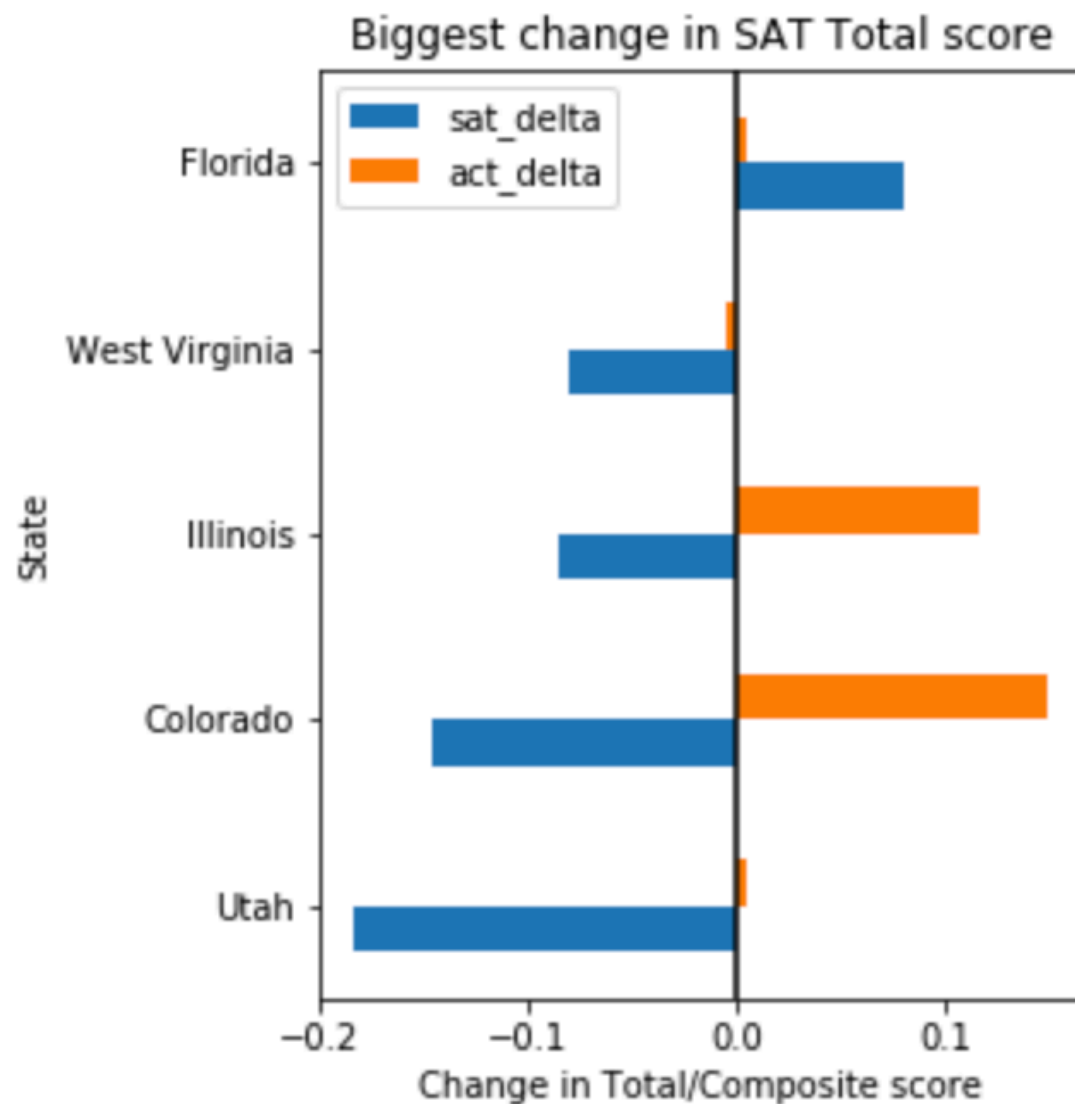
BIGGEST CHANGES IN 2018

- Illinois and Colorado both had around 90% gain in participation rate in SAT, with a major decrease in ACT participation rate.
- The next big mover is Rhode Island, which gained 26% more participation in SAT for 2018.
- On the other end, Florida was the loser, where SAT participation rate decreased by -27%.



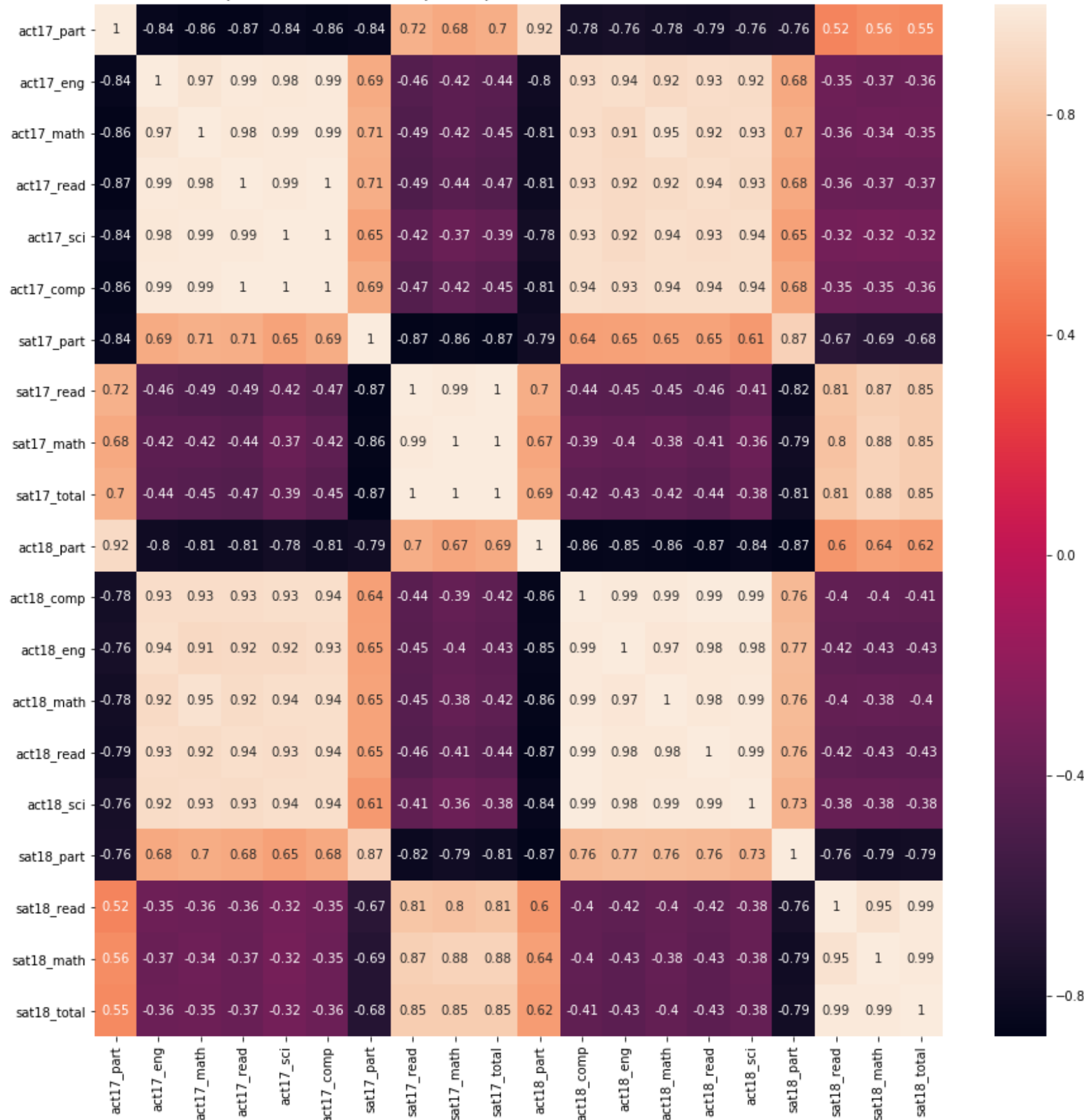
BIGGEST CHANGES IN 2018

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- For scores, the most of the major changes in scores were in the negative, with the biggest being Utah where the overall dropped nearly -20%.
- Colorado is a close second, losing about -14%. It is then followed by West Virginia and Illinois at -8% each
- Florida is the only major gainer, with a 8% improvement in score

Heatmap for the scores and participation rate for ACT and SAT, 2017 & 2018



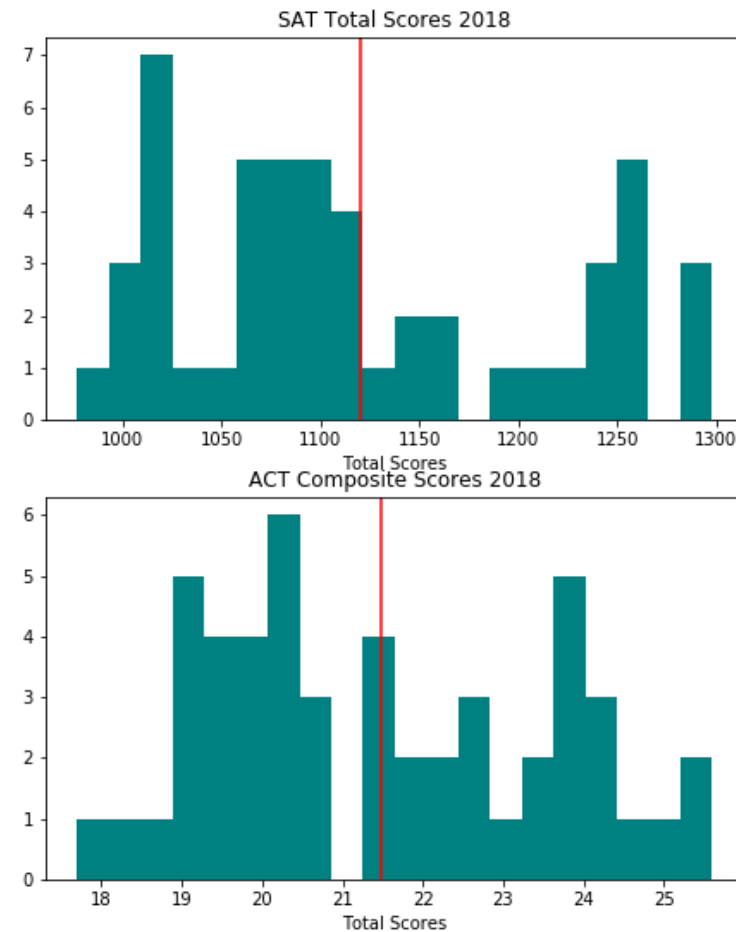
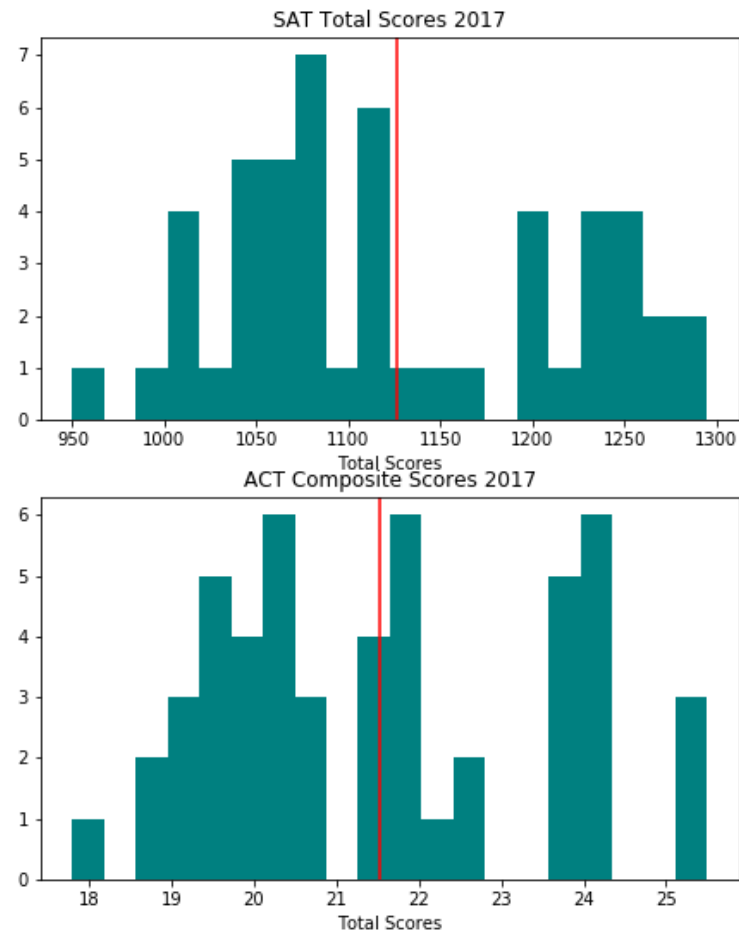
OBSERVATION 1: INVERSE CORRELATION

With a heat map showing the correlation between each variable, it is seen that the participation rate has a negative correlation against the score of their test.

Negative correlation is shown by the black squares

-0.9

OBSERVATION 2: INVERSE CORRELATION

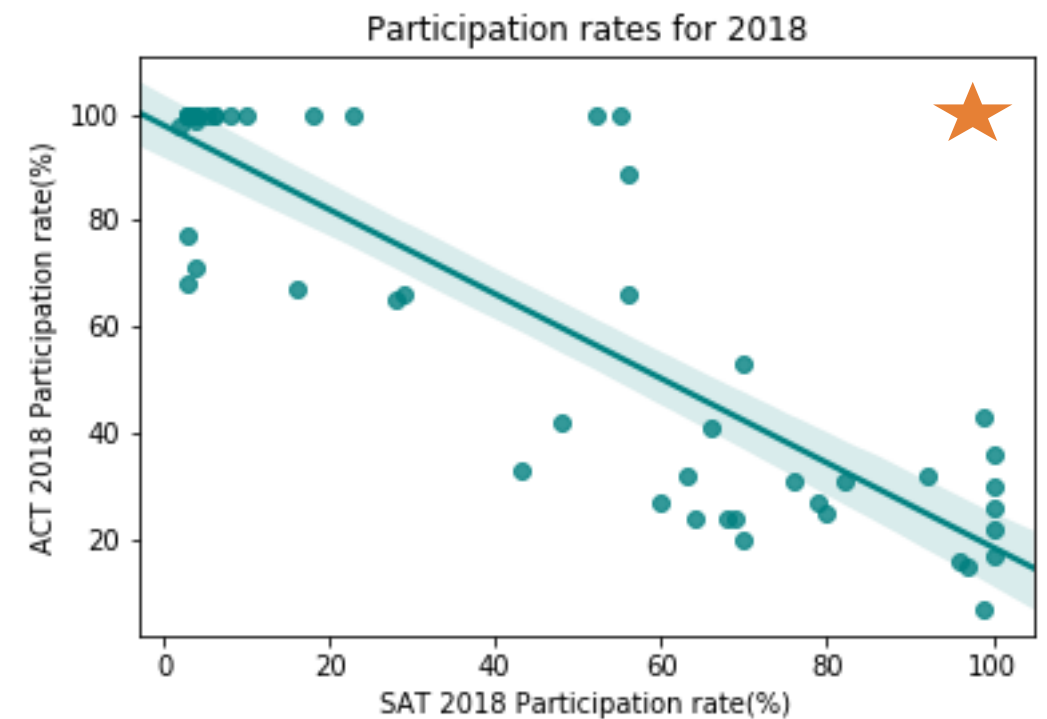
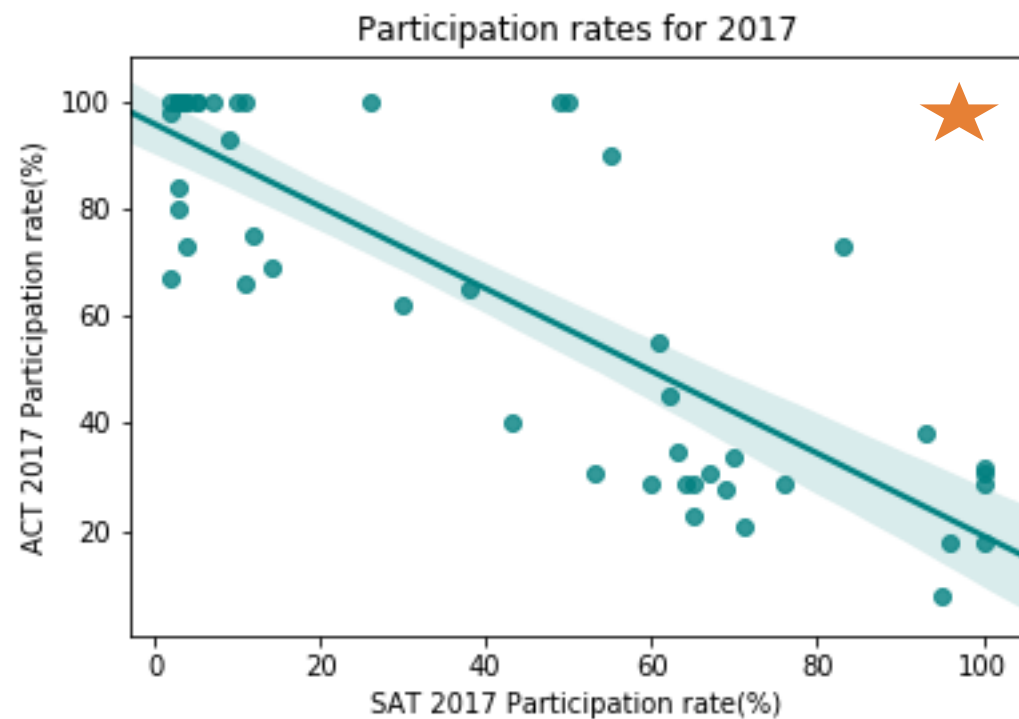


Histogram of the scores show that there is no bell curve, instead there are ‘twin peaks’ or multiple peaks.

This suggests that there are different groups within the population of students which are able to achieve certain grades.

FIRST INFERENCE

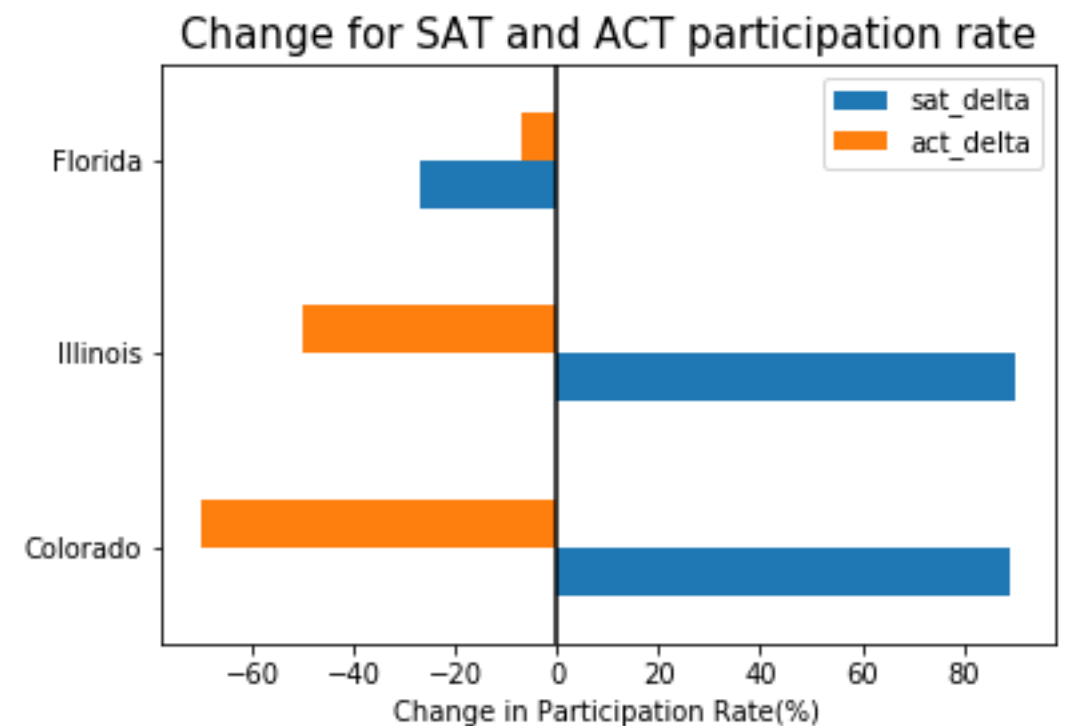
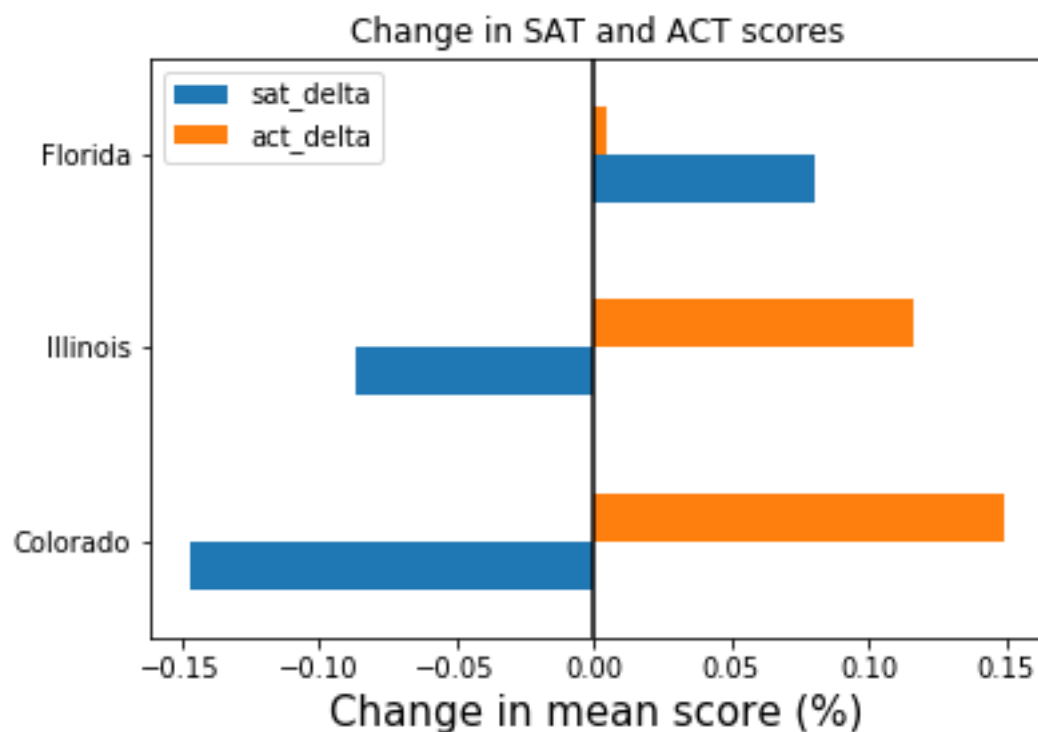
- Most students are taking only either test, not both.



With the graphs above, it is shown that most participation rate is high for either tests (at the bottom right or top left corner) and none is high for both (at the star on the top right).

SECOND INFERENCE

- When analysing the biggest changers for scores and participation rate, it is observed that the change in the participation rate will change the mean score in the opposite direction, as shown by the changes over the 2017 and 2018 information for Colorado, Illinois and Florida



CONCLUSION – FINDINGS

- The negative correlation between the participation rate and score could be explained by the split in the population.
- When participation is low, it could mostly consists of high achieving students whom require SAT to enter their institution of choice, so they are willing to bear the costs.
- When participation is high, it could be due to some state intervention, whether it is subsidising the fees, making the test more convenient for students or even making it compulsory. When it is more convenient or compulsory for students, the rest of the non-high achievers enter the participating population and brings the average down.

RECOMMENDATIONS TO THE SAT BOARD

Based on this research, it is clear that the best way to increase participation rate is to work with directly with the state's education boards either through.

- Making it more accessible for students to take the exam, whether it be subsidising the costs or to change the sitting of the test in school during school days.
- Making compulsory in the state's curriculum which will bring in the entire student population. The downside to that would be that the mean score will be affected as it introduces the non-performers into the equation.

RECOMMENDATIONS TO THE SAT BOARD

- For states that could be targetted immediately, would be for Iowa and Kansas. SAT participation has been always low while there is only a 70% participation in ACT. C
- Currently, neither state has a requirement for students to take either tests, so it would be easier to enter negotiations to establish SAT participation in the state.

In order to go into more detail:

- Results on individual student's performance in the test will be required, rather than a summary statistic of the state.
- The reason for the student undertaking the test (eg. If it is compulsory in the state or if it is required for their college)
- Whether there is any state subsidy or assistance (eg. moving the test to a more convenient location and time)
- For the non-participating students, the reason for not taking the test (eg. Financial reasons or they were not planning to pursue further studies?)