Project 1:
SAT & ACT Analysis

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Issue:

How to improve participation rates for the SAT?

- Identify target state(s) for SAT participation growth.

1. Exploratory Data Analysis

SAT vs ACT 100% participation rates over the 3 years (2017-2019)

- **2017**
  4 vs 17
- **2018**
  5 vs 17
- **Simple**
  8 vs 17

Connecticut
Delaware
District of columbia (2017)
Michigan
Colorado (2018, 2019)
Idaho (2018, 2019)
Florida (2019)
Illinois (2019)
Rhode island (2019)

Alabama
Arkansas
Colorado (2017)
Kentucky
Louisiana
Minnesota (2017)
Mississippi
Missouri (2017, 2018)
Montana
Nevada
North Carolina
Oklahoma
South Carolina (2017, 2018)
Tennessee
Utah
Wisconsin
Wyoming
Nebraska (2018)
Ohio (2018)

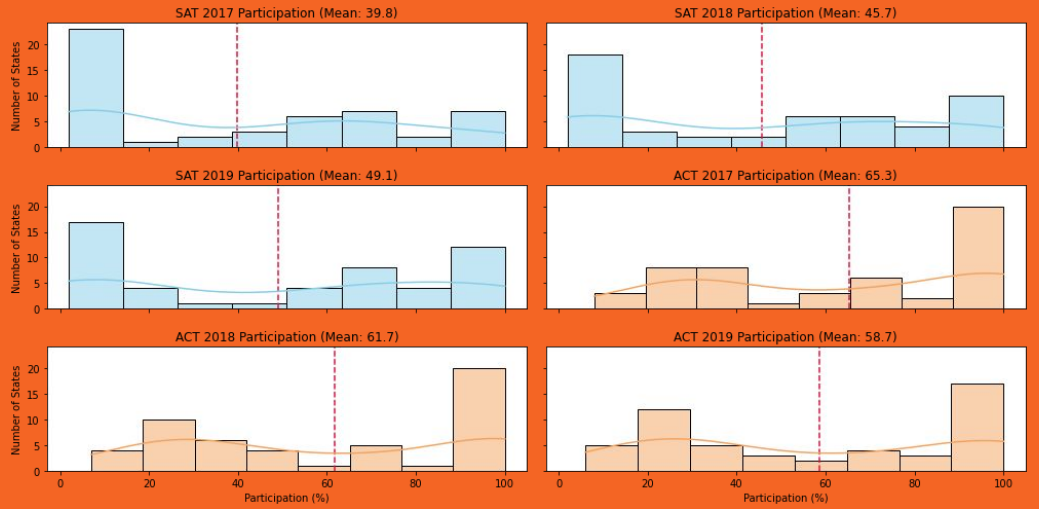
2. Data Visualisation Observations

➔ **ACT has a larger baseline following than SAT**

The SAT has a large number of states with an extremely low participation rate, while the ACT has a large number of states with a extremely high participation rate.

➔ **In 2018, SAT participation increased by 5.9% while ACT decreased by 3.7%**

Suggests that some states are beginning to adopt the SAT test over the ACT test, with some states moving away from standardized testing altogether. The number of states with a 90% - 100% participation for the SAT increased in 2018, while ACT participation rates for states in the same range remained consistent.



2. Data Visualisation Observations

➔ **ACT participation has a strong negative correlation with scores**

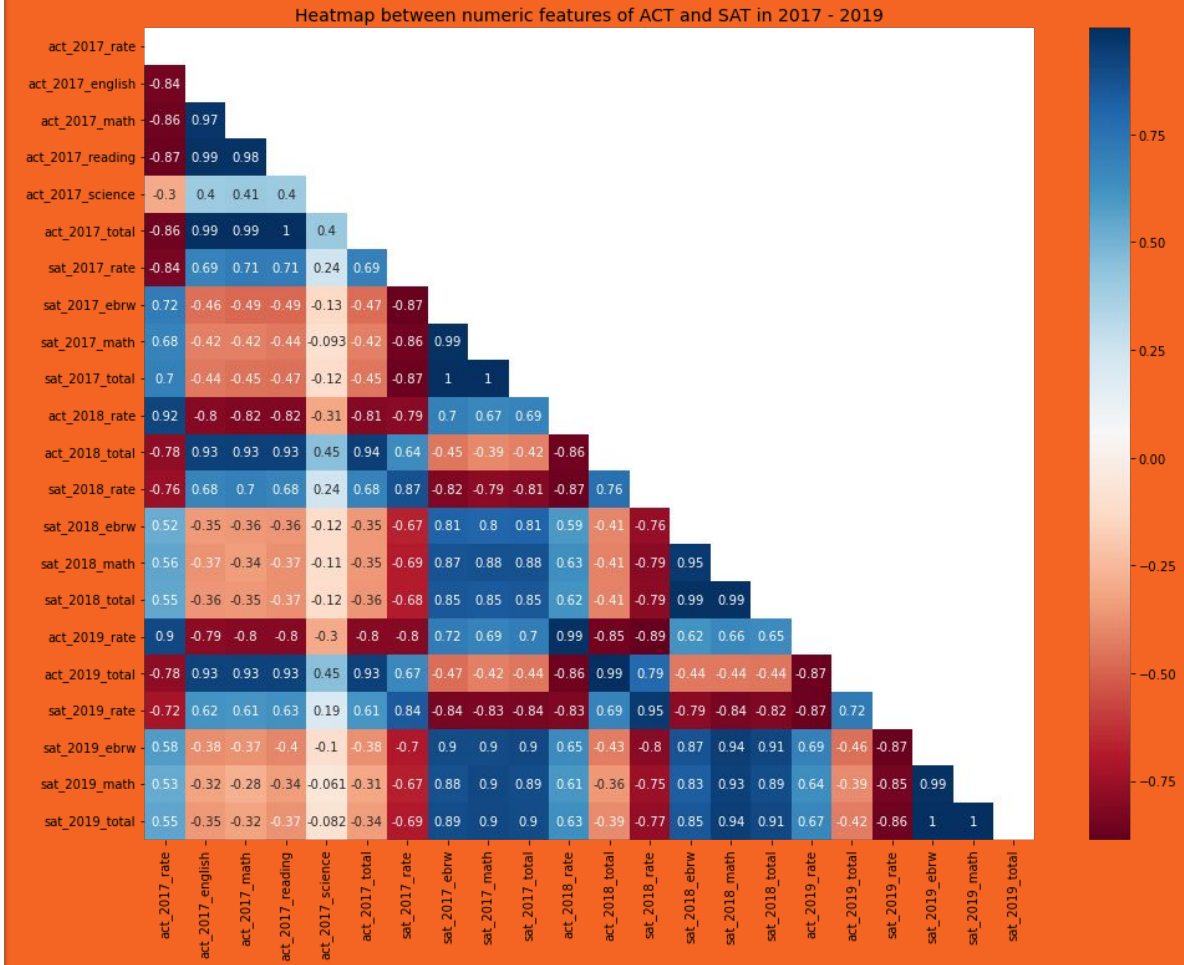
Suggests that states with higher ACT participation tend to have lower ACT scores, and vice versa. This is mirrored in SAT participation rates, where there is an equally strong negative correlation between participation rates and SAT scores.

➔ **Scores from a year are strongly correlated with the same scores in the following years**

Suggests that states that did well in the previous year, are likely to do well in the following year.

➔ **Test scores / participation rates for each are also negatively correlated with the other test.**

Suggests that t it's pretty rare for a student to take both tests.



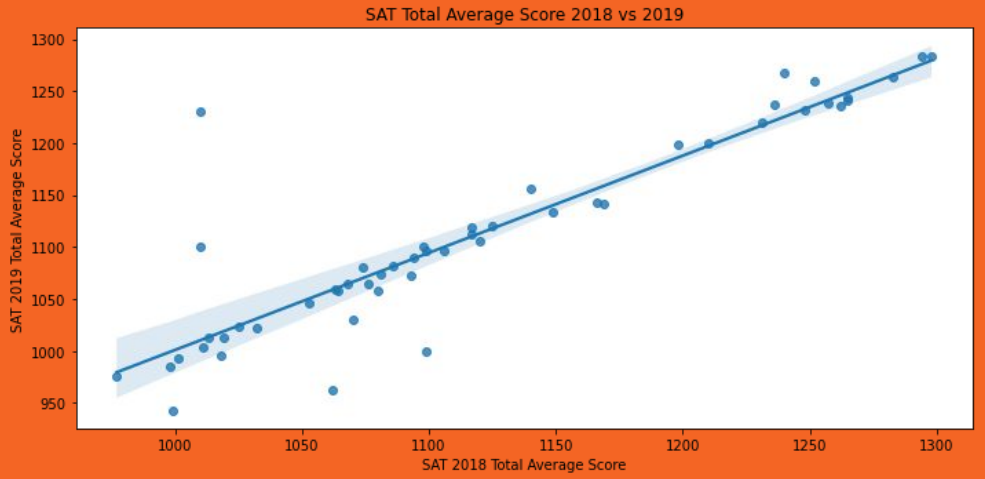
2. Data Visualisation Observations

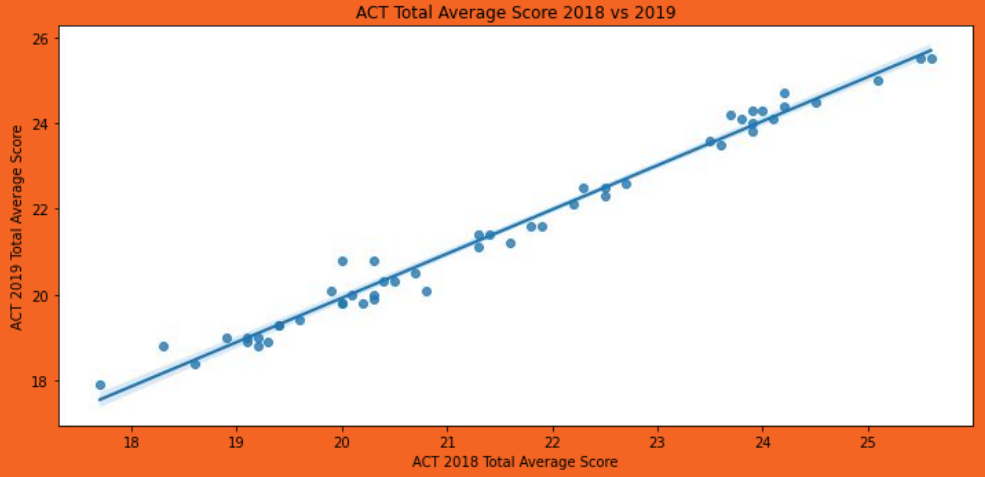
➔ **Both test results year by year have a very strong correlation**

This means that states that did well in the last year are likely to do well in the next year.

➔ **However, this correlation is much stronger for the ACT test**

Suggests that ACT scores tend to remain static from one year to the next. This could actually be an incentive for high-scoring states to stay with the ACT, given that scores seem to less from one year to the next as compared to the SAT.





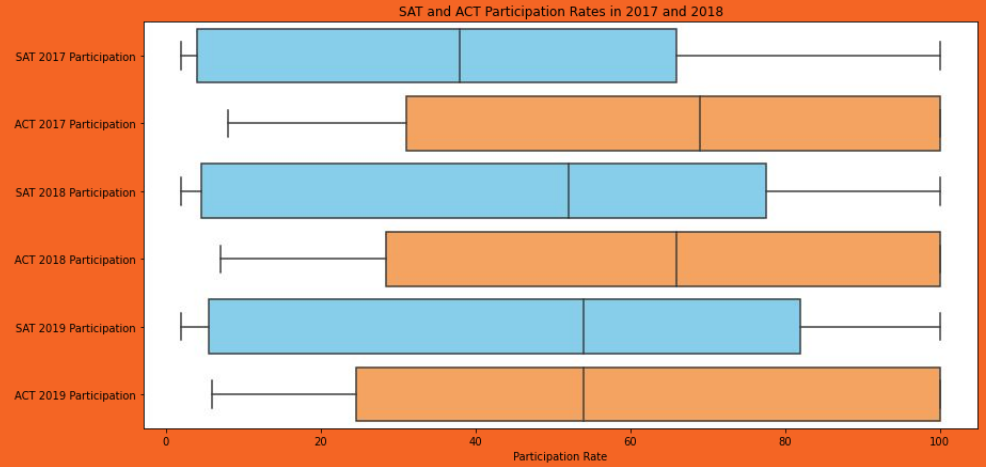
2. Data Visualisation Observations

➔ **ACT has a higher median than the SAT**

Indicates that the ACT participation rates are generally higher than SAT participation rates. The only exception was in 2019 where the median was the same.

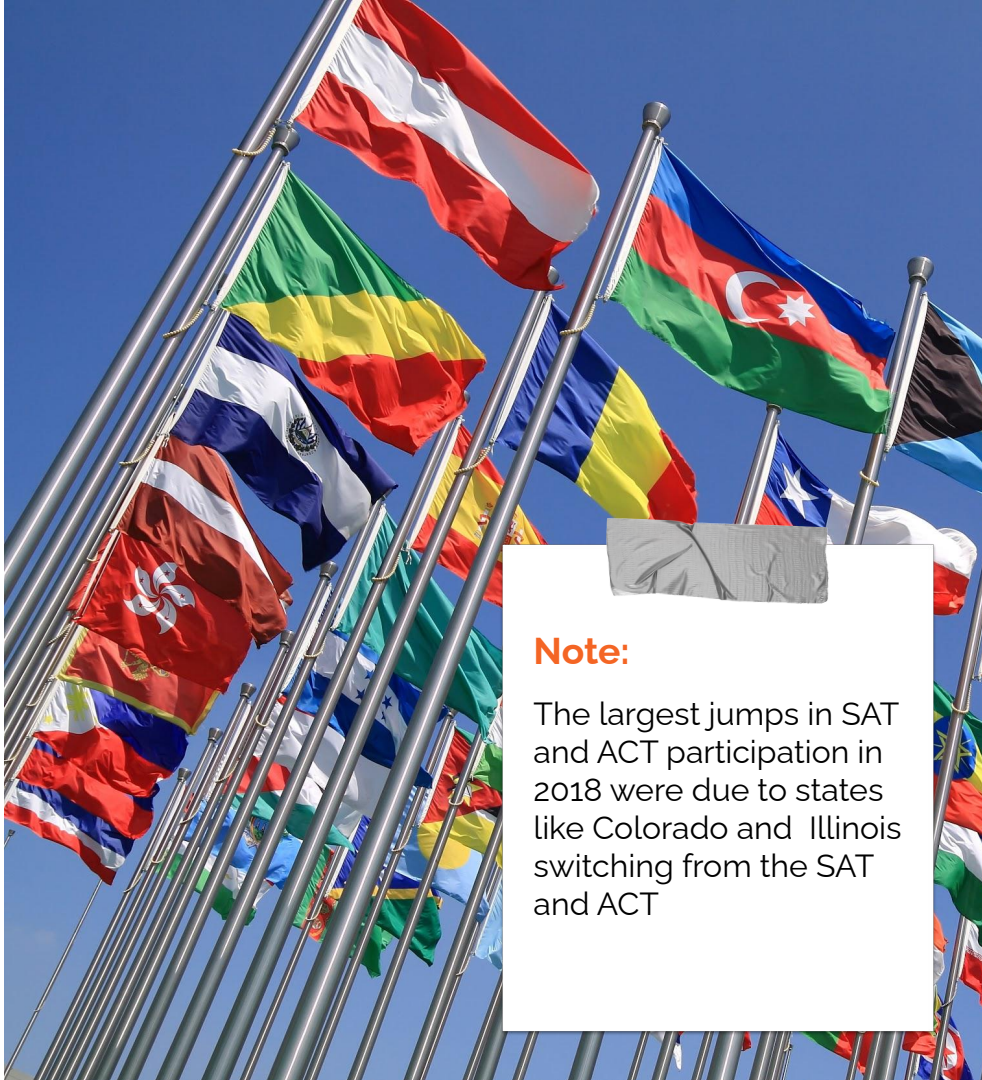
➔ **ACT participation rates are also skewed right**

Suggests that there is strong support for the ACT test throughout the US. SAT participation rates are generally skewed left.



However,

Participation rates in the SAT and ACT are largely determined by **state education policy.**



Note:

The largest jumps in SAT and ACT participation in 2018 were due to states like Colorado and Illinois switching from the SAT and ACT

Recommendation

Work with North Carolina to work with to raise SAT participation rates.

Take into account the growing movement against standardized testing.

Look to incorporate other forms of testing such as portfolio-based assessment or adaptive testing.