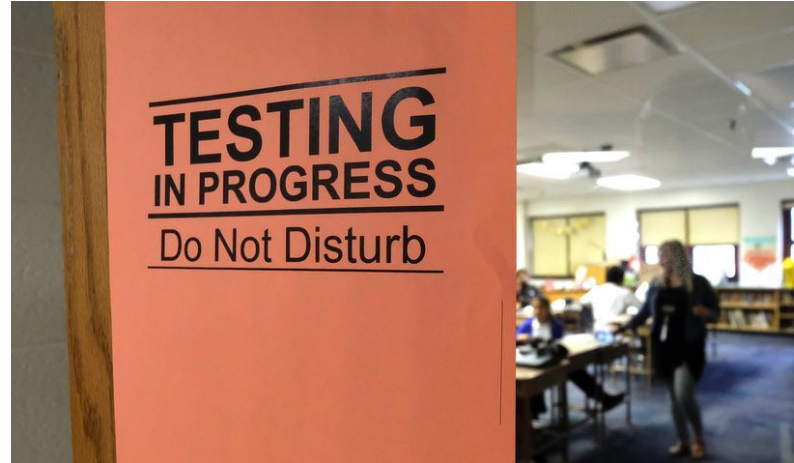

Should you use ACT/SAT scores to compare state education programs?

Probably not.

An explanation by Ben Roberts

The big question

Can ACT/SAT test scores, on average, be used to compare education programs across the United States? And could we use those same average scores to monitor improvements in those education programs over time?





The data

We looked at:

→ **ACT Scores**

By state for years 2017, 2018, and 2019

→ **SAT Scores**

By state for years 2017, 2018, and 2019.

→ **Participation**

% of students in each state that took the ACT or SAT in each of those years

What are you looking for? and why?



Correlation

A mutual relationship or connection between two or more things.

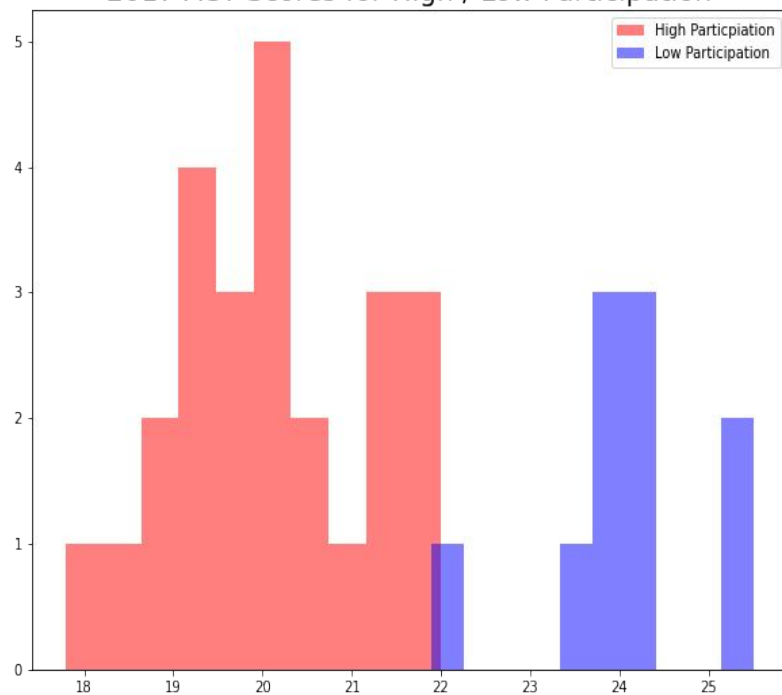
Without proving causality, can we show that the average scores are somehow connected to the rates of participation.

YES! We can.

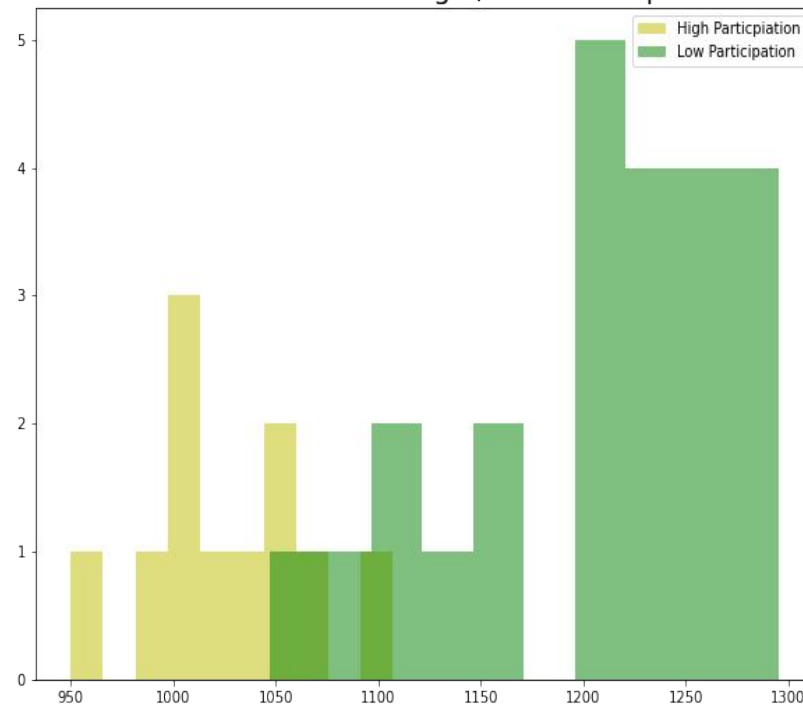
There is absolutely a connection between the percent of students who take the exams and the average score of the state.

2017 ACT and SAT scores for states with high and low levels of participation

2017 ACT Scores for High / Low Participation



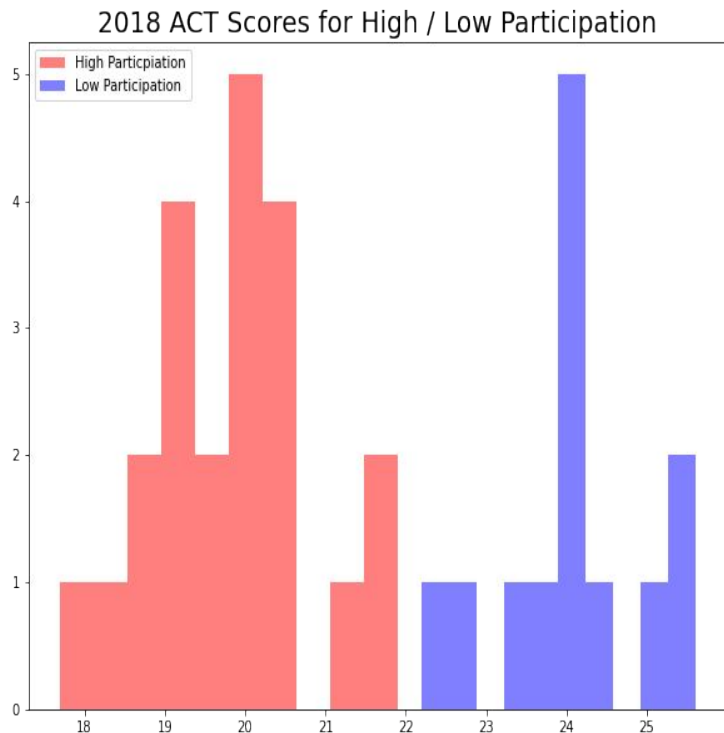
2017 SAT Scores for High / Low Participation



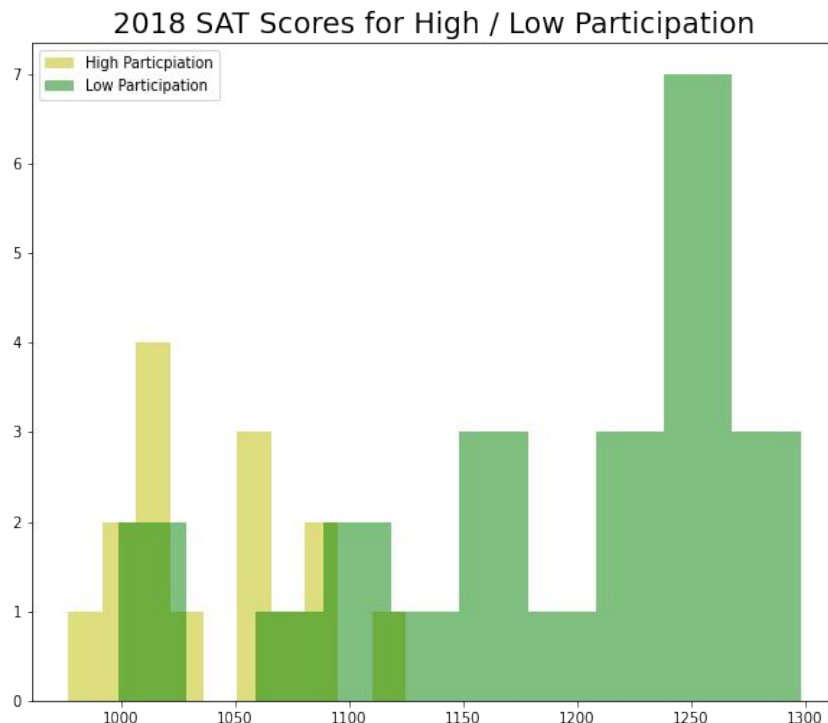
Interpretation: The above image shows a side by side comparison of test scores for states with both high and low level of ACT participation in 2017.

Interpretation: The above image shows a side by side comparison of test scores for states with both high and low level of SAT participation in 2017.

2017 ACT and SAT scores for states with high and low levels of participation



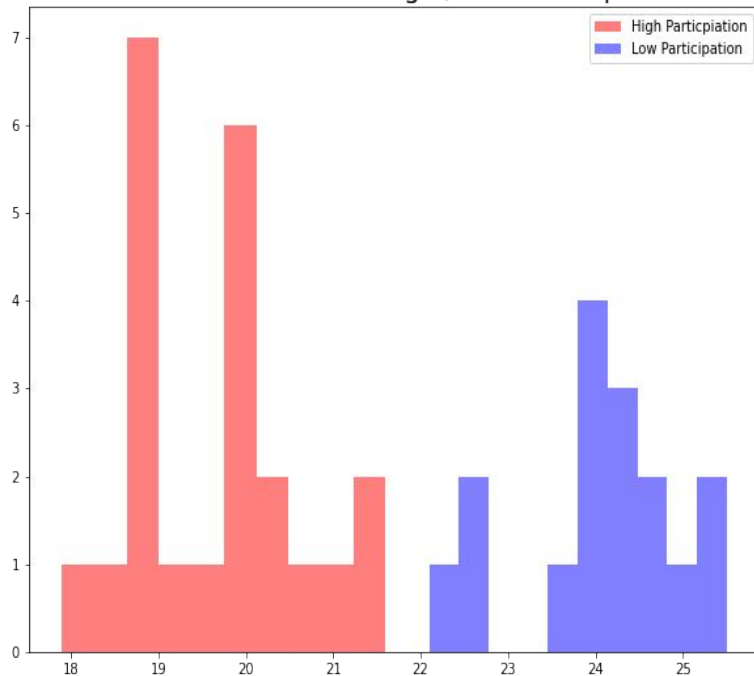
Interpretation: The above image shows a side by side comparison of test scores for states with both high and low level of ACT participation in 2018.



Interpretation: The above image shows a side by side comparison of test scores for states with both high and low level of SAT participation in 2018.

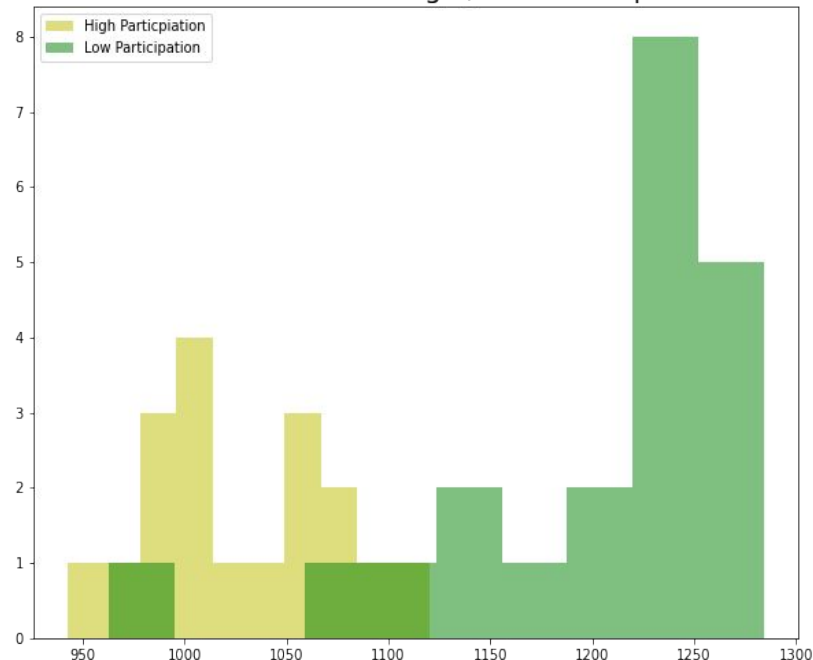
2019 ACT and SAT scores for states with high and low levels of participation

2019 ACT Scores for High / Low Participation



Interpretation: The above image shows a side by side comparison of test scores for states with both high and low level of ACT participation in 2019.

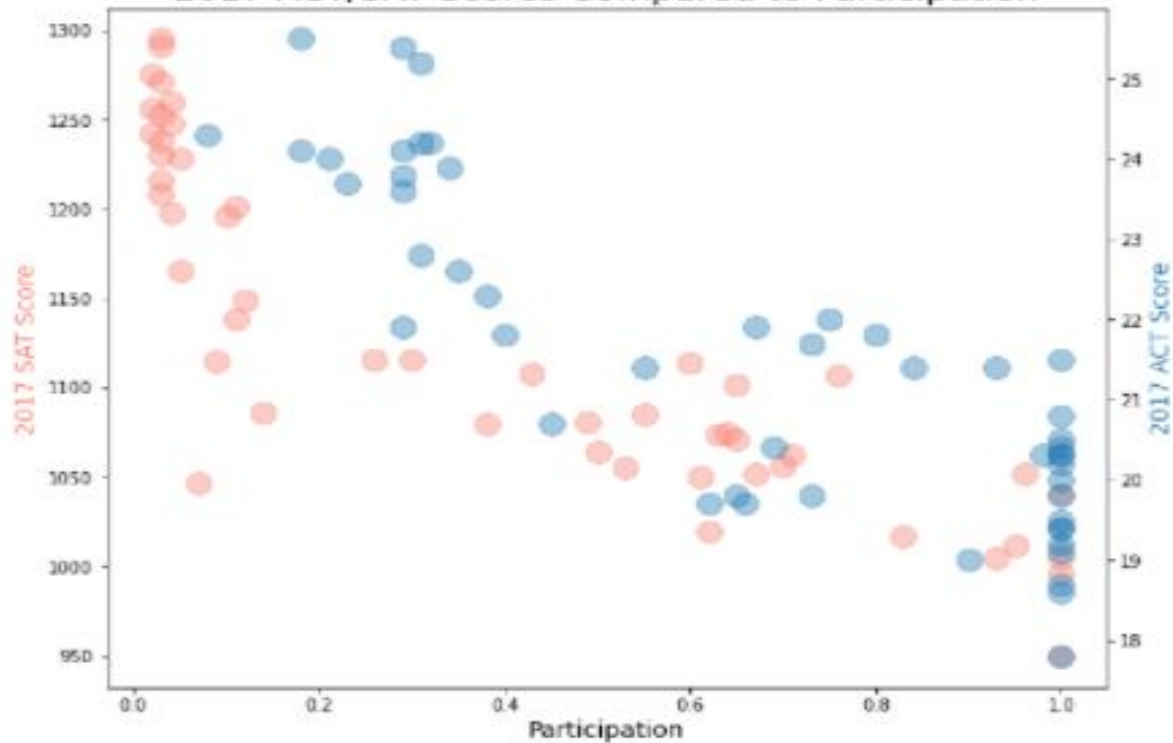
2019 SAT Scores for High / Low Participation



Interpretation: The above image shows a side by side comparison of test scores for states with both high and low level of SAT participation in 2019.

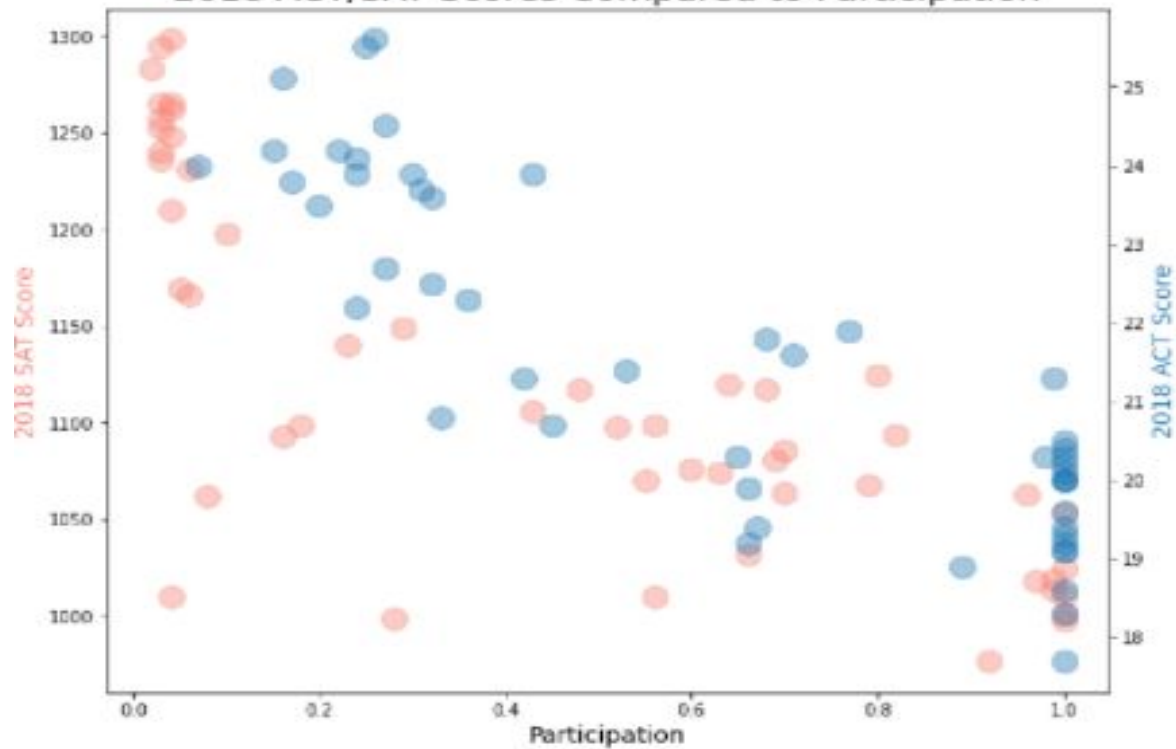


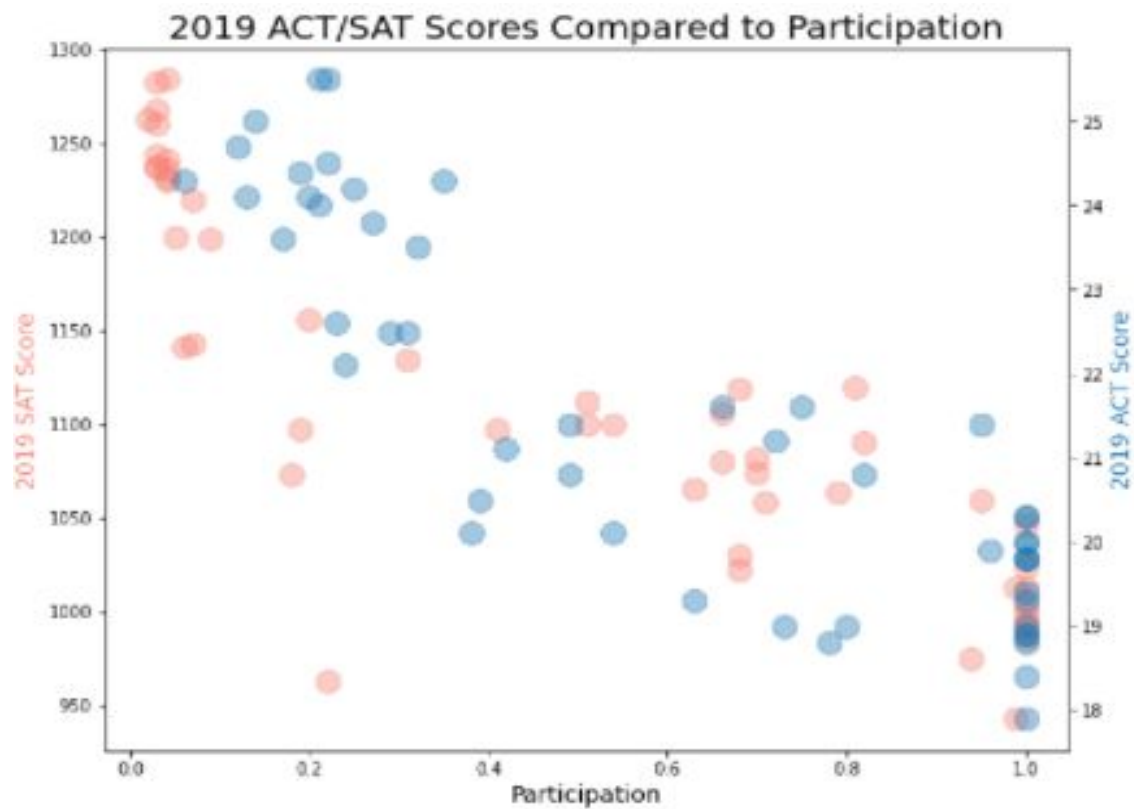
2017 ACT/SAT Scores Compared to Participation





2018 ACT/SAT Scores Compared to Participation





Yes, there is a correlation...

- lower levels of participation = higher scores
- appears to be stronger for the ACT than SAT
- some states require the ACT or SAT exam in order to graduate high school





So what does this mean?

We probably
SHOULD NOT use
the average ACT or
SAT to compare or
monitor education
systems