

---

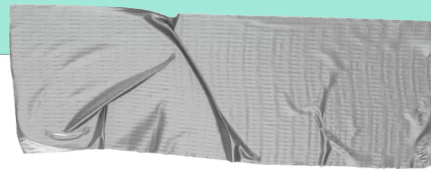
---

# Analysis of SAT & ACT data

— by Lin Junyuan —

---

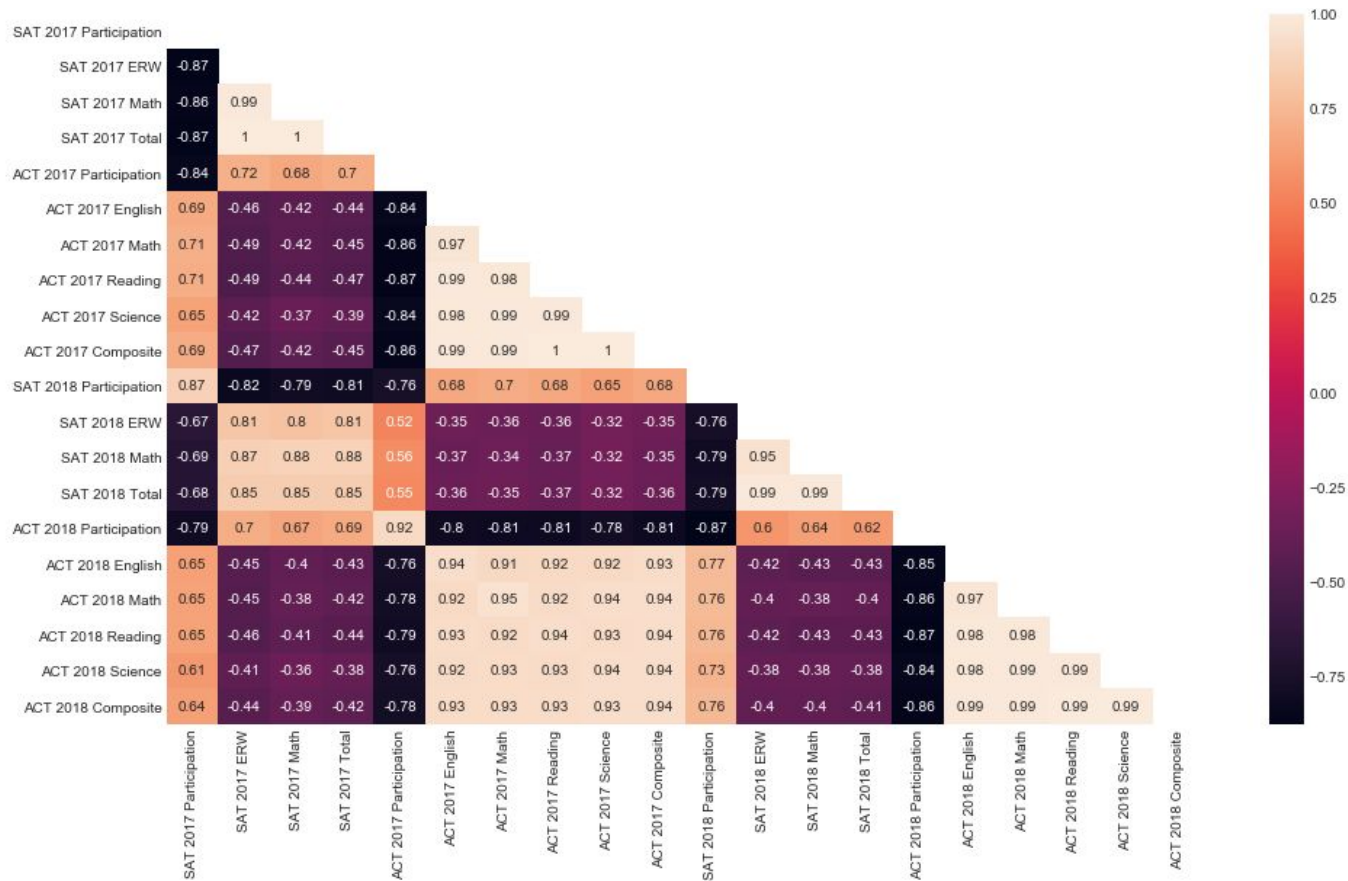
---



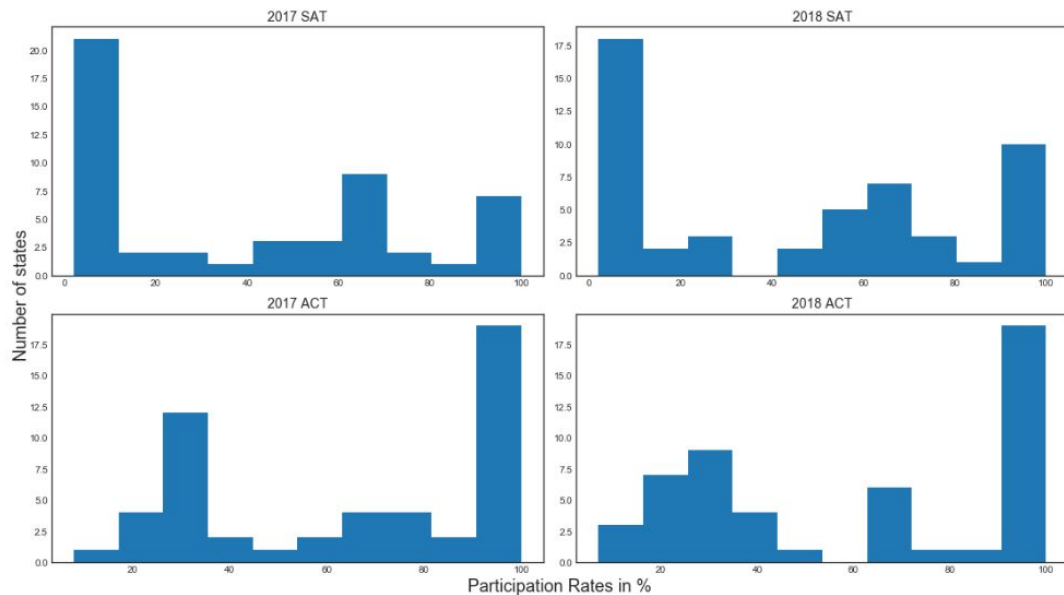
## Problem Statement

What is the best state to invest money in to raise SAT participation rates?

# Some data - at first glance



Histogram of Participation Rates

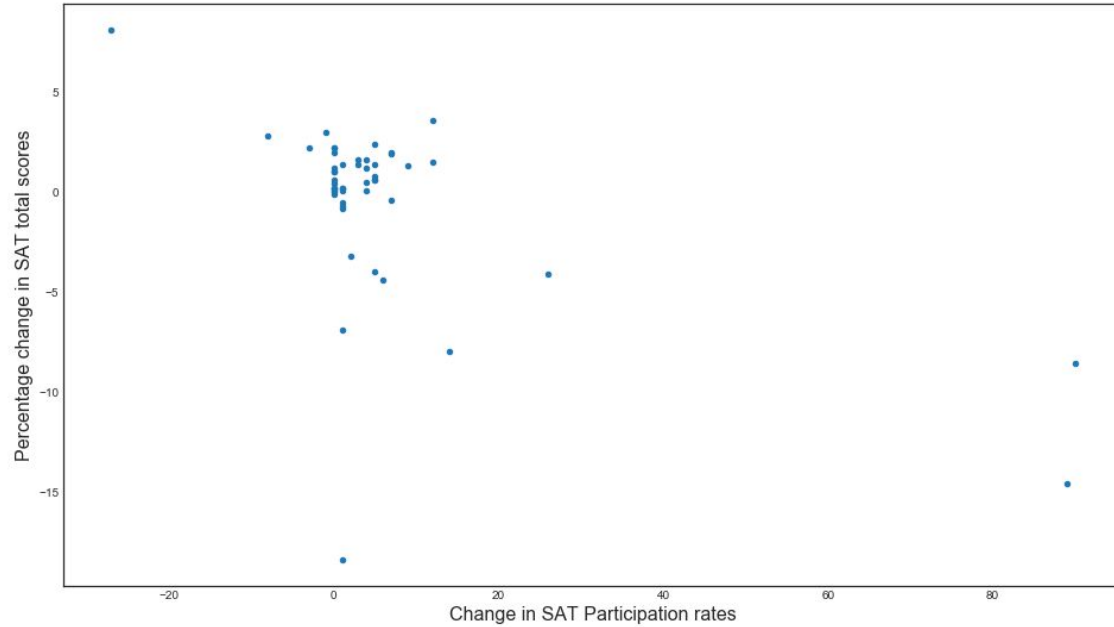


## Participation

More states having high ACT participation rates!

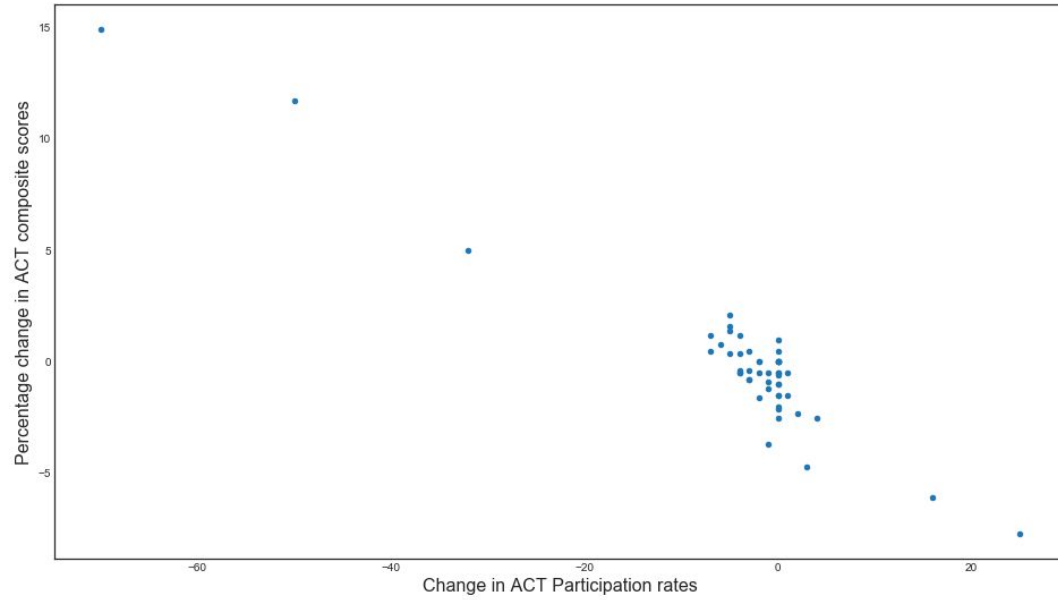
Shape does not change much between the years.

How about the percentage change in the scores against the change in participation rates for each test?



Most states do not change their participation rates

States that increase their participation rates see a drop in their total scores.



Similar observations in ACT

What are the states that have the most increase in SAT or ACT participation rates?



## Illinois

90% increase in  
SAT participation

50% decrease in ACT  
participation

## Colorado

89% increase in  
SAT participation

70% decrease in ACT  
participation

## Ohio

25% increase in  
ACT participation

6% **increase** in SAT  
participation

# Illinois

# Colorado

- Both states implemented ACT as their statewide assessment program since 2001.
- Their contracts with ACT ended in 2016, resulting in an open bid.
- Both states chose SAT to replace ACT, resulting in the huge jump in SAT participation rates.

# Ohio

- Made taking either SAT or ACT a requirement for all high schools

# FINDINGS

- Inverse relationship between
  - ACT and SAT participation rates
  - Each test's participation rates and scores
  - Each test's change in participation rates and its change in scores
- **States usually prefer one test over another and are likely to focus more on one test only.**
- **State education policy is a strong influence on participation rates**

# Based on these findings

State	SAT 2018 Participation	ACT 2018 Participation	SAT Required	ACT Required
North Dakota	2.0	98.0	False	True
Wyoming	3.0	100.0	False	True
South Dakota	3.0	77.0	False	False
Nebraska	3.0	100.0	False	True
Wisconsin	3.0	100.0	False	True
Mississippi	3.0	100.0	False	True
Iowa	3.0	68.0	False	False
Utah	4.0	100.0	False	True
Minnesota	4.0	99.0	False	False
Louisiana	4.0	100.0	False	True

Amongst the states with the lowest SAT participation rates,

**South Dakota** has yet to implement any mandatory requirements for its high school students.



## Recommendation

To invest money in South Dakota to advocate for SAT to be the its mandatory statewide assessment program.