

# SAT and ACT Analysis



Investigating trends in 2017/2018 state  
participation rates and scores

# Summary

- The ACT is preferred over the SAT. Central states tend to prefer the ACT, whereas coastal states prefer the SAT.
- Scores are negatively correlated to participation rates.
- Performance in individual subjects of a particular test indicates performance in the other subjects.
- SAT and ACT participation rates and scores do not experience large changes year on year.
- State education policies can greatly affect SAT and ACT participation rates.

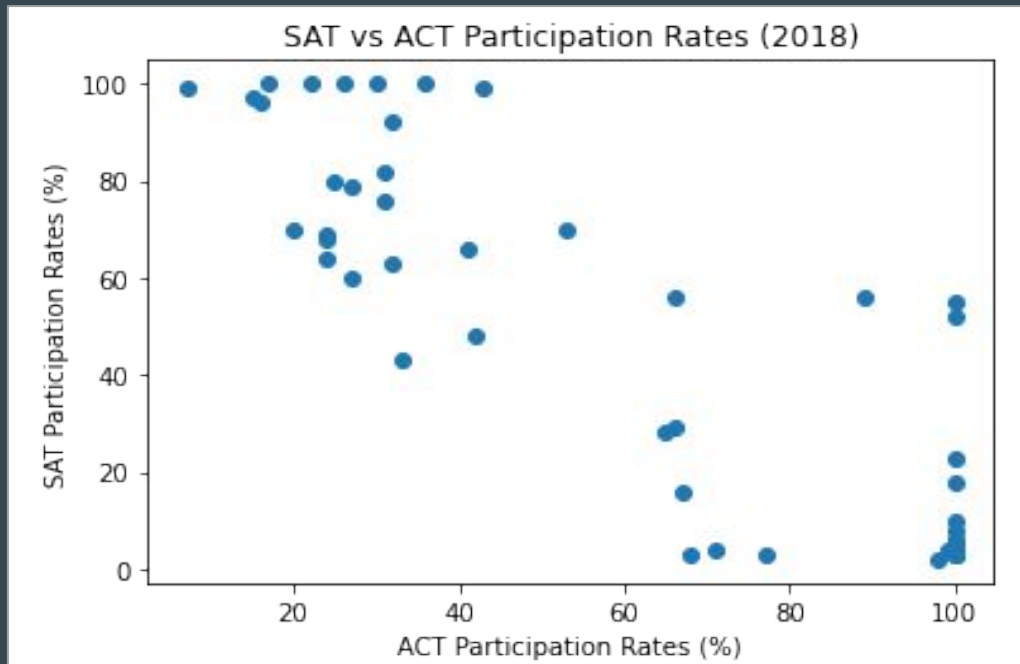
# **Participation rates across states**

# Participation rates between SAT and ACT

Participation rates are negatively correlated between the SAT and ACT.

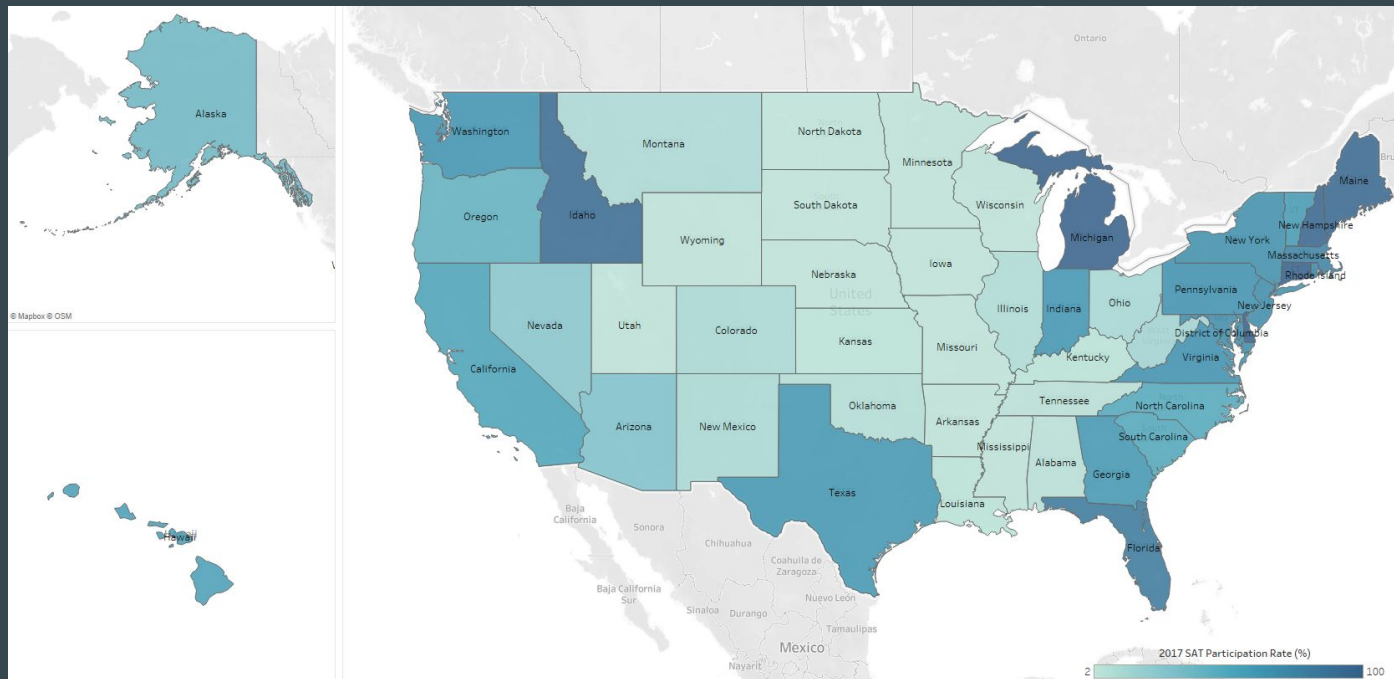
Correlation between SAT and ACT participation rate was **-0.84** in 2017 and **-0.87** in 2018.

SAT and ACT participation rates of 100% suggest several states have selected one test or the other for statewide testing programmes.



# Participation rates between SAT and ACT

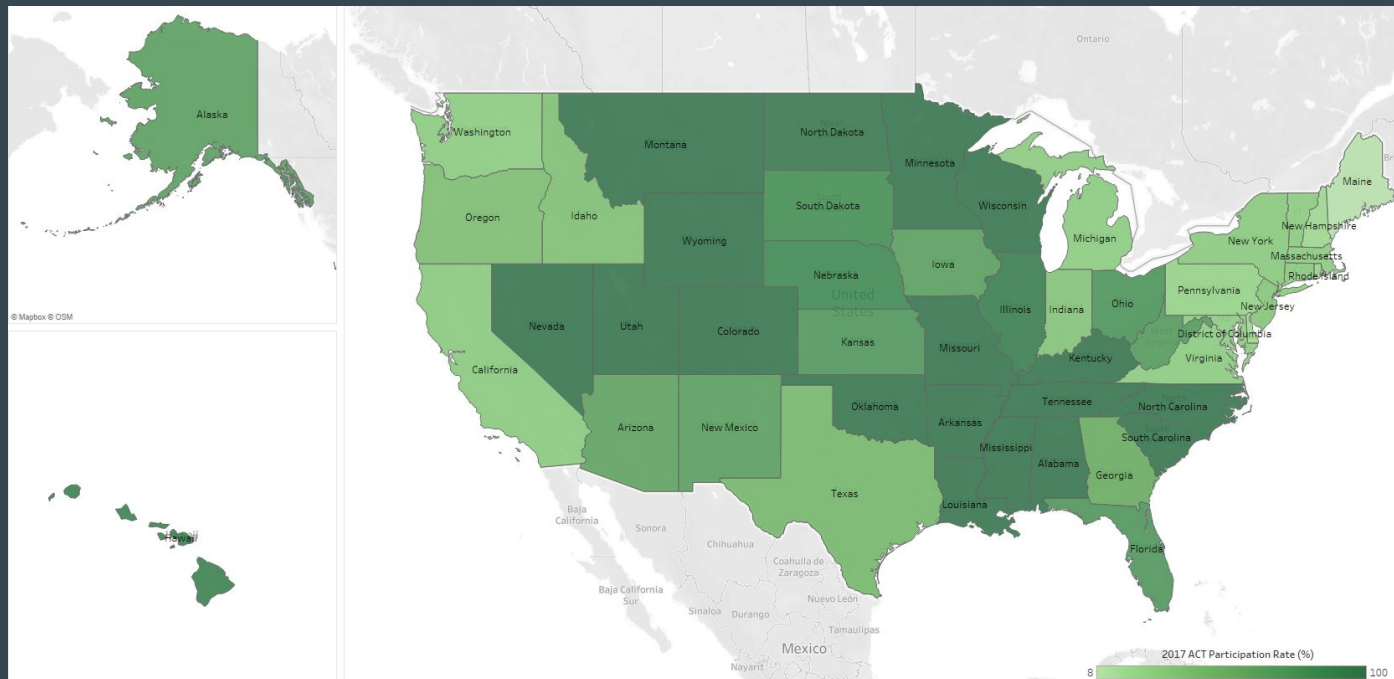
SAT participation rates by state (2017):



Coastal states generally prefer the SAT whereas central states prefer the ACT.

# Participation rates between SAT and ACT

ACT participation rates by state (2017):



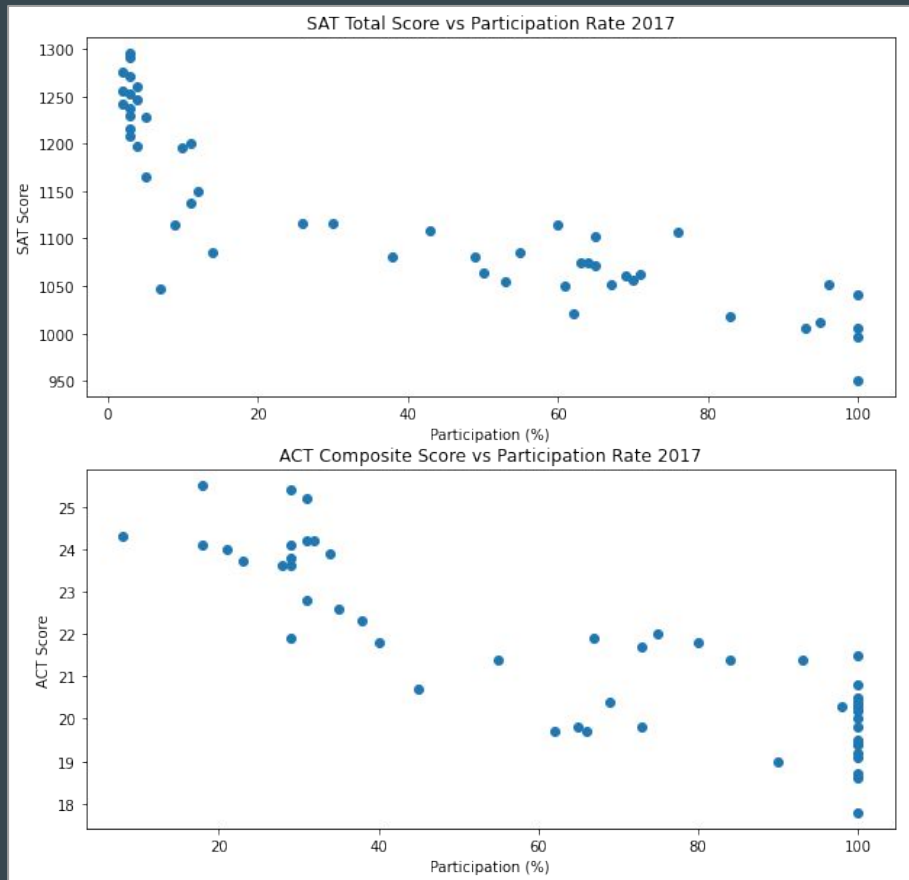
Many central states have opted for the ACT, resulting in 100% participation.

# **Scores vs participation rates**

# SAT and ACT scores vs participation rates

SAT and ACT scores are negatively correlated with their respective participation rates.

This suggests that high performing students may opt to take a test which is not mandated by their state. This seems especially true for the SAT, where very low participation rates correspond with excellent test scores.



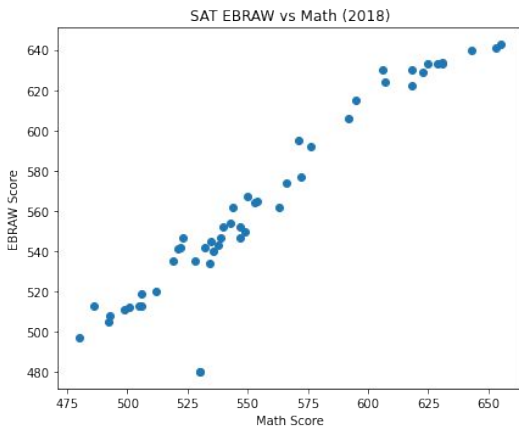
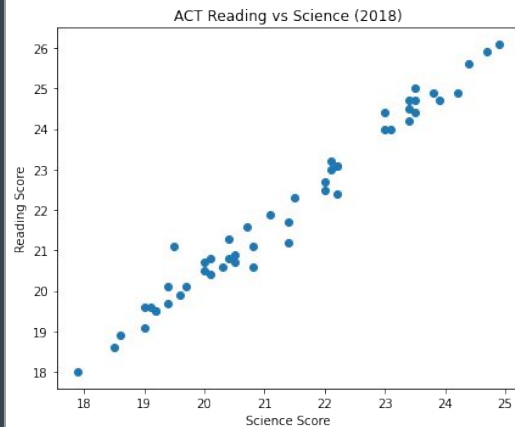
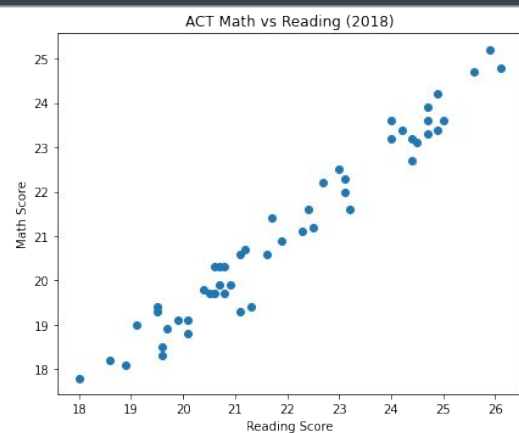
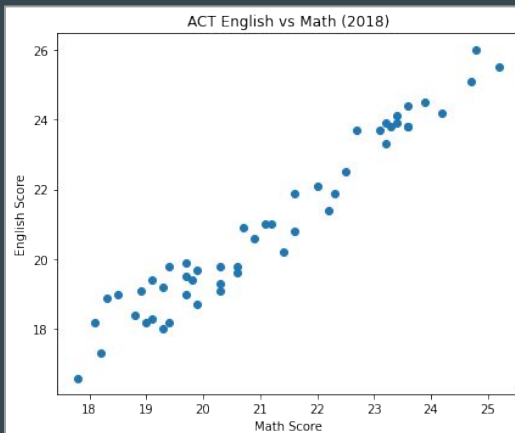


# Individual subject scores

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Individual subject scores are strongly correlated with other subject scores within the same test.

This could suggest parity across subjects in terms of teaching quality and/or student ability.



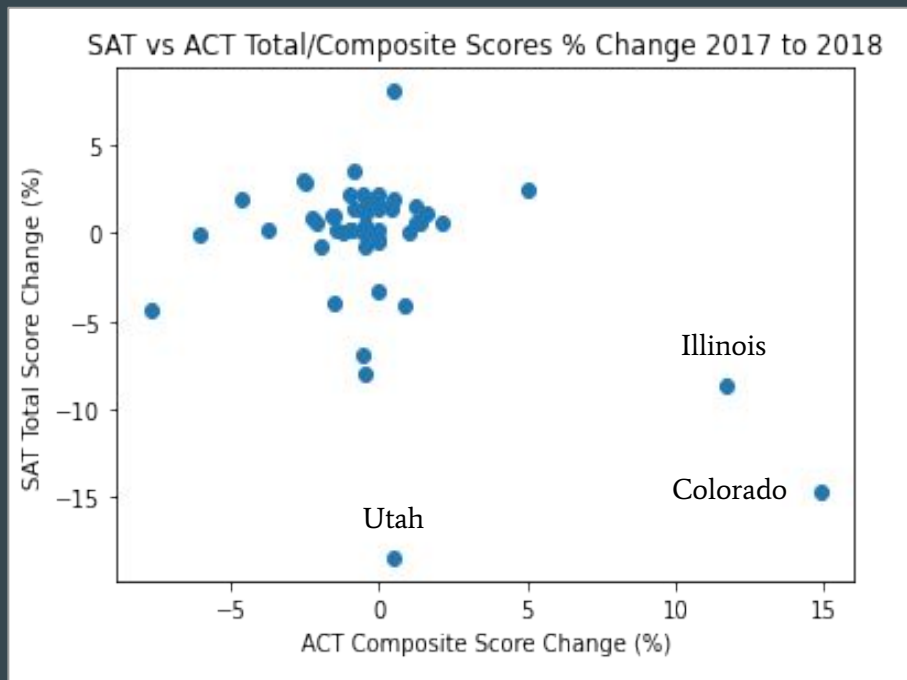
# **Scores and participation rates across time**

# SAT and ACT scores between 2017 to 2018

SAT total scores and ACT composite scores largely stayed consistent year on year.

Most states experience approximately  $\pm 5\%$  change in scores year on year.

The outliers are **Colorado** and **Illinois**, which switched from ACT to SAT testing, and **Utah**, which had a low number of SAT test takers.



# Participation rates between 2017 to 2018

States with  $> \pm 10\%$  change in SAT participation rates from 2017 to 2018:

Similarly, participation rates largely experienced little change from 2017 to 2018.

**Illinois** and **Colorado** experienced the sharpest increase in SAT participation. This was due to both states introducing mandatory SAT testing state-wide, switching over from the ACT. ACT participation rates fell drastically as a result.

State	SAT Participation Rate 2018  (%)	SAT Participation Rate Change from 2017  (%)	ACT Participation Rate 2018  (%)	ACT Participation Rate Change from 2017  (%)
<b>Illinois</b>	99	<b>90</b>	43	-50
<b>Colorado</b>	100	<b>89</b>	30	-70
Rhode Island	97	26	15	-6
West Virginia	28	14	65	-4
New Jersey	82	12	31	-3
New York	79	12	27	-4
Florida	56	-27	66	-7

# Conclusions and Recommendations

- SAT and ACT participation rates are greatly influenced by state education policies which select one test or the other for state-wide testing.
- To increase SAT participation rates, the College Board should look at coastal states which do not already have existing state-wide SAT or ACT testing programmes.
- More data on state education department budgets and their past contracts with the College Board or ACT could inform how the College Board may bid for future SAT testing contracts.
- More data on state demographics such as the presence of top high schools/universities, the percentage of population who are university graduates, and income per capita could also inform how the College Board may target specific states.