

SAT & ACT Analysis

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Problem Statement

How college board can improve the statewide participation rates across the United States?



Overview

ACT and SAT is a standardized test widely used in high school college for the admissions to U.S universities.

Datasets:

- 50 states and 1 federal district
- Participation rates
- Score for various test components

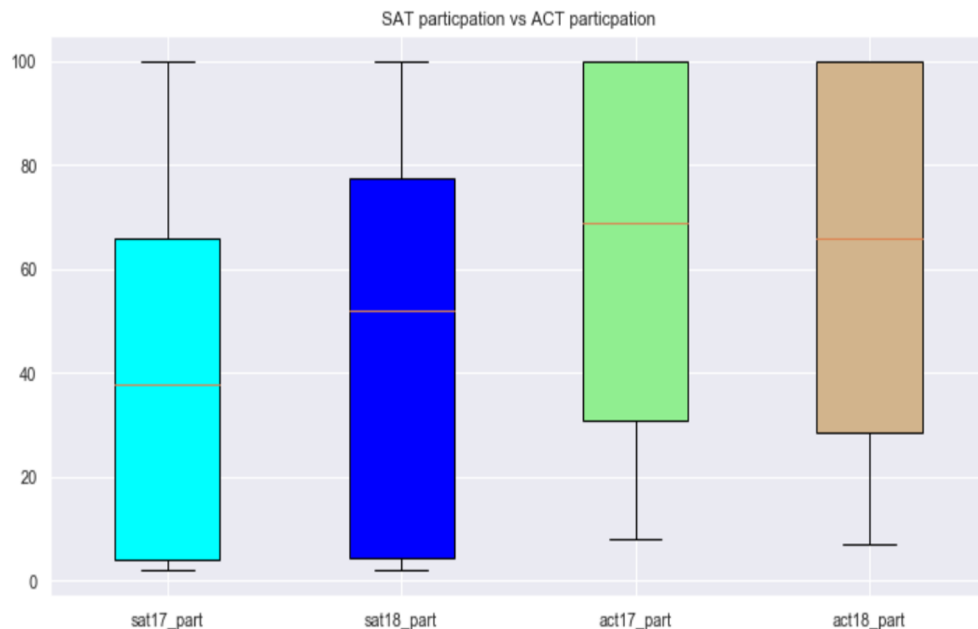


Exploratory Data Analysis

SAT and ACT participation rate

ACT participation is higher than SAT

But SAT test is gaining popularity

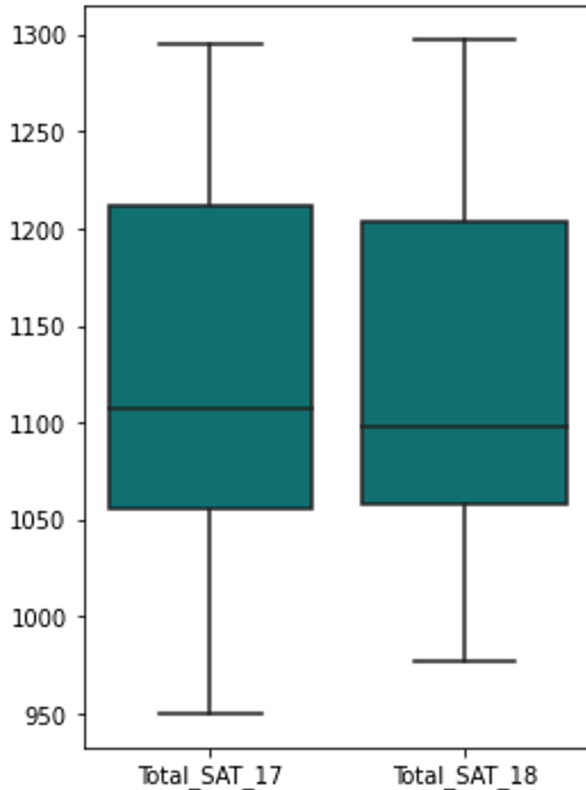


Summary Statistics for SAT 2017 and 2018 participation

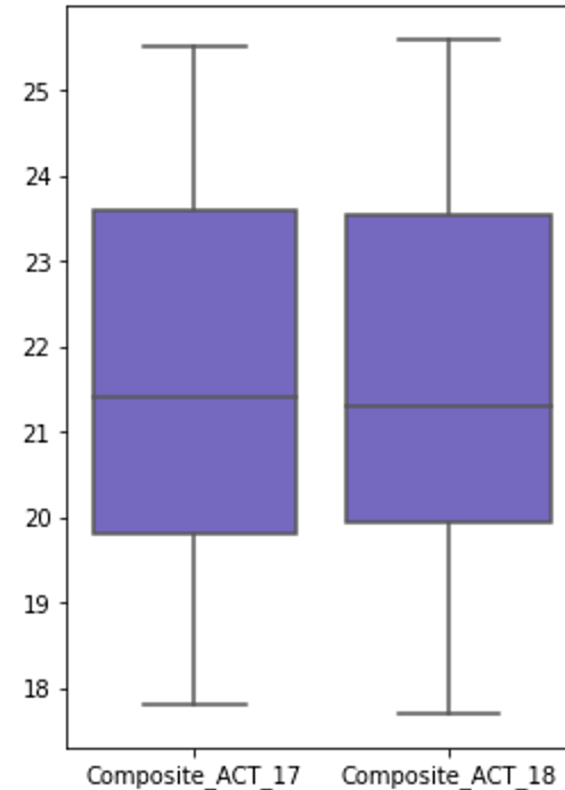
	SAT17	SAT18
Mean	40	46
IQR at 25%	4	5
IQR at 50%	38	52
IQR at 75%	66	77

Exploratory Data Analysis (II): Scores 2017 vs 2018

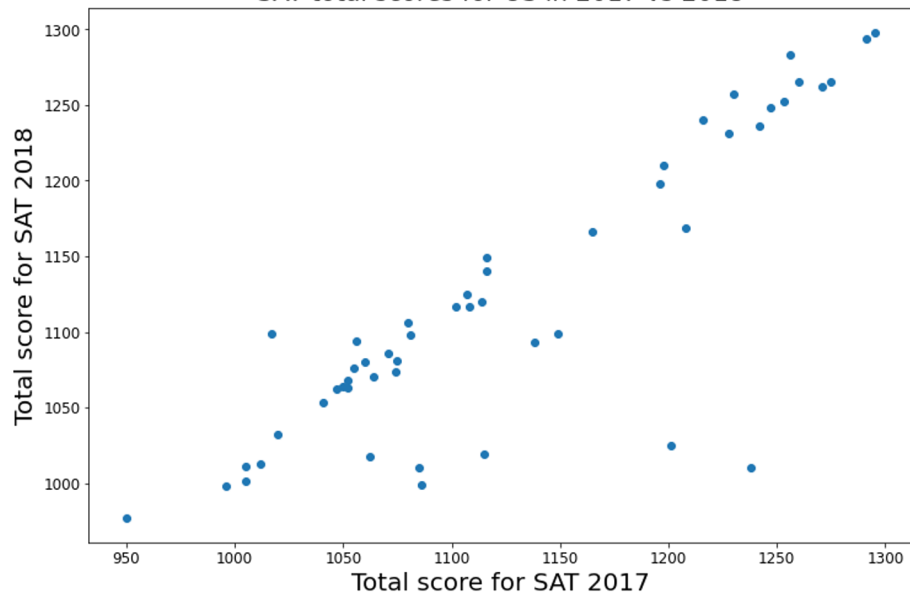
Total score for SAT in 2017 vs 2018 across US



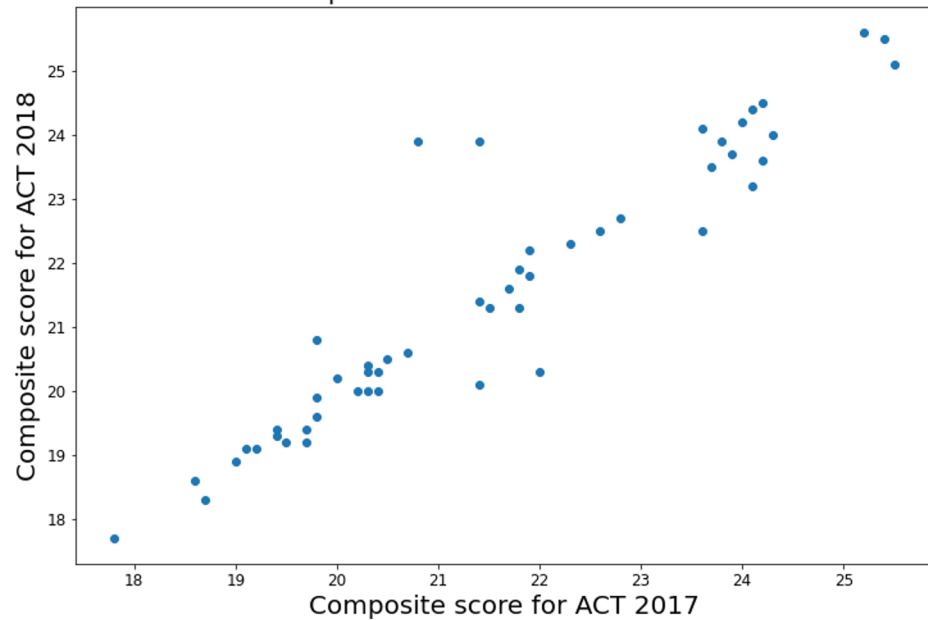
Composite score for ACT in 2017 vs 2018 across US



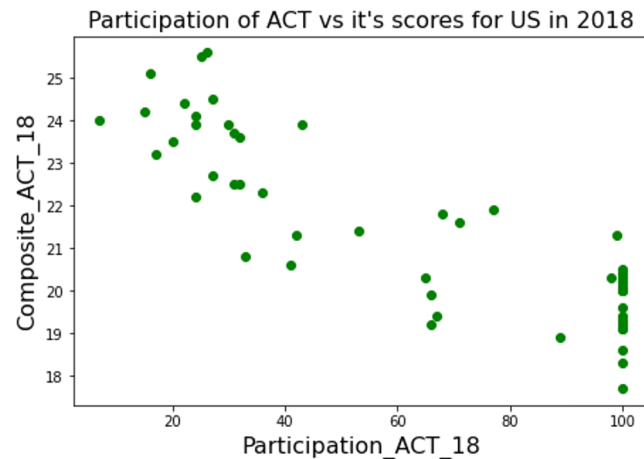
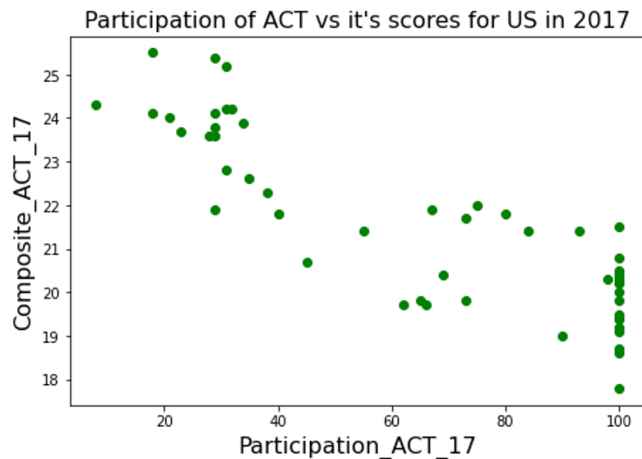
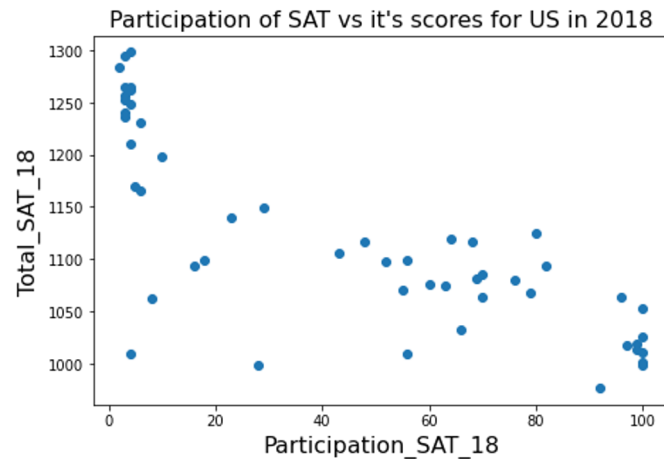
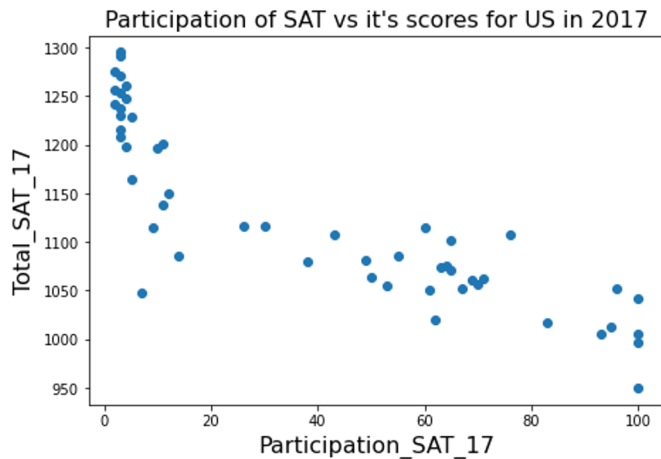
SAT total scores for US in 2017 vs 2018



ACT Composite scores for US in 2017 vs 2018

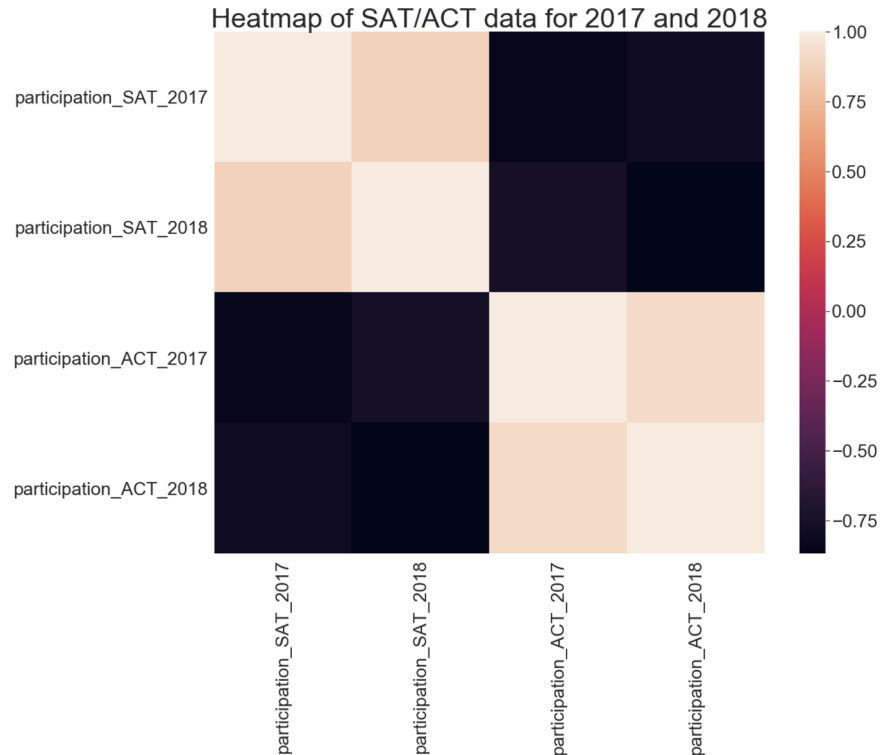


Participation Rates vs Scores

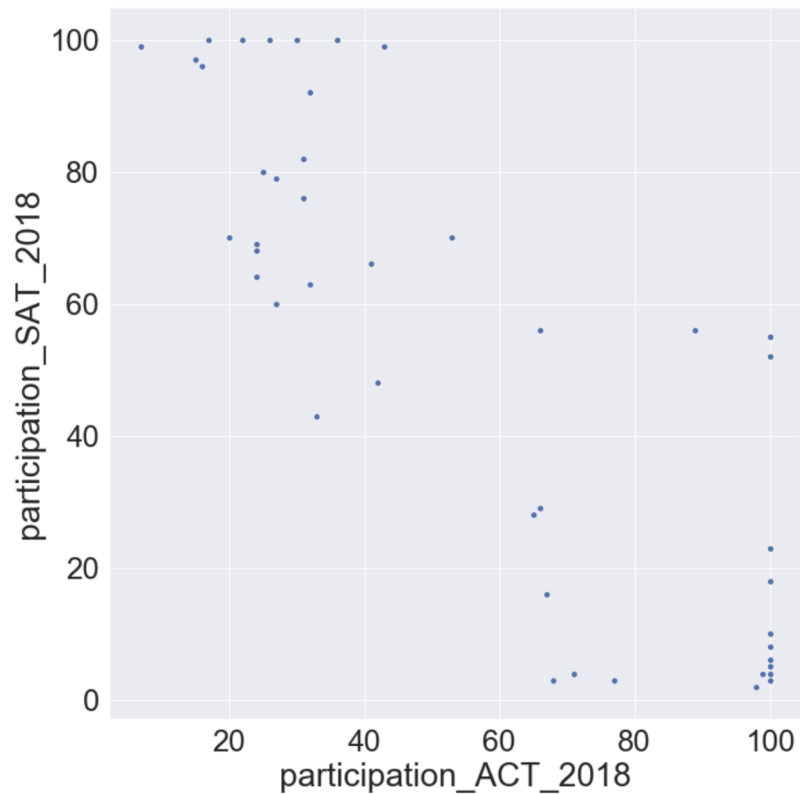
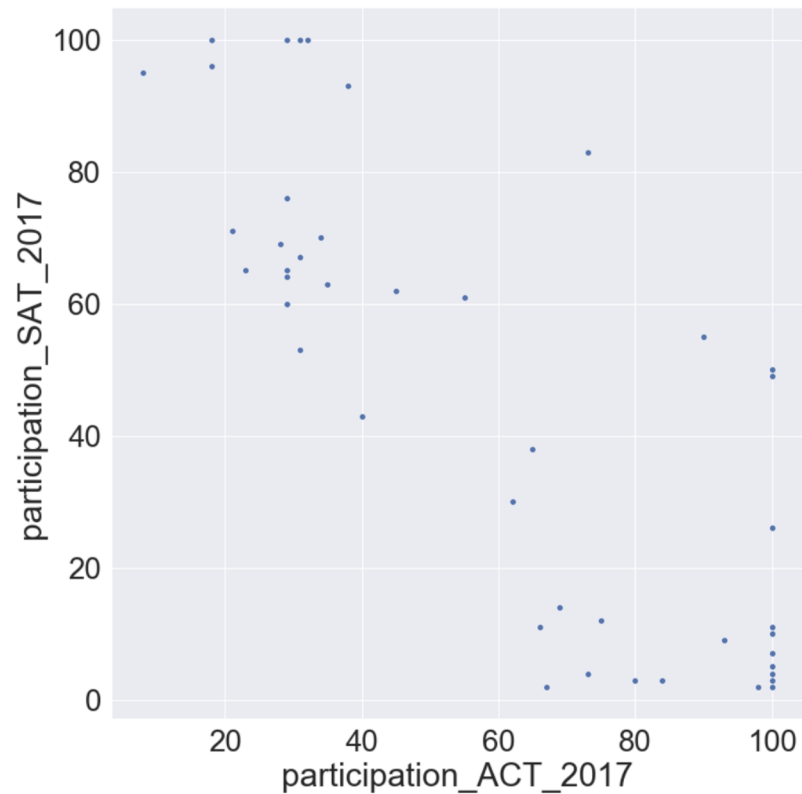


Exploratory Data Analysis (III)

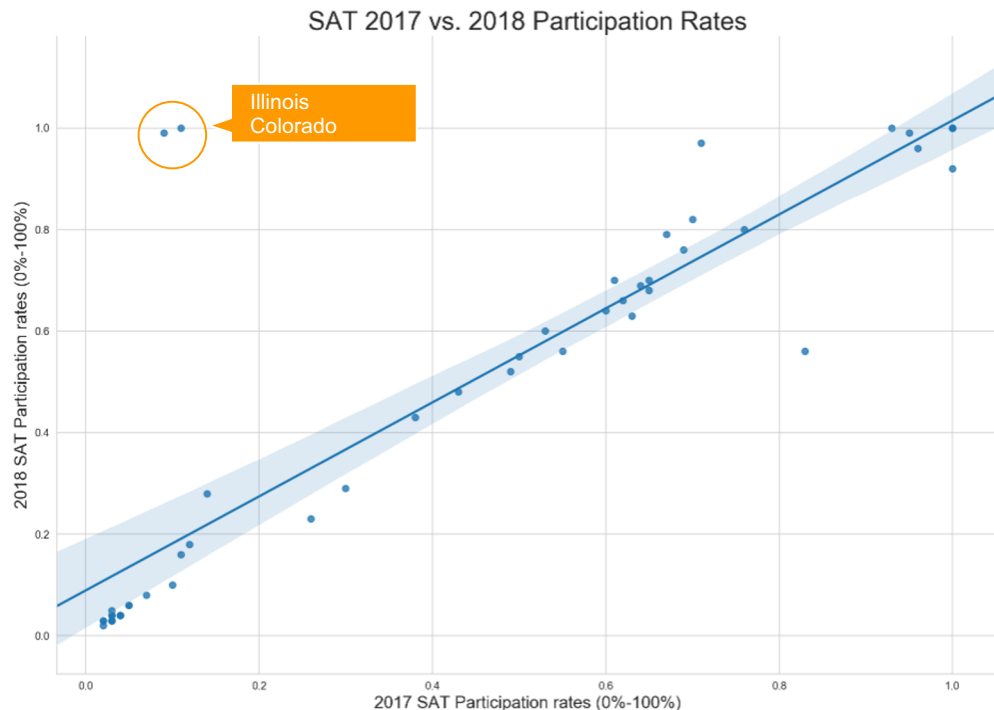
The participation rates of SAT and ACT are inversely correlated to each other



In general, students take either SAT or ACT



Exploratory Data Analysis (IV)



Comparing SAT Participation Rates

2017 to 2018

- Illinois: 9% to 99% participation rate
- Colorado: 11% to 100% participation rate

Drivers of change

- Expiration of ACT contract
- SATs more inline with academic standards
- Free practice materials (Khan Academy)
- Fee waiver for statewide mandatory tests

Conclusion & Recommendations

Conclusion

- On average, **participation rates for SAT are lower** than those of ACT for 2017 & 2018.
- SAT avg. participation rates grew from **~38% in 2017 to ~52% in 2018**.
- SAT & ACT participation rates are negatively correlated.
 - In general, **students take either SAT OR ACT, and not both**.
 - To grow, College Board needs to explore strategies to “encroach” on ACT market share.
 - Make SAT more appealing than ACT to students, schools & colleges.
- Year-to-year participation rates are positively correlated.
 - In general, **states with low (or high) participation in 2017 also have low (or high) participation in 2018**.
 - **Notable exceptions: Colorado & Illinois**

Recommendations

- Explore possibilities of expansion through **contracts with more states, schools and colleges**.
 - ◆ Only 11 states have contracts with College Board currently. [\[source\]](#)
- Explore potential avenues to **make SAT more accessible and affordable** for students. [\[source\]](#)
 - ◆ Accessibility = Making more centres and test dates available.
 - ◆ Affordability = Making more financial aid available, esp. for lower income groups. [\[source\]](#)
- Explore ways to **get ahead of the 'test-optional' trend** being adopted by colleges and universities. [\[source\]](#)

Thank you!
