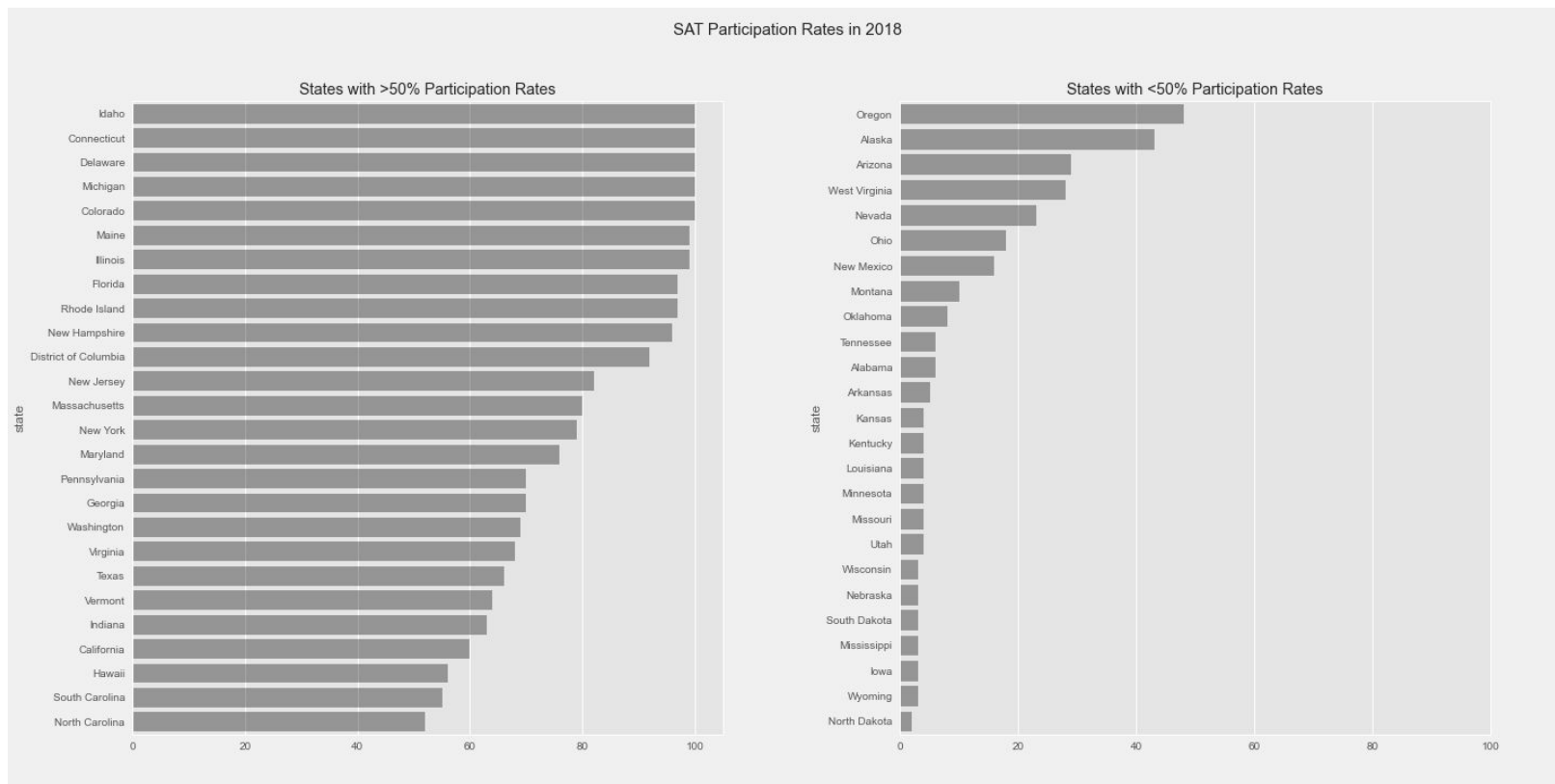# Project 1: SAT & ACT Analysis

The Task
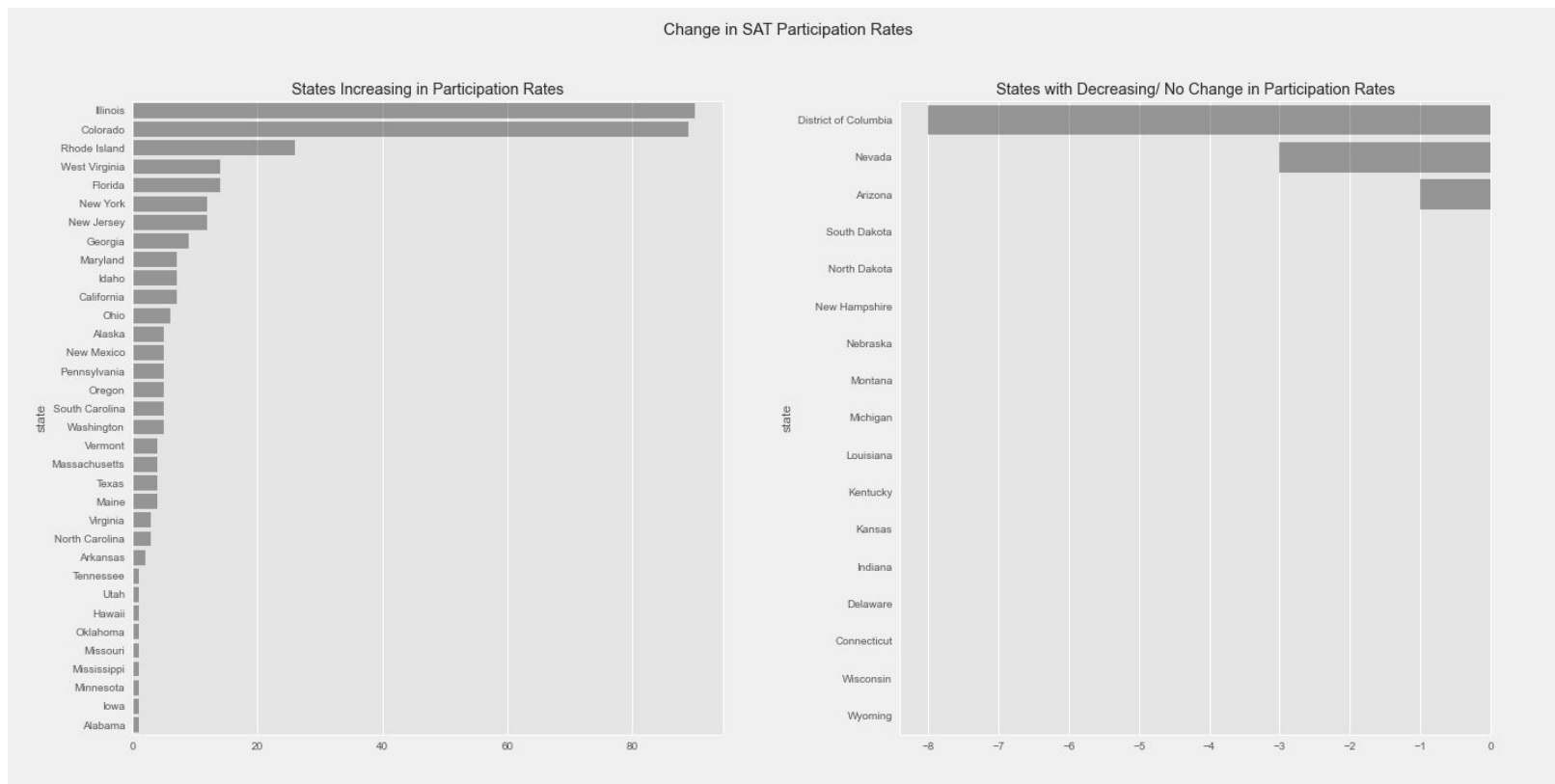
Using the data for SAT and ACT in 2017 and 2018, **make recommendations** to the College Board to **increase participation** rate for a chosen state.
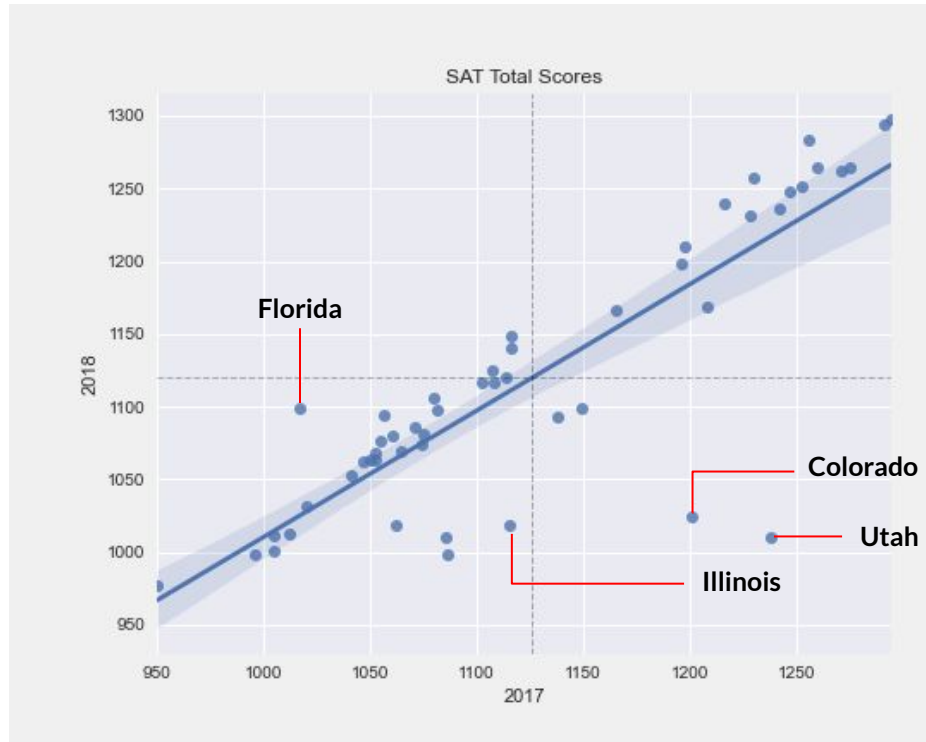
SAT Participation Rates in 2018

Half of states have >50% participation rates in 2018. **North Dakota** has the lowest participation rate.

Change in SAT Participation Rates

Change in SAT Participation Rates

States Increasing in Participation Rates

States with Decreasing/ No Change in Participation Rates

Participation rates have increased in 34 states, with **Illinois** and **Colorado** having the highest increase. Only 3 states have lower participation rates in 2018 vs. 2017.

How About SAT Scores?

States with Highest Increase in SAT Scores

state	total_sat_2017	total_sat_2018	total_sat_chg
Florida	1017	1099	82
New Jersey	1056	1094	38
Arizona	1116	1149	33
Wyoming	1230	1257	27
North Dakota	1256	1283	27

States with Highest Drop in SAT Scores

state	total_sat_2017	total_sat_2018	total_sat_chg
Utah	1238	1010	-228
Colorado	1201	1025	-176
Illinois	1115	1019	-96
West Virginia	1086	999	-87
Hawaii	1085	1010	-75

Most of the states have similar SAT scores in 2018 vs. 2017. **Florida** was the most improved state and **North Dakota** is among top-5 states improving on their SAT scores. **Utah**, **Colorado** and **Illinois** had the highest drop in SAT scores.

What Happened in Illinois and Colorado?

Both Illinois and Colorado had partnered with the College Board to make SAT mandatory in 2018, increasing participation to 100%.

However, this inclusion of 10 times more students than the year before, had a drastic impact on their SAT scores.

With the increase in SAT participation, ACT participation had dropped for these two states. An unexpected benefit of that drop was Colorado and Illinois became the 2 most-improved states in ACT composite scores in 2018!

An explanation for this could be the more academically inclined students might have taken both exams to enhance their chances of college acceptance.

States with Highest Increase in Participation

state	part_sat_2017	part_sat_2018	part_sat_chg
Illinois	9.0	99.0	90.0
Colorado	11.0	100.0	89.0
Rhode Island	71.0	97.0	26.0

States with Highest Drop in SAT Scores

state	total_sat_2017	total_sat_2018	total_sat_chg
Utah	1238	1010	-228
Colorado	1201	1025	-176
Illinois	1115	1019	-96

States with Highest Increase in ACT Scores

state	composite_act_2017	composite_act_2018	composite_act_chg
Colorado	20.8	23.9	3.1
Illinois	21.4	23.9	2.5
Alaska	19.8	20.8	1.0

How About Florida?

Improvement in SAT score

- Florida is the only state with more than 50 points improvement in SAT score.

- Improvement was in both Math and Evidence-based Reading and Writing scores.

- Partnership with Khan Academy to provide free, online SAT review lessons and practice tests have proved to be a good resource and also helped make the SAT the more popular exam.

Increase in Participation

- Participation rate increased from 83% in 2017 to 97% in 2018. This is without any mandate from the state of Florida.

- Increase attributed to students being able to take the exam during a regular school day, with cost covered by the schools.

state	total_sat_2017	total_sat_2018	total_sat_chg
Florida	1017	1099	82

state	math_sat_chg	ebrw_sat_chg
Florida	52	30

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State to Increase Future Participation: <u>North Dakota</u>

Reason for Choosing

- North Dakota has the lowest participation rate in 2018, only 2%! So there is a large pool of students to convert.

- It is among top-5 states with most improved SAT scores! There is evidence in the potential of North Dakota students to do better if they get additional resources like Khan Academy's free online practice tests.

Recommended Actions

- **Use Florida as a successful case example** of how participation can increase without bringing the SAT scores down drastically.

- **Do NOT** partner with the state to **mandate SAT** as the compulsory exam for all high school students. This might have an adverse effect on the SAT scores, as seen in the cases of Illinois and Colorado.

- Highlight the **availability of online resources like Khan Academy**, that SAT has made available to help them prepare and do well in the SAT.

- Work with schools to offer the taking of the exam during a regular school day with the cost covered by the schools.

Credit

Prepared by: Tay Yong Hua, Joseph. All data and charts were analysed and created in Python.

For: General Assembly, DSI-18, Project 1

References:

1. SAT Scores: 2017, 2018
2. ACT Scores: 2017, 2018
3. Sample SAT Tests screens from Khan Academy
4. Article from Orlando Sentinel