Underachieving States in SAT & ACT

• • •

Marah Moehammad Rifqi

Problem Statement

- We are from the data science team at the Ministry of Education of the United States of America.

- We are trying to improve the participation rates and scores of the country.

- Identify the underachieving states that has low participation rates and low mean scores in order to focus more attention to these states that require more help.

Project objective:

Clean

Explore

Recommend

Clean the data

Analyse the data and find trends

Recommend Solutions

Background

- In the United States of America, our High School students would complete their studies and decide if they would want to enter college.

- There are a few ways colleges accept students via academics:
  - School grade point average (GPA)
  - American College Test (ACT)
  - SAT (previously Scholastic Aptitude Test)

- Do note that the 2 tests mentioned are NOT mandatory.

- Each state has their own education program

Understanding the market

Identifying Trends

- Low participation rates = High scores
- High participation rates = Low scores

	state	participation_sat_18	total_sat_18
33	North Dakota	0.02	1283
49	Wyoming	0.03	1257
40	South Dakota	0.03	1240
26	Nebraska	0.03	1252
48	Wisconsin	0.03	1294

	state	participation_sat_18	total_sat_18
5	Colorado	1.00	1025
6	Connecticut	1.00	1053
7	Delaware	1.00	998
21	Michigan	1.00	1011
11	Idaho	1.00	1001

SAT Participation Rate and Mean Total Score 2018
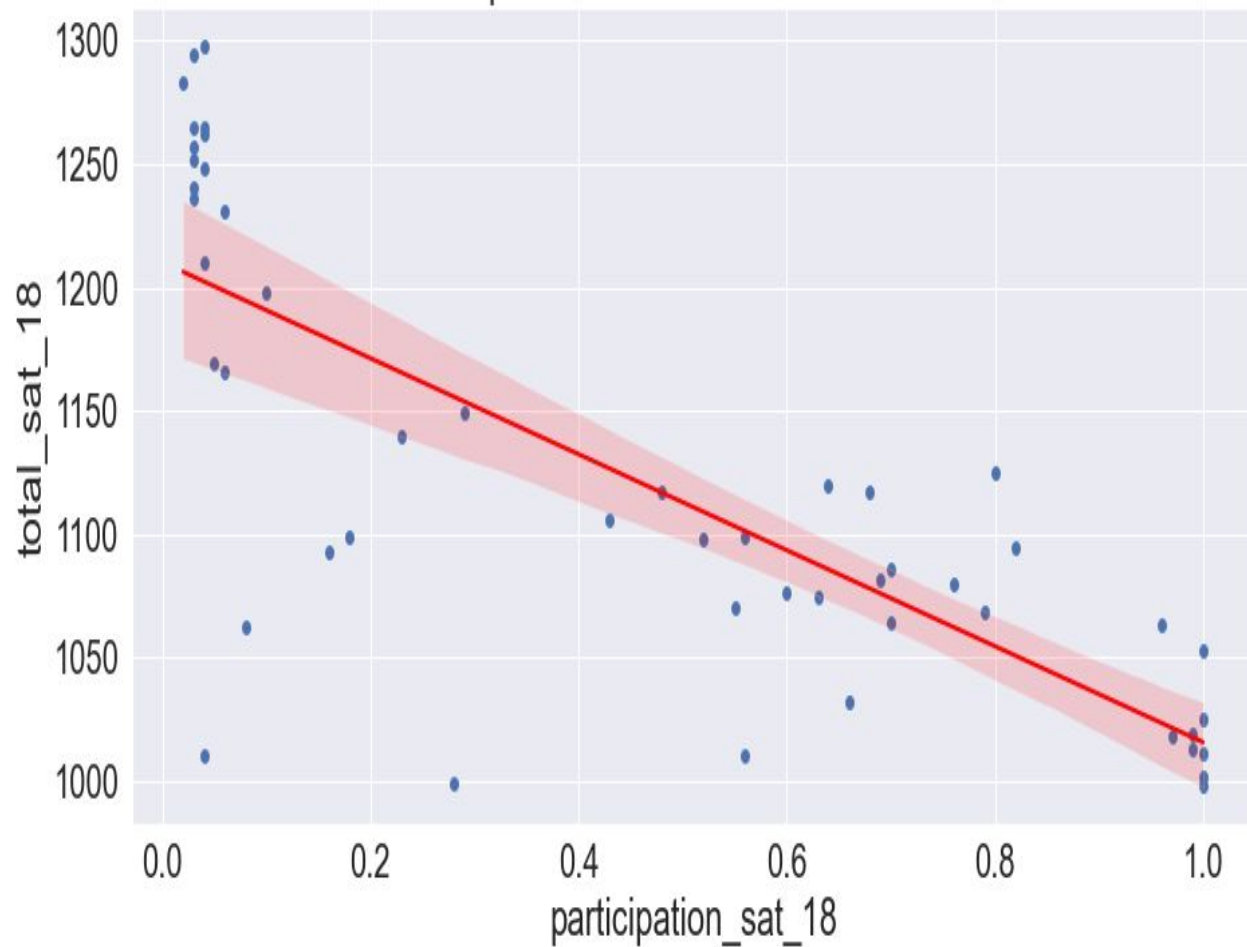
Inverse relationship between participation rates and scores.

SAT Participation Rate and Mean Total Score 2018
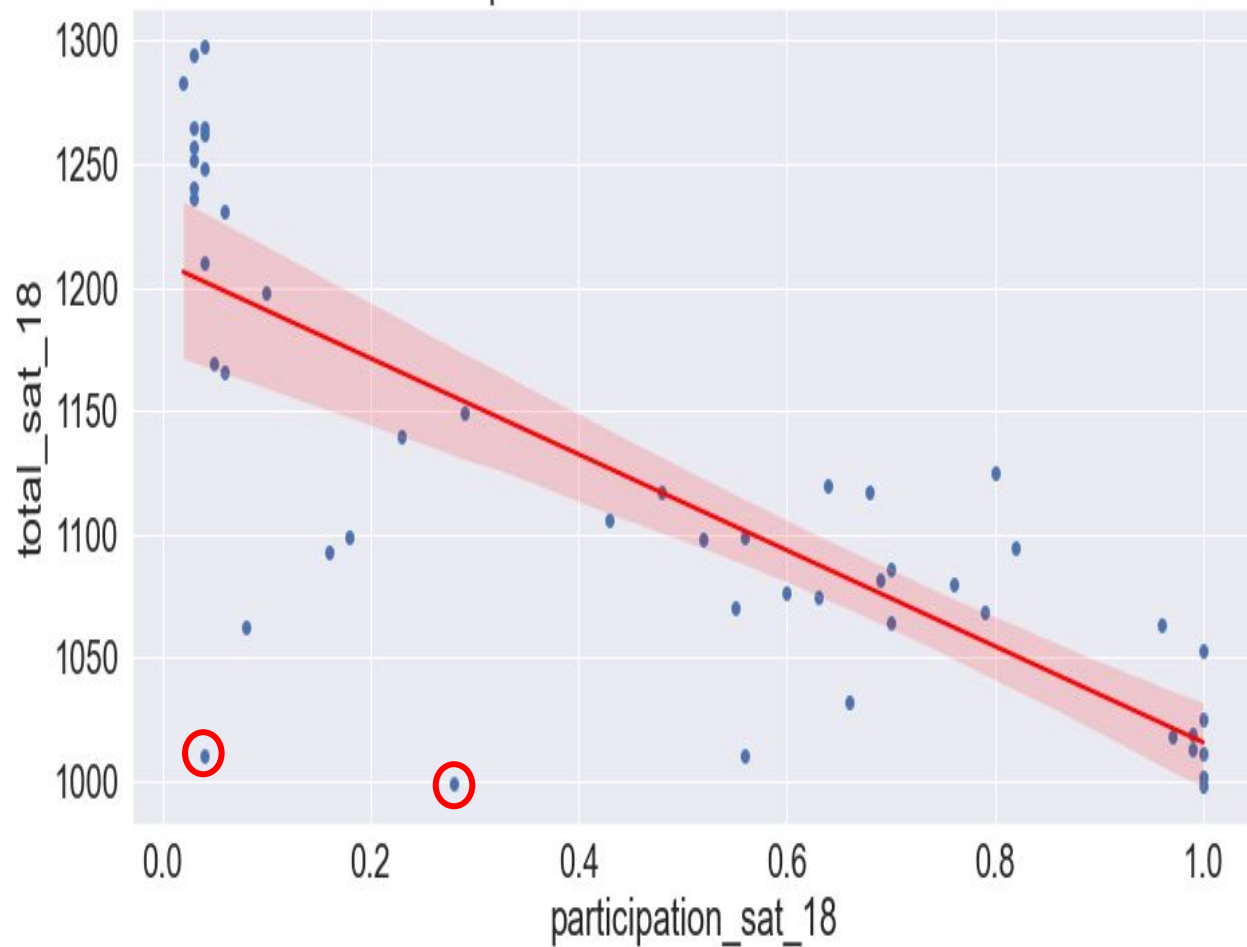
Outliers with low participation rates & scores:

Ohio & Oklahoma

Limitations

- Dataset from 2018 and 2019 only.

- Other factors could be involved in the making of the dataset.

Research on Ohio & Oklahoma

Ohio Income Statistics

The following data are the most current income statistics for Ohio from the US Census Bureau, are in 2020 inflation adjusted dollars and are from the American Community Survey 2020 5-year estimates.

- Median Household Income: $58,116.
- Average Household Income: $78,797.
- Per Capita Income: $32,465.
- 5.2% of Households in Ohio are High Income Households that make over $200,000 a year.

Research on Ohio & Oklahoma

Oklahoma Income Statistics

The following data are the most current income statistics for Oklahoma from the US Census Bureau, are in 2020 inflation adjusted dollars and are from the American Community Survey 2020 5-year estimates.

- Median Household Income: $53,840.
- Average Household Income: $74,195.
- Per Capita Income: $29,873.
- 4.5% of Households in Oklahoma are High Income Households that make over $200,000 a year.

Research on average college tuition

Historical Cost of Tuition & Fees
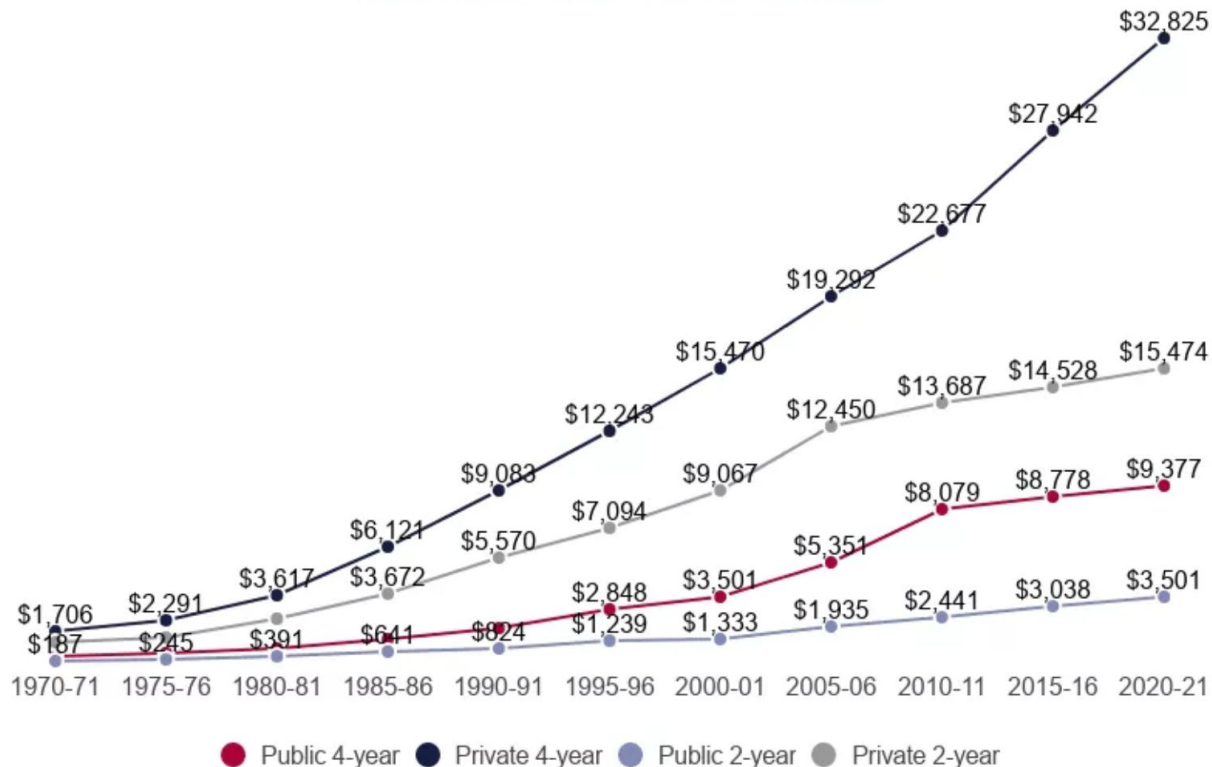
- Rising Tuition Fees

Findings

- Participation rates and scores are inversed

- Focus on Ohio & Oklahoma
  - Low participation rates
  - Low scores

- Low median income for these 2 states

- Rising tuition fees

Recommendations

- Provide more scholarship to these states to motivate students

- Review and improve state's education program

- Encourage students with lower costs fees for the standardised tests