

DSI Project I

SAT and ACT Participation Study
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Introduction

Participation on the SAT and ACT tests is a key element in the established process of admissions to colleges and universities across the nation. This project will aim to analyze the trends in SAT and ACT participation and its relationship with the scores that participants have achieved.

Perhaps in the future with more data. We could review their conditions of the states that reached 100% participations analyze how and what they did to reach that goal and design a strategy that can be applied to increase participation on states with lower levels of participation and increase scores across the board.

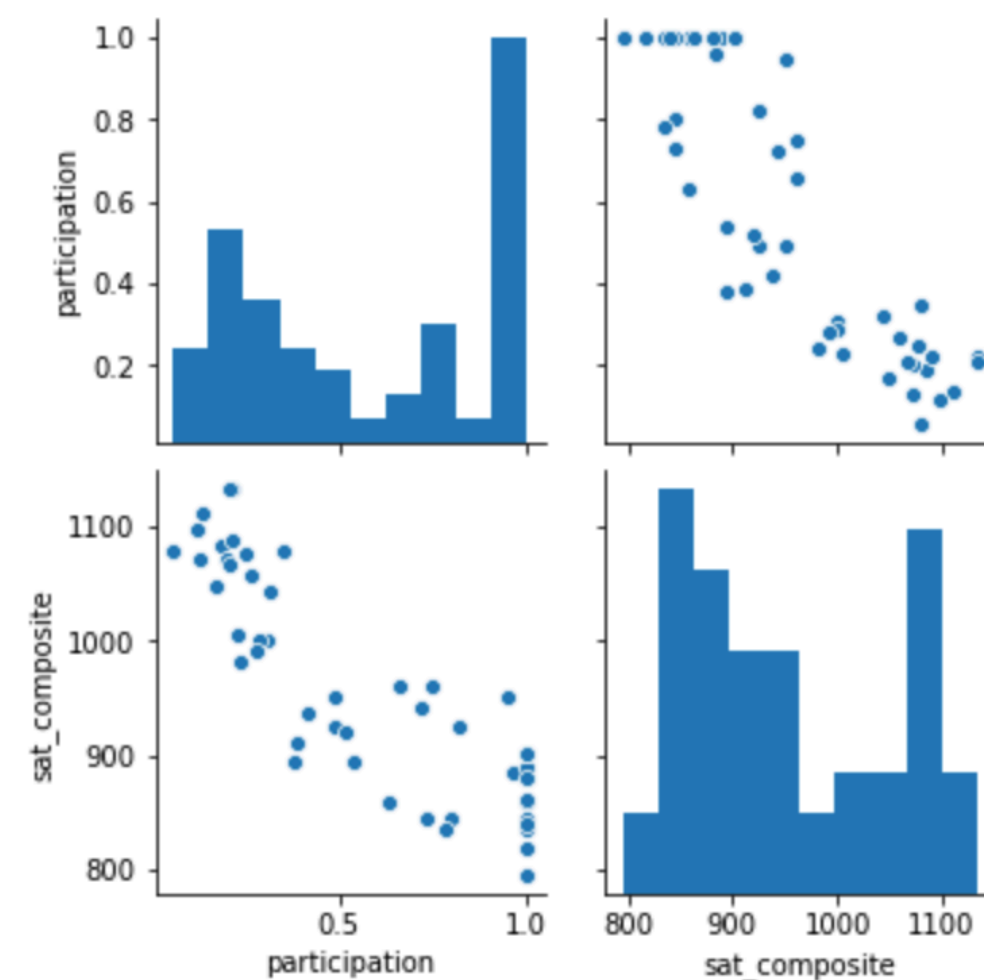
Methodology

- This analysis will compare current and previous years levels of participation [2017, 2018 and 2019] across all fifty states.
- This analysis will also compare level of participation per states for ACT and SAT.
- Finally this analysis will represent and compare Scores per State and find their relationship with Participation, if possible.

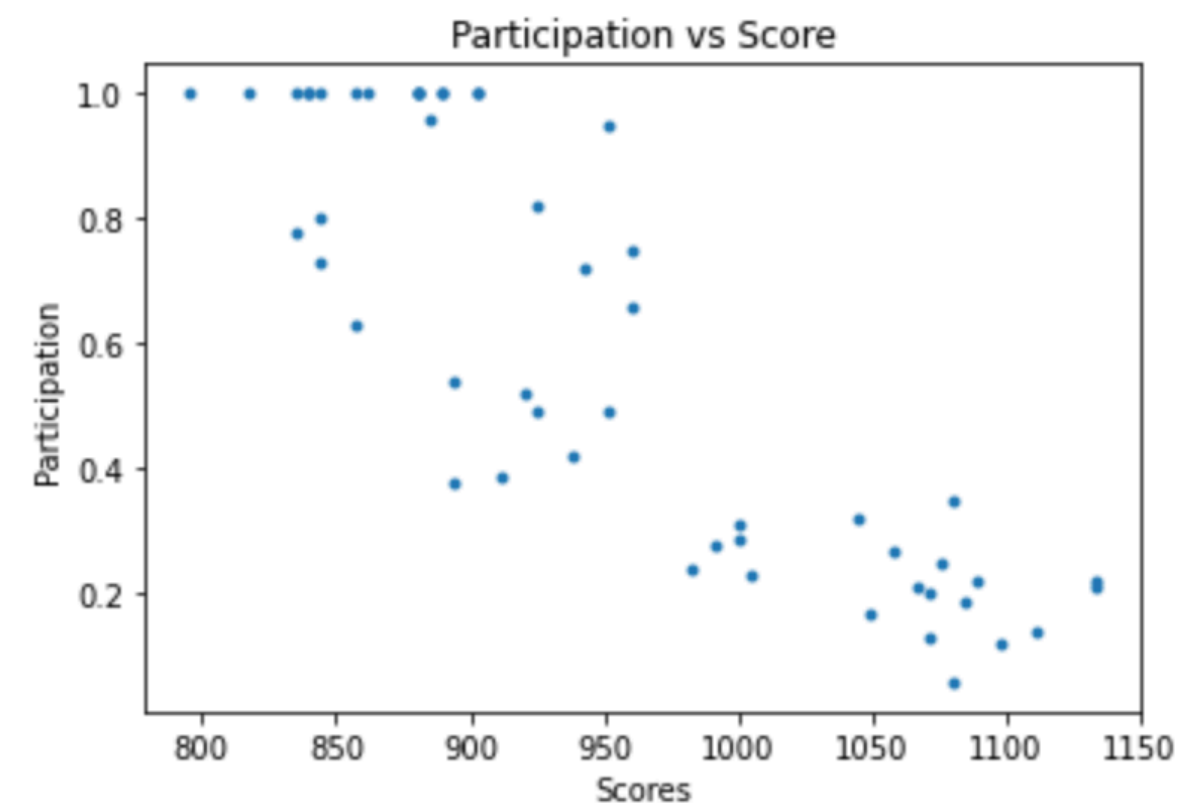
Findings

- States with a high levels of participation have low scores. The relationship between Participation and Score (performance) is Inverted. Meaning, the Higher the Participation the Lower the Scores accomplished.

```
1 # Pairplot Representing Participation vs Scores for ACT 2019
2 sns.pairplot(act_2019);
```



```
1 # Scatter Plot of Scores vs Participation - ACT - 2019
2 plt.scatter(act_2019['sat_composite'],act_2019['participation'],marker='.')
3 plt.title("Participation vs Score")
4 plt.xlabel("Scores")
5 plt.ylabel("Participation");
```



Recommendations

- State funding impacted on student participation. Include cost of tests, class preparation materials and class courses. Extension of funding to another states most likely will increase participation.
- Class preparation for tests. Would definitely will create the conditions to increase the score of the participants.
- Free or low cost study materials preparation for tests. Associated with precious point, support with study materials could benefit score marks for the participants.