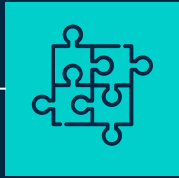


The background is a dark blue field decorated with various geometric elements. It includes numerous small squares in shades of pink, orange, and teal, as well as thin white vertical lines of varying lengths. These elements are scattered across the slide, creating a modern, minimalist aesthetic.

SAT & ACT Analysis

By Marcus Tan

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Problem Statement & Data Dictionary

01

Problem Statement

- New format for the SAT was released in March 2016.
- College Board wants to improve SAT participation rates.
- Provided with data sets for 2017/18.
- Choose 1 state and provide recommendations.

Data Dictionary

FEATURE

TYPE

DATASET

DESCRIPTION

state

object

sat/act_df_2017/18

The states that are participating in the respective exams

sat/act_participation_2017/18

integer

sat/act_df_2017/18

The participation rate of each state (in %)

sat_english_reading_science_2017/18

integer

sat/act_df_2017/18

The SAT score for the section under Evidence-Based Reading and Writing (200 - 800)

sat_math_2017/18

integer

sat_df_2017/18

The SAT score for the section under Math (200 - 800)

sat_finalscore_2017/18

integer

sat_df_2017/18

The average total score of SAT exam (400 - 1600)

act_english_2017/18

float

act_df_2017/18

The ACT score for the section under English (1.00 - 36.00)

act_math_2017/18

float

act_df_2017/18

The ACT score for the section under Math (1.00 - 36.00)

act_reading_2017/18

float

act_df_2017/18

The ACT score for the section under Reading (1.00 - 36.00)

act_science_2017/18

float

act_df_2017/18

The ACT score for the section under Science (1.00 - 36.00)

act_finalscore_2017/18

float

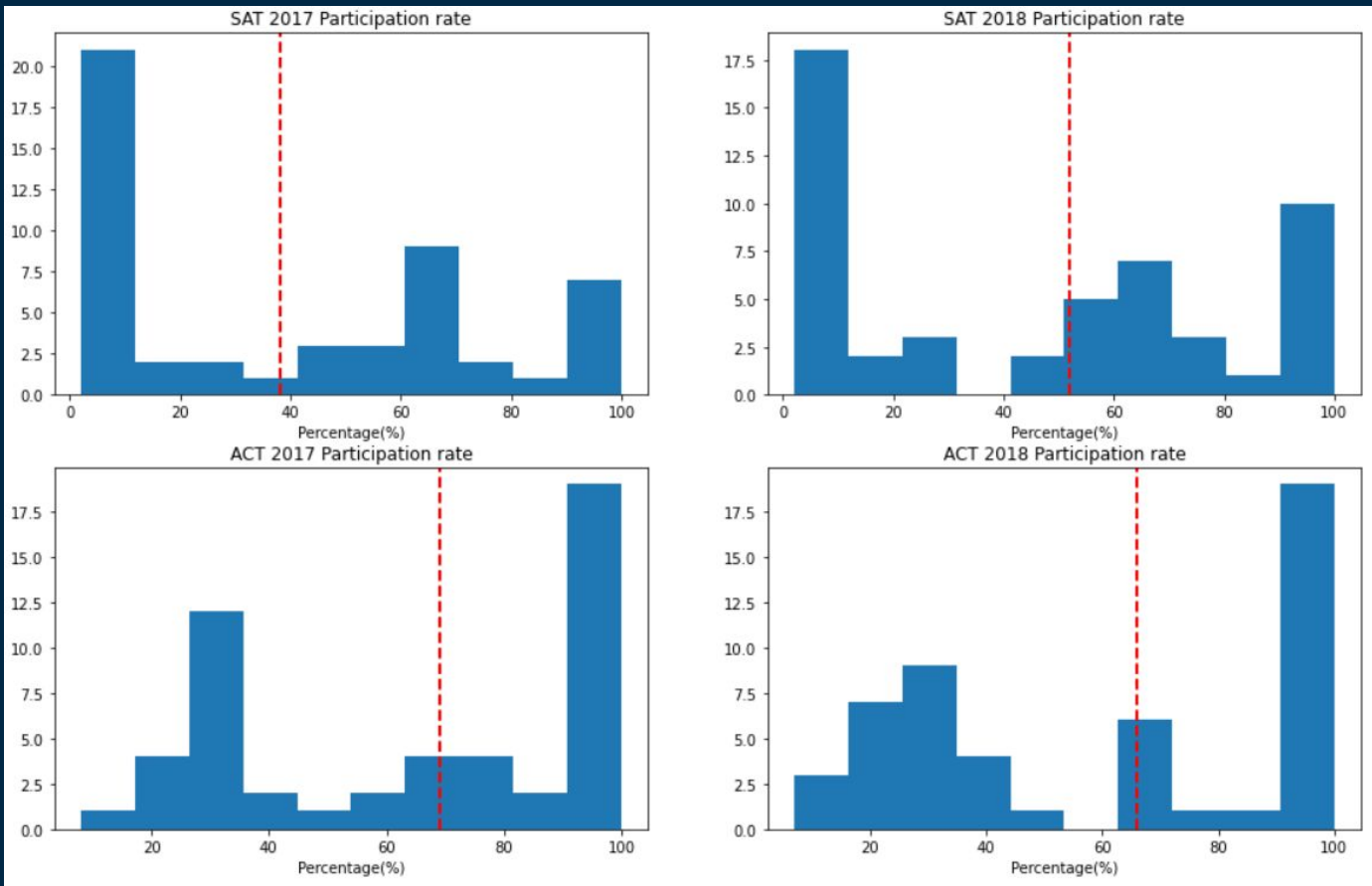
act_df_2017/18

The total average score of ACT exam (1.00 - 36.00)

Data Visualisations

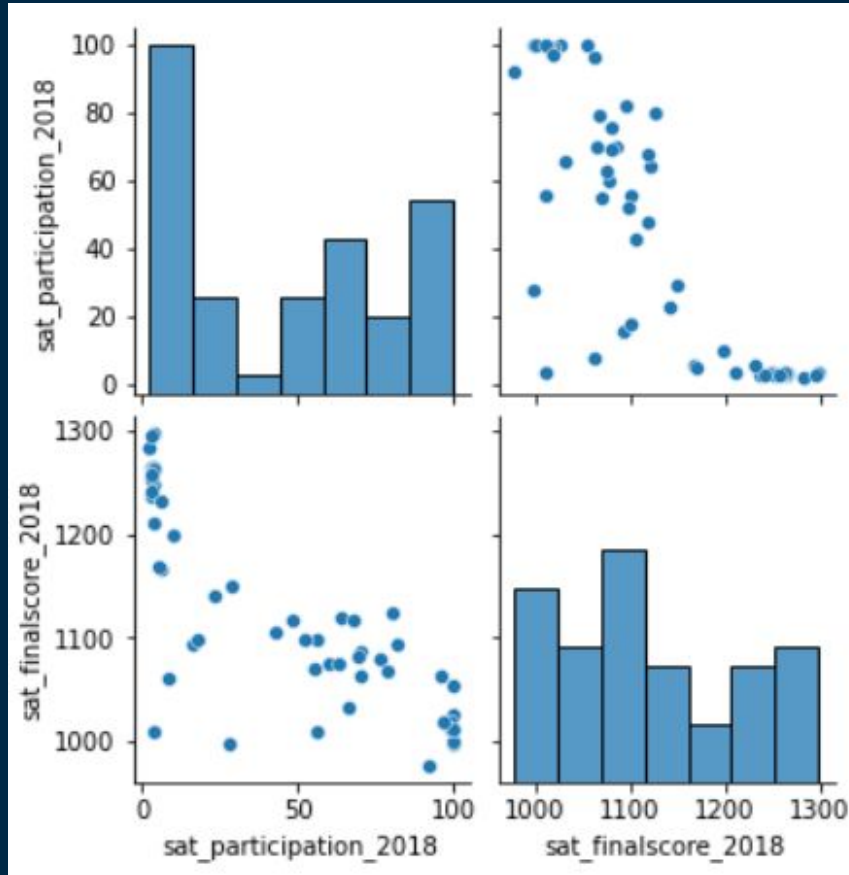
02

Histograms - Participation Rate 17/18



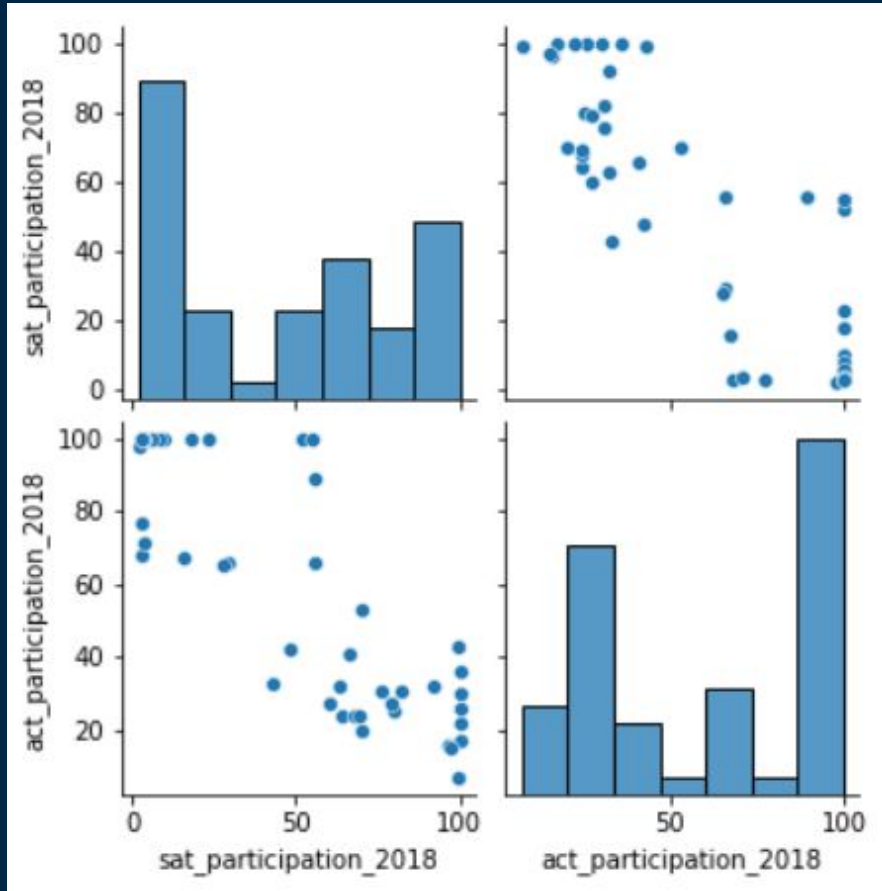
- Bimodal
- High SAT states with 0 - 20% participation
- High ACT states with 80-100% participation
- SAT skewed right
- ACT skewed left
- Median line greater for ACT

Scatterplots – SAT Participation / SAT Final score



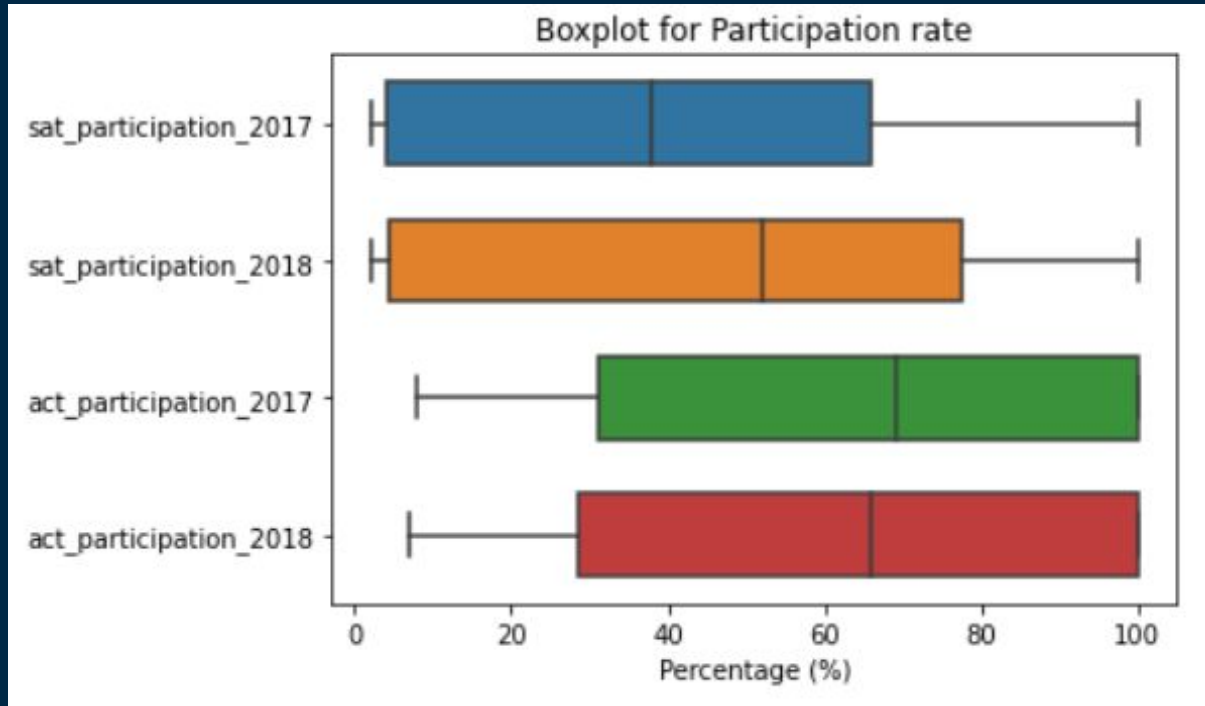
- Negative Correlation
- Higher participation, Lower Final score
- Few outliers

Scatterplots – SAT/ACT Participation



- Negative Correlation
- Higher SAT participation, Lower ACT participation
- Concentrated at the extreme ends

Box Plots – Participation rate 17/18



- SAT concentrated on lower range
- ACT concentrated on upper range
- ACT is preferred

Conclusion & Recommendations

03

Conclusion and Recommendations

Conclusion:

- ACT is generally **preferred** in most states.
- SAT is **gaining** popularity.
- SAT participation rate is **inversely** related to ACT participation rate and SAT average final score.
- Useful additional data (e.g. Government budget, Number of Schools).

Recommendation:



- Low SAT participation rate of **3%** in 2018.
- ACT participation in the state is **not mandatory** (68% in 2018).
- High SAT average final score of **1265**.

Some ways:

- Offer free or subsidised cost.
- Encourage students that might do better in the SAT to participate.

Do you have any questions?



THANKS



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