

ACT / SAT

Analysis of Trends from Data
(2017-2018)

Introduction

- SAT & ACT are primary standardized tests used for college admissions
- No clear advantage in choosing either one
- Participation rates & average grades vary between states
- New format for SAT introduced in 2016

Problem Statement

- Which state should the College Board spend more money on to improve SAT participation rates?

Existing Data

Datasets	Information
SAT/ACT 2017 & 2018 Organised by State	Participation Rates Average Scores (By Subject / Total)

Data Cleaning

- Checking completeness of datasets
- Fixing wrong values & datatypes
 - Comparison with external sources (Digest of Education Statistics)
- Renaming columns, dropping unwanted rows
- Merging separate datasets into one
- Ease of access & comparison for later

Exploratory Data Analysis (EDA)

- Investigate trends in the data
 - Inverse relationship between participation rate & average total score

state	Minnesota	Wisconsin	Iowa	Michigan	Delaware	District of Columbia
sat_17_total	1295	1291	1275	1005	996	950
sat_17_participation	3	3	2	100	100	100

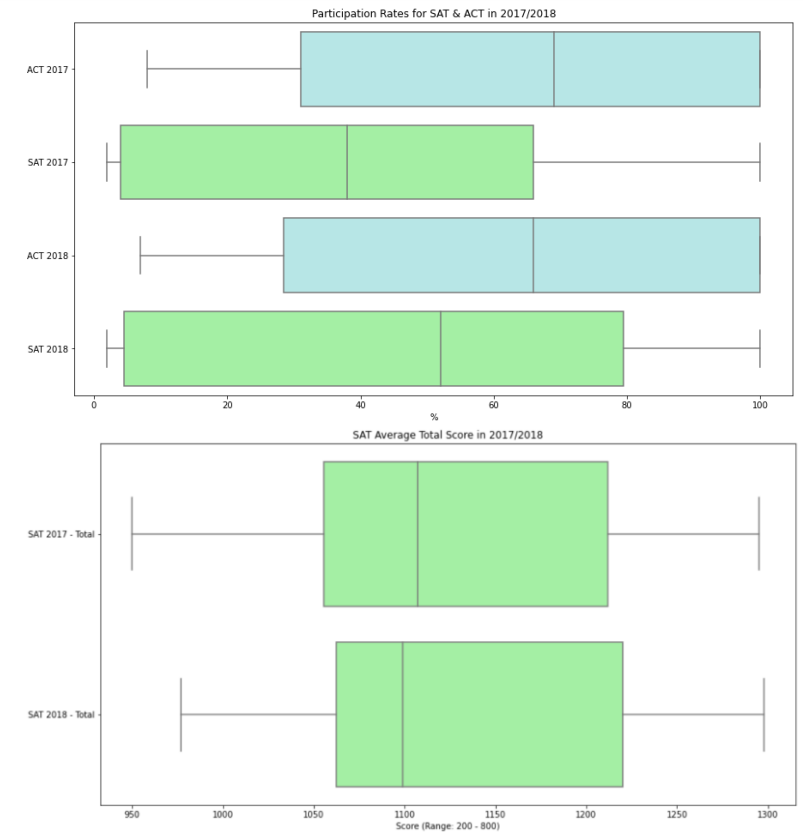
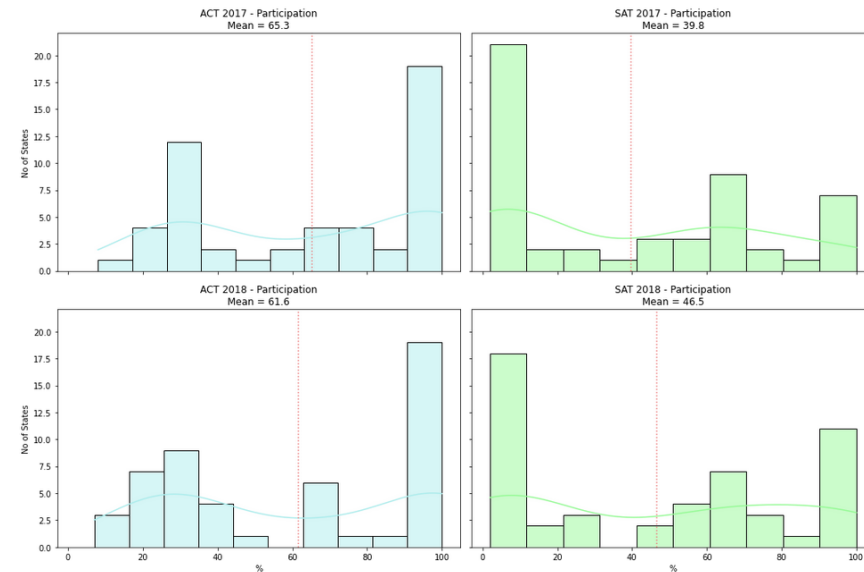
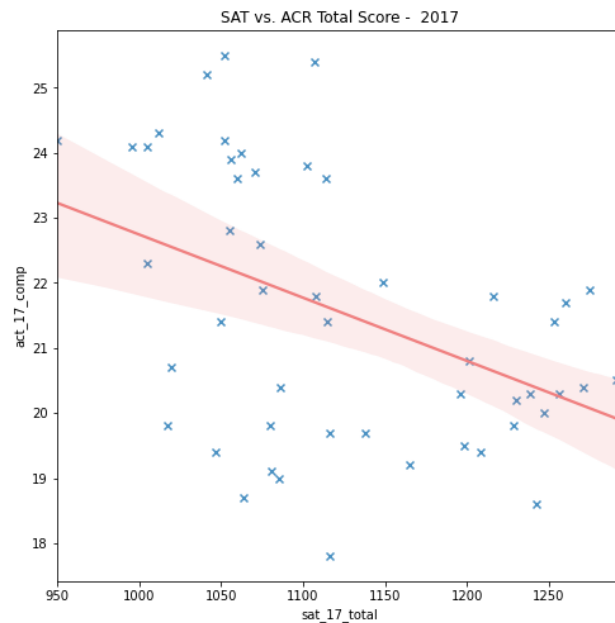
- Inverse relationship between ACT & SAT participation rates within state

state	District of Columbia	Michigan	Connecticut	North Dakota	Mississippi	Iowa
sat_17_participation	100	100	100	2	2	2
act_17_participation	32	29	31	98	100	67

- Relatively few states with major jumps in participation rates between years

Data Visualisation

- Further expound upon EDA & find new trends in data
 - Relationship between participation rates for ACT & SAT across years
 - Relationship between SAT & ACT average scores
 - Trend for average scores across years



Conclusion & Recommendations

- States with massive jumps in participation rates had one thing in common
 - Colorado, Illinois
 - Legislation & subsidies
- Participation rates for SAT & ACT tend to mirror each other
- Recommendation for the board to invest more resources in **Oklahoma**
 - Low SAT participation rate but still low average total score
 - Allocate resources wisely – proper education & lobbying