

DSI-4 Project 1

SAT Test Scores

Will you make it to college?

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What are we going to be talking about today?

- 1) Background & Contextual Information
- 2) Analysis Overview
- 3) Problem Statement & Objectives
- 4) Findings
- 5) Conclusions & Recommendations

What is the SAT and ACT?

Here's some background...

- Standardized tests that colleges/universities in America that require for admissions and scores for these tests are measure by GPA
- SAT test comprises of Evidence-Based Reading, Writing and Math
- ACT test comprises of English, Math, Reading and Science
- Covid-19 pandemic first hit the United States in January 2020. In order to contain the spread, lockdowns were initiated within the states in March to April 2020.

Analysis Overview - Who is at risk?

As members of the **College Board**, we are interested in **enabling students achieve the SAT scores required to enter college.**

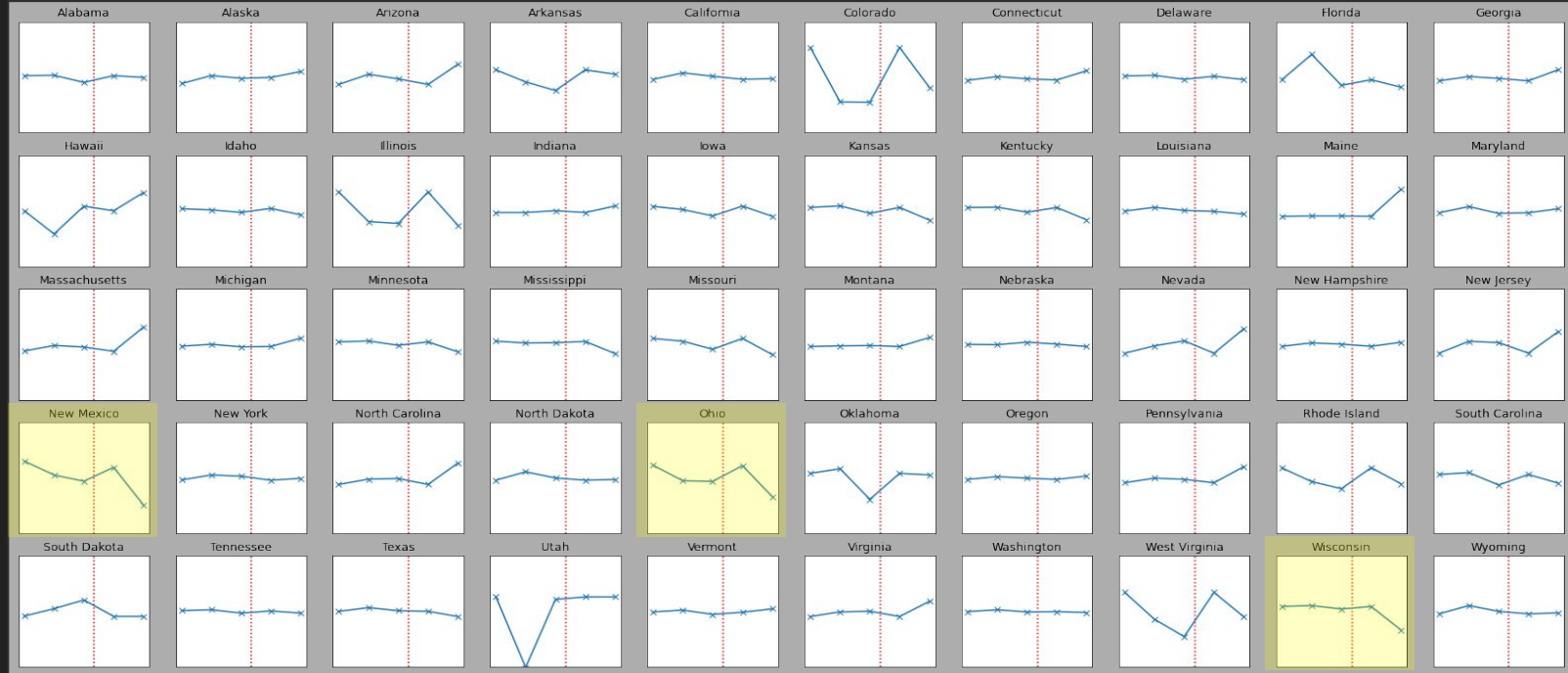
In this preliminary study, we are interested in the **impact of Covid-19 lockdowns** has **on student's grades.** More importantly, we are interested in **identifying states where students are at risk** of being unable to enter college.

The results of this study will be used to **decide where to deploy further resources** to help students at risk (if any).

Problem Statement - SAT vs Covid-19

- The mission of the college board is to admit students for a fair and/or successful opportunity to a reputable college
- With the pandemic resulting in lockdowns and tightened restrictions, learning and teaching have been affected
- Conduct a preliminary study to
 - Verify the claims of Covid lockdowns affecting students results
 - Identify states at risk
 - Evaluate extent of impact
- **So how did these causations affect:**
 - 1) SAT scores trend across the timeline before and midst of a pandemic
 - 2) Top performers(by state) across 2017 to 2021
 - 3) Poorest performers(by state) across 2017 to 2021
 - 4) Which state was most impacted by the pandemic and its restrictions
 - 5) With the performance rates and list of colleges,how many students qualify to be accepted in those colleges

SAT Score Trend By States



- Despite COVID-19 since 2020, ~34 of 50 states managed to maintain or increase their average score from 2017-2019
- However in 2021, 3 states were adversely affected by COVID
 - New Mexico, Ohio, Wisconsin

Top 10 Highest and Lowest Scores Since 2017

Top 10 High Scores 😊

	postal_of_states	state	reading	math	total	year
111	MN	Minnesota	643	655	1298	2018
113	MN	Minnesota	644	651	1295	2020
110	MN	Minnesota	644	651	1295	2017
241	WI	Wisconsin	641	653	1294	2018
240	WI	Wisconsin	642	649	1291	2017
243	WI	Wisconsin	642	649	1291	2020
112	MN	Minnesota	636	648	1284	2019
242	WI	Wisconsin	635	648	1283	2019
166	ND	North Dakota	640	643	1283	2018
73	IA	Iowa	641	635	1276	2020

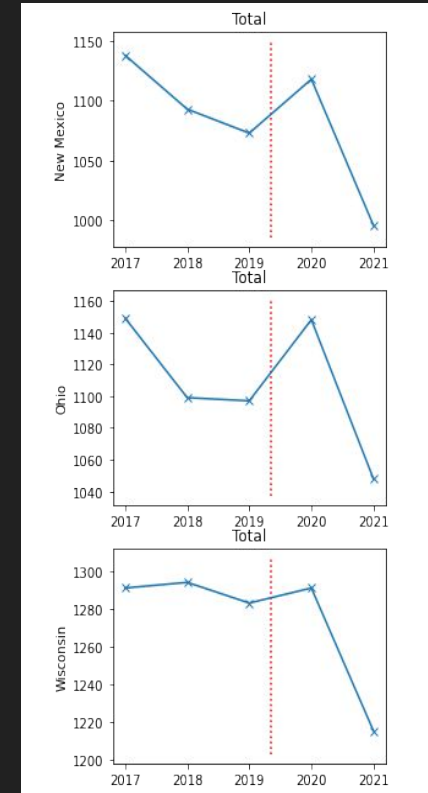
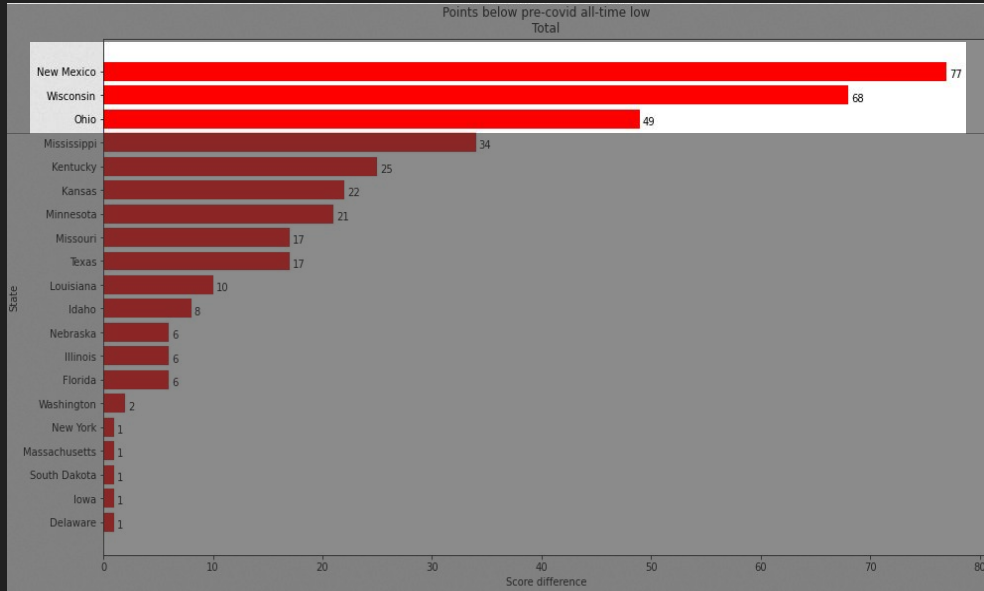
- Strong performers: Minnesota and Wisconsin
 - 8 of the 10 highest state average score

Top 10 Low Scores 😞

	postal_of_states	state	reading	math	total	year
237	WV	West Virginia	483	460	943	2019
177	OK	Oklahoma	490	472	963	2019
39	DE	Delaware	499	485	984	2021
59	ID	Idaho	502	483	985	2021
37	DE	Delaware	499	486	985	2019
57	ID	Idaho	505	488	993	2019
44	FL	Florida	513	480	993	2021
192	RI	Rhode Island	503	492	995	2019
38	DE	Delaware	503	492	995	2020
35	DE	Delaware	503	492	996	2017

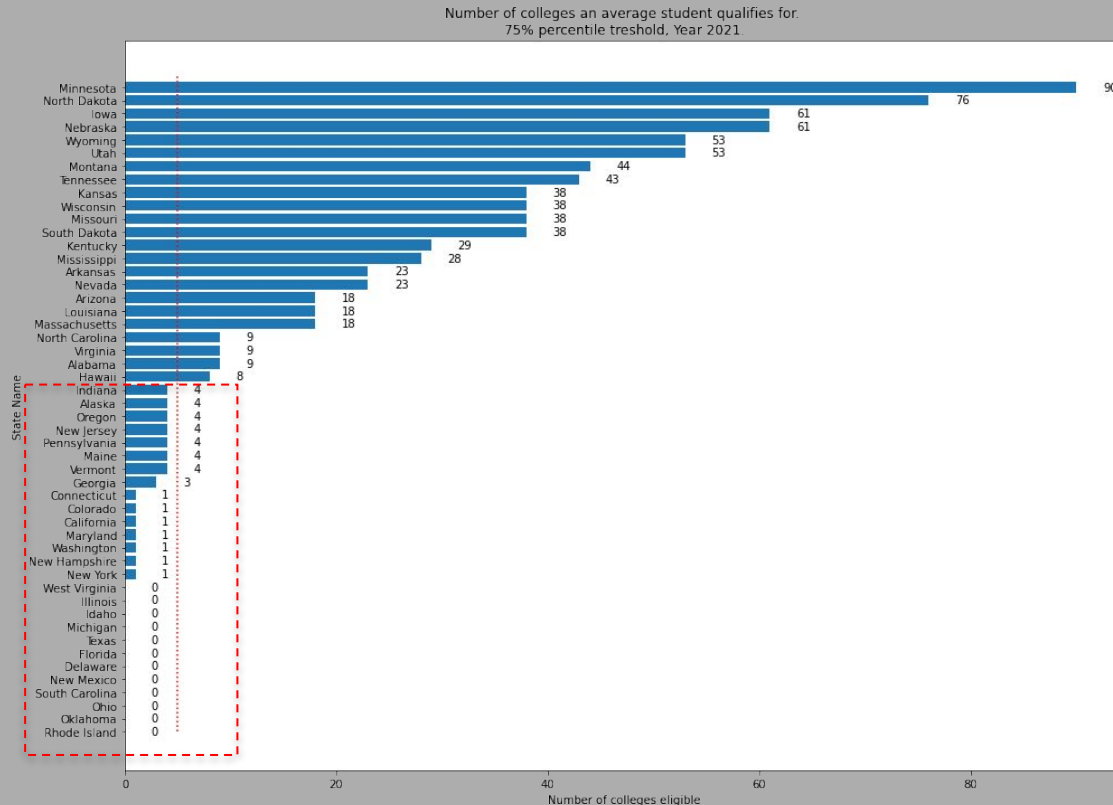
- Poor performer: Delaware
 - 4 out of 10 lowest state average score

COVID Affected States



- New Mexico, Wisconsin and Ohio are the top 3 most affected states, with a staggering drop of 77, 68 and 49 points respectively, below their pre-covid all-time low.

Which States Need Help?



- 27 states are below the threshold in year 2021
- 19 states urgently need help to get more students into colleges/universities

*Students scoring below the 75th percentile would be classified as having a poor chance of getting into the college.

Conclusion

Summary

- Despite COVID, 34 states had managed to maintain a rather consistent score since 2017
 - Only 3 states had significant drop in scores
- While COVID had resulted in new 5-year low score for 20 states, more than half of them were by 10 points or less
- However, urgent attention is needed for 19 states as their students are only eligible for 1 or less colleges/universities' popular/competitive courses

Conclusion

- COVID did affect the performance of some states
- But the root cause of students being unable to get a placement in universities/colleges' popular courses is not mainly due to COVID
 - Factors such as education support, policies, teaching methodologies might have played a larger role since more than half of the states scores did not fluctuate too widely since 2017

Recommendations

1. To identify best practices from the top performing states such as Minnesota and Wisconsin
2. To identify root causes for poor performance in the 19 at-risk states.
3. To collect, review and monitor performance data from the 19 at-risk states moving forward.

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