

SAT/ACT Civic Data Analysis

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Mission Statement

Task at hand

I have been given the task of making recommendations to the mayor of the town in order to improve education outcome for high school students.

Problem statement

Does living in a certain region of the country affect the overall SAT participation rate and test scores?

Data Snapshot

	state	participation_2017	ebrw_2017	math_2017	total_2017	participation_2018	ebrw_2018	math_2018	total_2018
0	Alabama	0.05	593	572	1165	0.06	595	571	1166
1	Alaska	0.38	547	533	1080	0.43	562	544	1106
2	Arizona	0.30	563	553	1116	0.29	577	572	1149
3	Arkansas	0.03	614	594	1208	0.05	592	576	1169
4	California	0.53	531	524	1055	0.60	540	536	1076

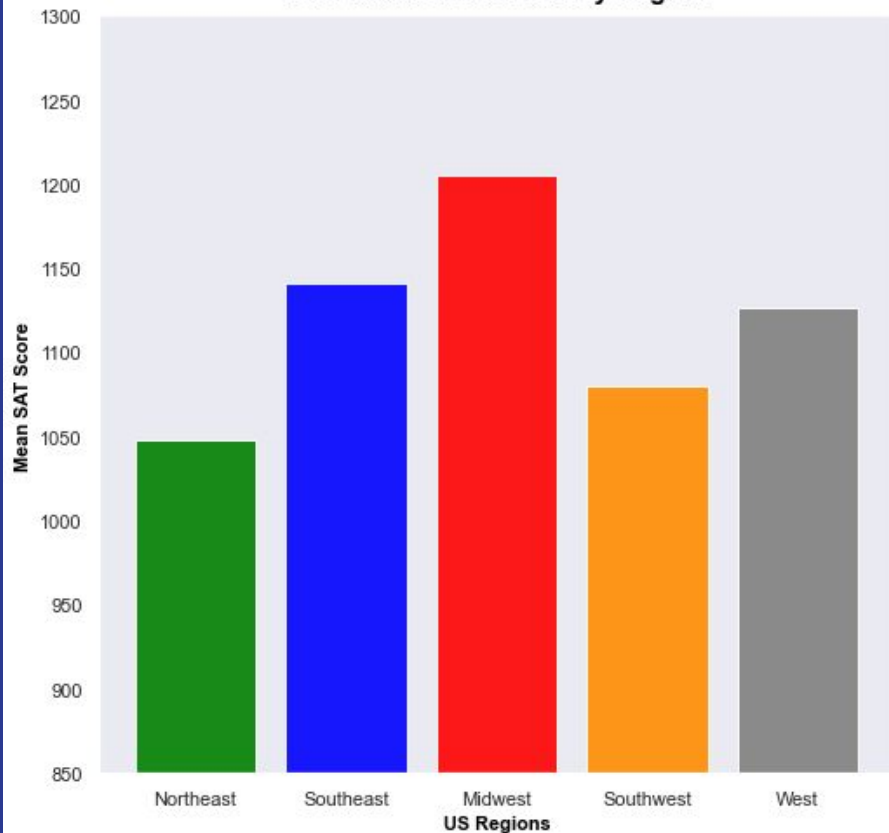
	participation_2019	ebrw_2019	math_2019	total_2019	participation_2020	ebrw_2020	math_2020	total_2020
	0.07	583	560	1143	0.07	576	551	1127
	0.41	556	541	1097	0.37	555	543	1098
	0.31	569	565	1134	0.29	571	568	1139
	0.06	582	559	1141	0.04	590	567	1157
	0.63	534	531	1065	0.67	527	522	1049

Data divided into regions

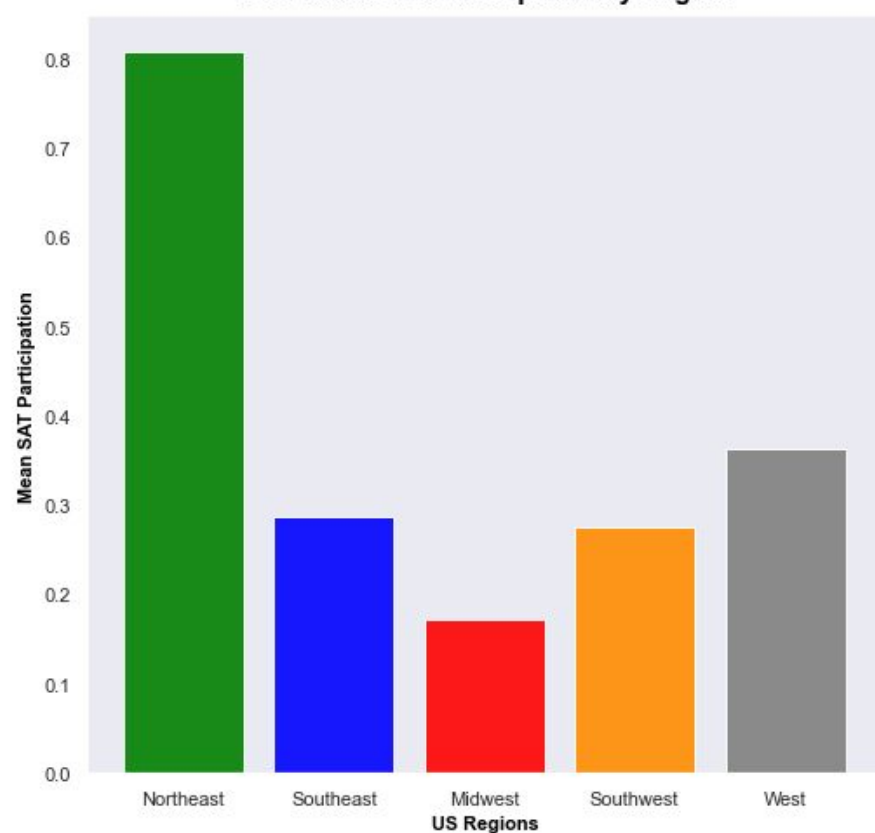
The data has been divided into the following 5 regions of the United States:

- Northeast
 - Southeast
 - Midwest
 - Southwest
 - West
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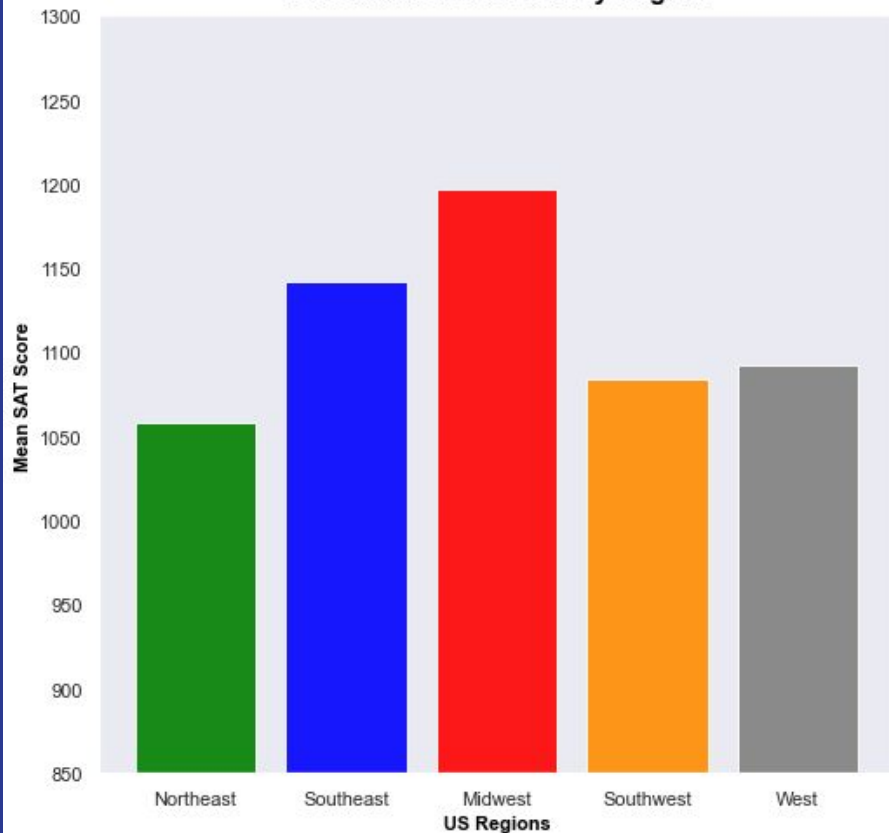
2017 Mean SAT Scores by Region



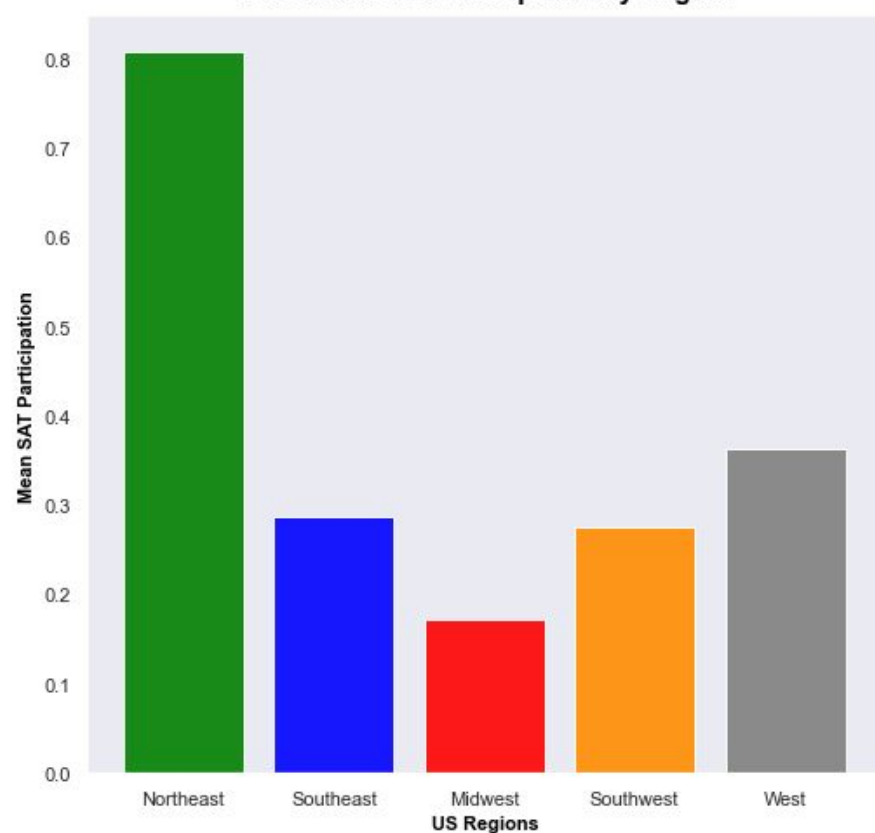
2017 Mean SAT Participation by Region



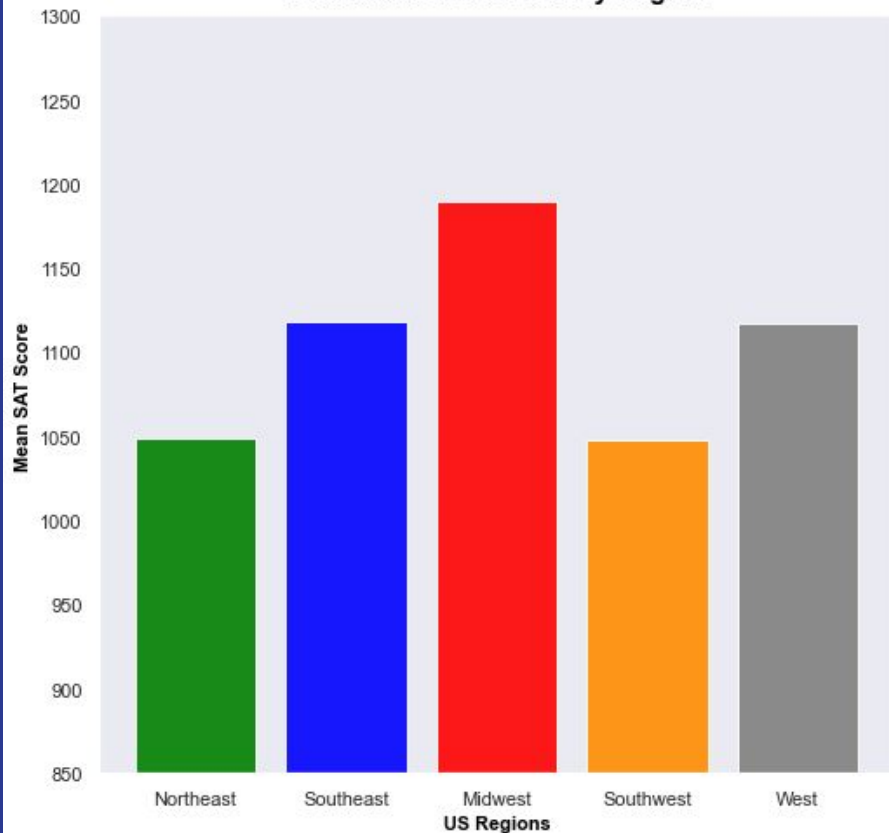
2018 Mean SAT Scores by Region



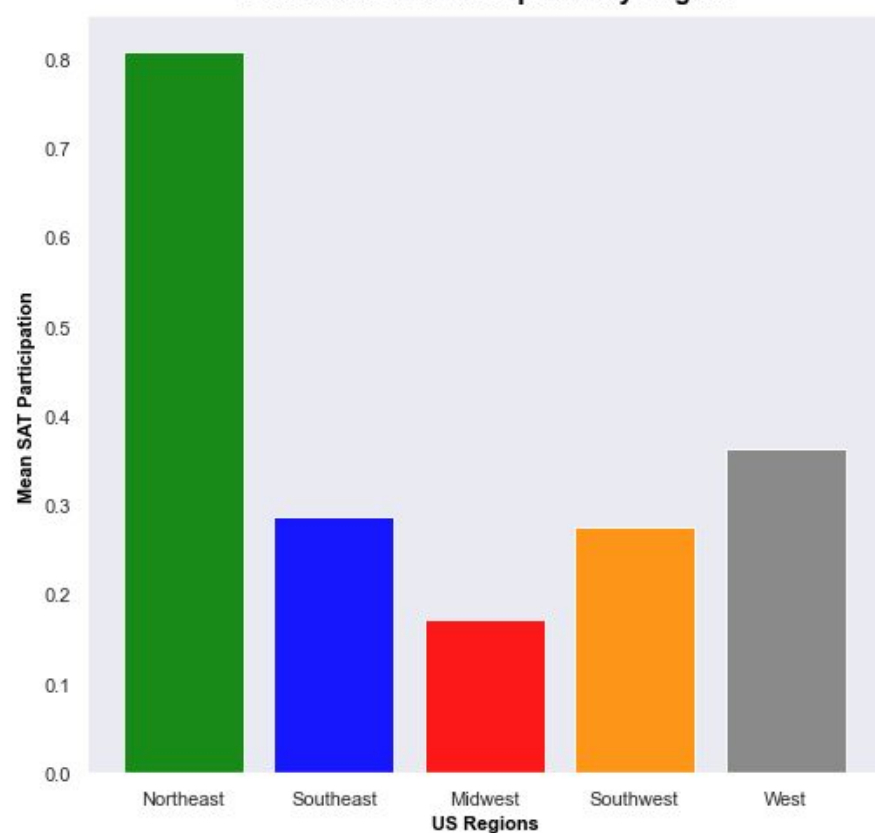
2018 Mean SAT Participation by Region



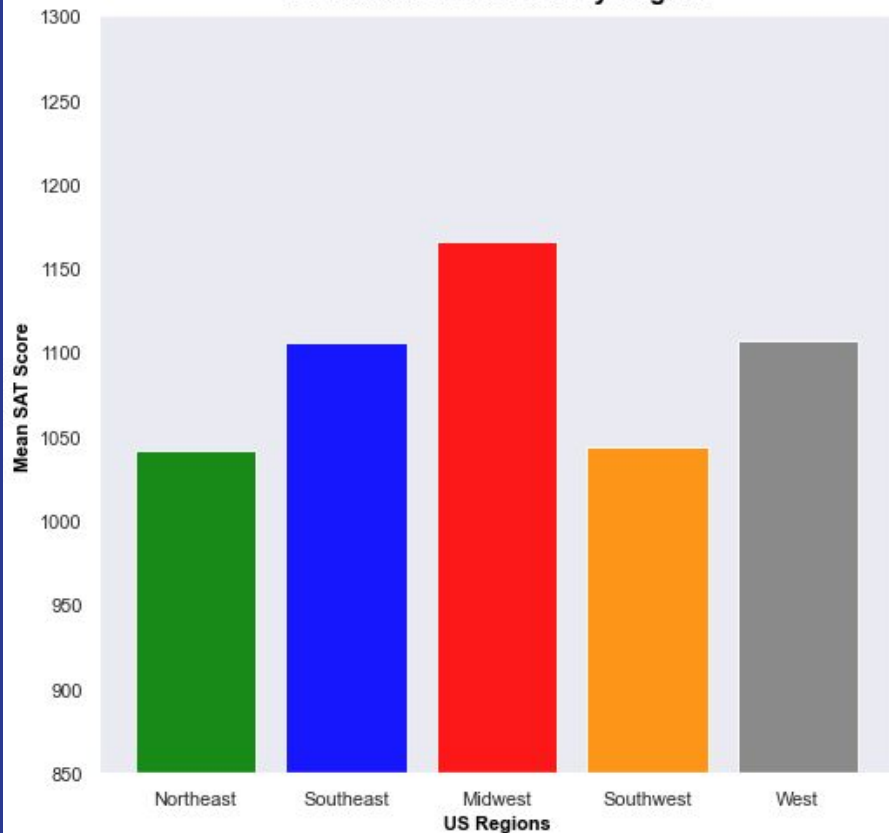
2019 Mean SAT Scores by Region



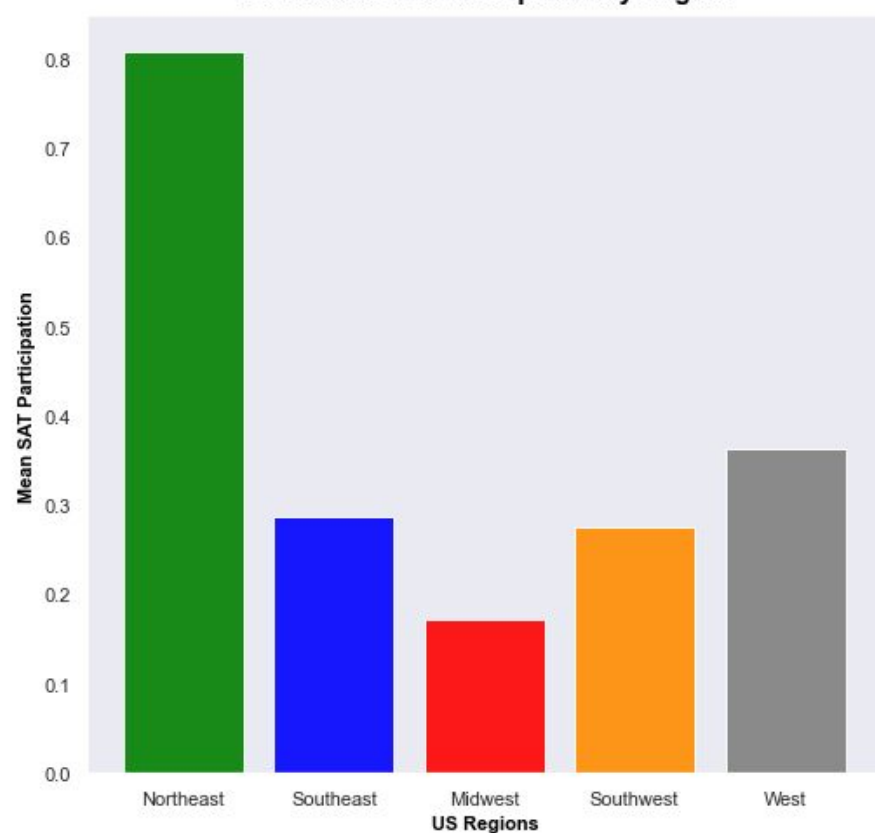
2019 Mean SAT Participation by Region



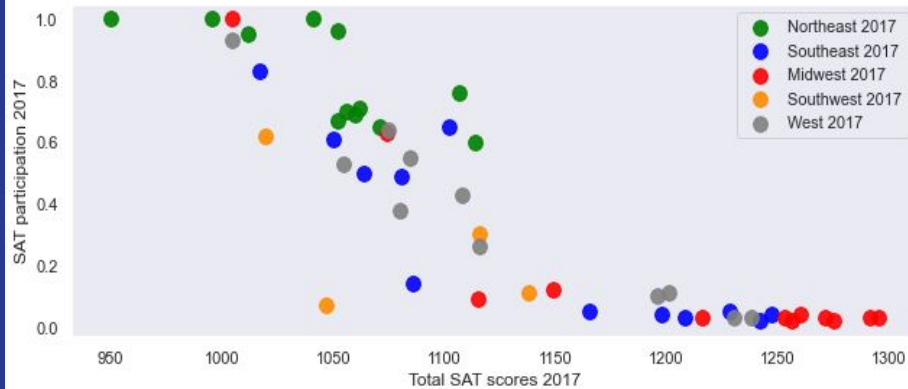
2020 Mean SAT Scores by Region



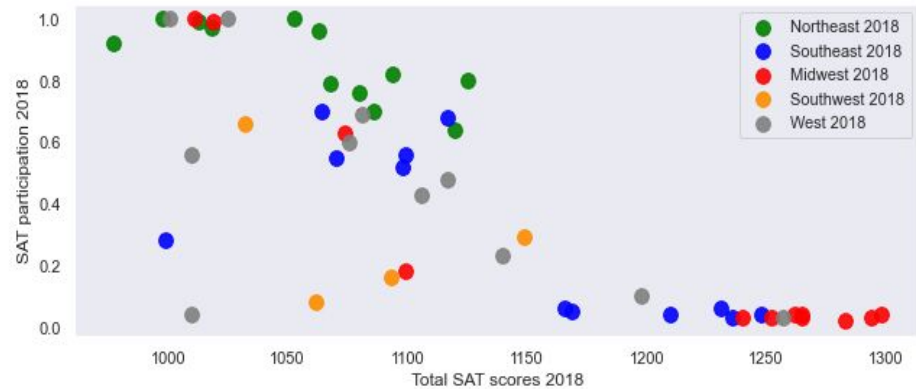
2020 Mean SAT Participation by Region



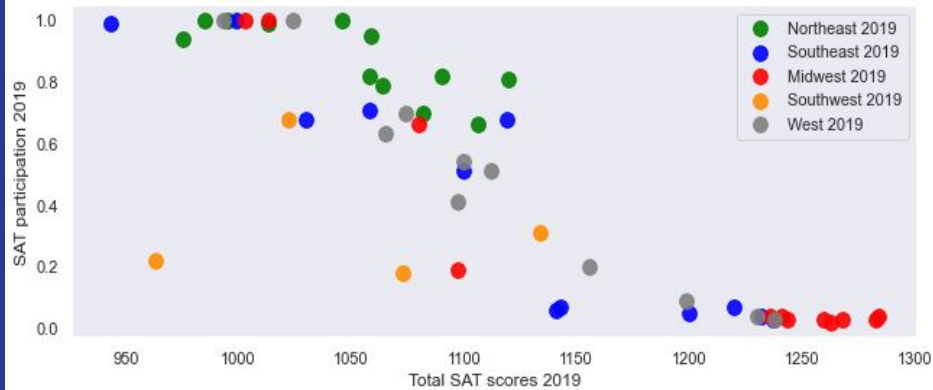
2017 Participate vs Total score by Region



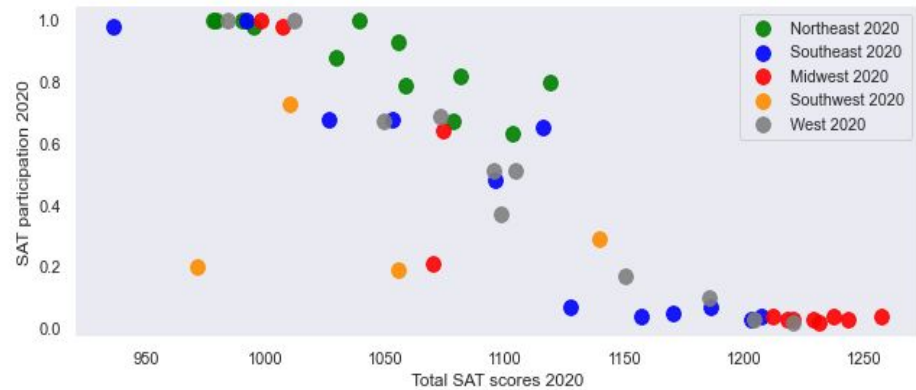
2018 Participate vs Total score by Region

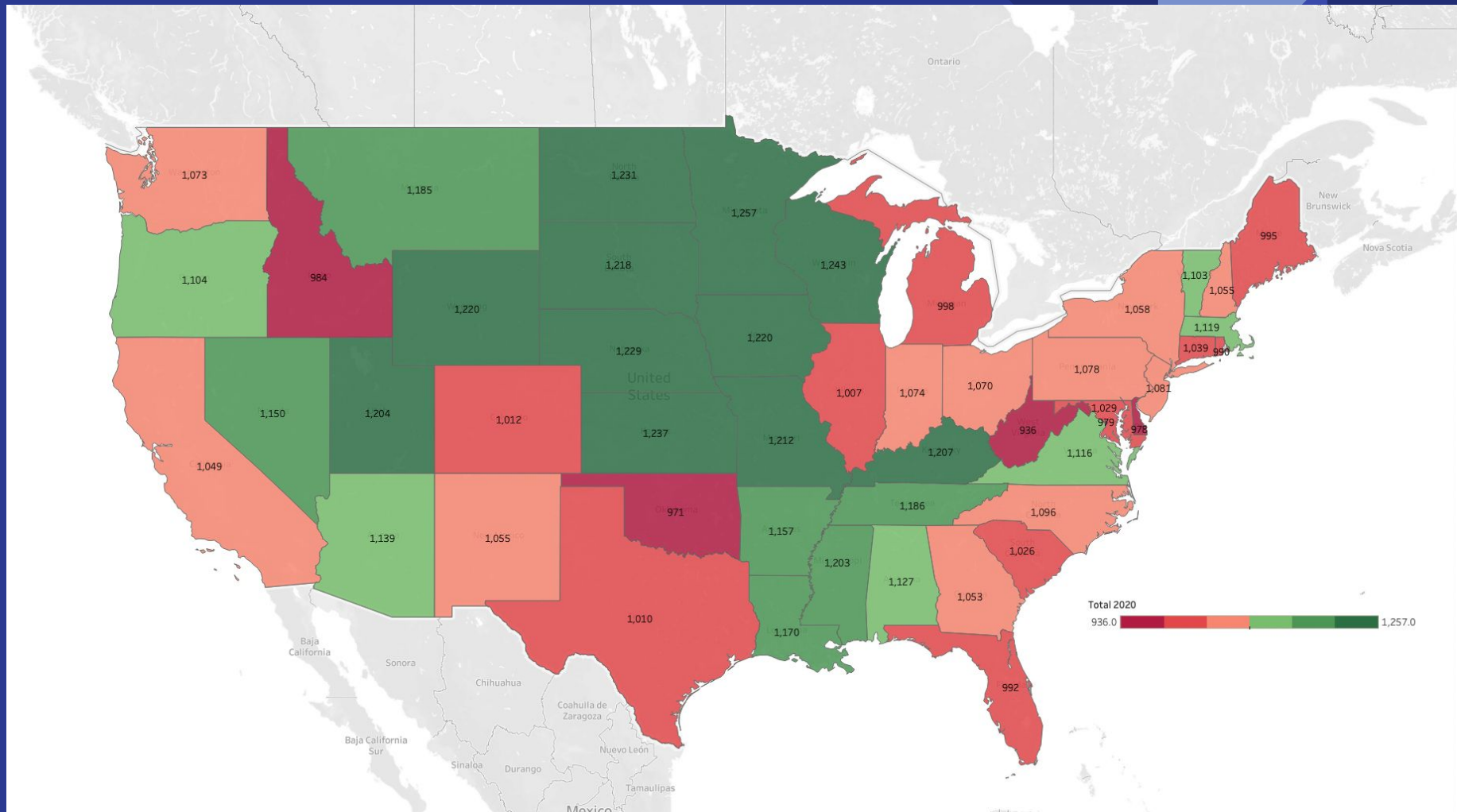


2019 Participate vs Total score by Region



2020 Participate vs Total score by Region





Conclusions and Findings

I have found that living in a certain region of the United States can have a direct effect on overall SAT scores and rate of participation. It seems in regions that have the greatest participation rate also have the lowest overall SAT scores. We can presume that the schools within states that have made SAT tests mandatory also see overall lower scores. This could be due to the fact that the students might not have been as driven or prepared as effectively as states where the students volunteered to take the tests. This can be seen clearly in the Midwest region across all 4 years where they have the least percentage of participation but the greatest overall scores. The opposite is true with the Northeast region where we see the greatest participation along with the lowest scores in the nation.

One other thing worth noting. The Southeast and Southwest regions had quite similar levels of participation but in all 4 years the Southeast region clearly had overall higher scores than the Southwest. More analysis and outside research is required in order to investigate the correlation.



My recommendations to the mayor of the town:

- If you would like to see the greatest overall scores of SAT tests, do not make the test mandatory across schools
 - Use available resources to assist students who voluntarily wish to take the tests so that they may be better prepared and achieve a greater overall score, thus improving their chances of getting into the college of their choosing.
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