



# SAT, ACT data analysis

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# Collecting Data

## **Datasets**

- SAT 2017 & ACT 2017

- source - <https://blog.collegevine.com/here-are-the-average-sat-scores-by-state/> ,  
- <https://blog.prepscholar.com/act-scores-by-state-averages-highs-and-lows>

columns = state, participation, test scores

rows = 50 states

- SAT 2018 & ACT 2018

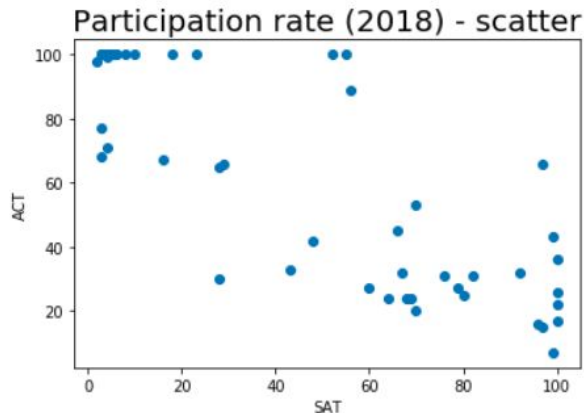
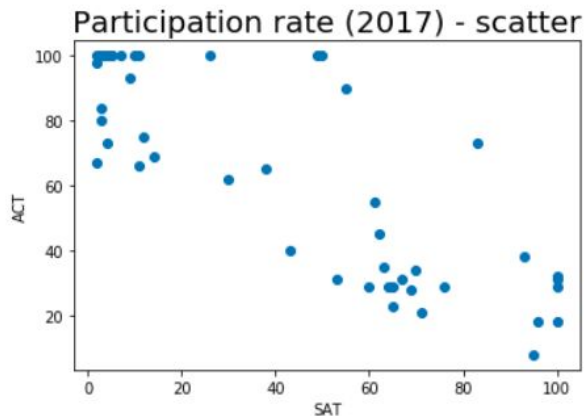
- Source - <https://reports.collegeboard.org/sat-suite-program-results/state-results> ,  
- <http://www.act.org/content/dam/act/unsecured/documents/cccr2018/Average-Scores-by-State.pdf> ]

columns = state, participation, test scores

rows = 50 states

# Participation rate for SAT and ACT (2017, 2018)

- SAT and ACT participation rate have a negative correlation, which means SAT participation rate is high, then ACT participation is low, vice versa.



# Outstanding observation

- While comparing SAT and ACT 2017, 2018 data

South Carolina had a huge jump on SAT score.

	state	sat_2017_participation	sat_2018_participation
0	Florida	83	97
1	Georgia	61	70
2	Hawaii	55	56
3	North Carolina	49	52
4	South Carolina	50	55

	state	total_increase_sat
40	South Carolina	42
30	New Jersey	38
2	Arizona	33
50	Wyoming	28
8	District of Columbia	27

- At the same time, South Carolina SAT participation rate increased by 5%

- Moreover, ACT participation in South Carolina is 100% for both 2017, 2018!

# What happened in South Carolina

- Uniform Grading Policy (effective Fall 2016)

7 point scale -> 10 point scale

- HS students will get a better GPA with the same average point.

before Fall 2016		
Average	Grade	GPA
100	A	4.9
99	A	4.8
98	A	4.6
97	A	4.5
96	A	4.4
95	A	4.3
94	A	4.1
93	A	4.0
92	B	3.9
91	B	3.8
90	B	3.6
89	B	3.5
88	B	3.4
87	B	3.3
86	B	3.1
85	B	3.0
84	C	2.9
83	C	2.8
82	C	2.6
81	C	2.5
80	C	2.4
79	C	2.3
78	C	2.1
77	C	2.0
76	D	1.9
75	D	1.8
74	D	1.6

after Fall 2016		
Average	Grade	GPA
100	A	5.0
99	A	4.9
98	A	4.8
97	A	4.7
96	A	4.6
95	A	4.5
94	A	4.4
93	A	4.3
92	A	4.2
91	A	4.1
90	A	4.0
89	B	3.9
88	B	3.8
87	B	3.7
86	B	3.6
85	B	3.5
84	B	3.4
83	B	3.3
82	B	3.2
81	B	3.1
80	B	3.0
79	C	2.9
78	C	2.8
77	C	2.7
76	C	2.6
75	C	2.5
74	C	2.4

# What is the effect?

Scholarship requirement unchanged !!

By changing grading system, it got

easier for students to fulfill the scholarship eligibilities!

Scholarship	requirements		
	SAT (or ACT)	GPA	Average score
Palmetto Fellows	1400 (or 32)	4.0	93 -> 90
Palmetto Fellows	1200 (or 27)	3.5	89 -> 85
LIFE	1100 (or 24)	3.0	85 -> 80

- Average total/composite score / participation rate

ACT average composite score = 21.5 / SAT average total score = 1126

# Conclusion

We can assume that

- 1) the decrease in scholarship requirement can have an positive effects for
- 2) SAT test participation rate increase
- 3) and also SAT total score increase.

## Suggestion

To increase SAT participation, and SAT score, lowering the scholarship requirement could be the good indirect investment, in addition to the direct investment such as lowering SAT test fee of increase test fee waiver.