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Academy of Py (Pandas Homework)

3/15/2108

Observable Trends

1. This district's data indicates that there is a relationship between school size and math and reading performance, whereby smaller schools are associated with the highest performance and larger schools are associated with the lowest performance.
2. Based on this district's 15 schools, we can see that schools designated as charter schools have higher math and reading scores and higher rates of passing than those which are not.
3. Although the size of the difference was not measured, there was an observable difference in math and reading performance between schools according to spending per student, whereby schools that spent the most had lower performance and schools that spent the least had higher performance.

Please note that passing is based on a 70% scale for the purposes of my analysis.

District Summary

	Total Schools	Total Students	Total Budget	Average Math Score	Average Reading Score	Percent Passing Math	Percent Passing Reading	Overall Passing Rate
0	15	39170	24649428.0	78.985371	81.87784	74.980853	85.805463	80.393158

School Summary

	school	type	size	budget	reading_score	math_score	Per Student Budget	Percent Passing Reading	Percent Passing Math	Overall Passing Rate
0	Bailey High School	District	4976.0	3124928.0	81.033963	77.048432	628.0	81.933280	66.680064	74.306672
1	Cabrera High School	Charter	1858.0	1081356.0	83.975780	83.061895	582.0	97.039828	94.133477	95.586652
2	Figueroa High School	District	2949.0	1884411.0	81.158020	76.711767	639.0	80.739234	65.988471	73.363852
3	Ford High School	District	2739.0	1763916.0	80.746258	77.102592	644.0	79.299014	68.309602	73.804308
4	Griffin High School	Charter	1468.0	917500.0	83.816757	83.351499	625.0	97.138965	93.392371	95.265668
5	Hernandez High School	District	4635.0	3022020.0	80.934412	77.289752	652.0	80.862999	66.752967	73.807983
6	Holden High School	Charter	427.0	248087.0	83.814988	83.803279	581.0	96.252927	92.505855	94.379391
7	Huang High School	District	2917.0	1910635.0	81.182722	76.629414	655.0	81.316421	65.683922	73.500171
8	Johnson High School	District	4761.0	3094650.0	80.966394	77.072464	650.0	81.222432	66.057551	73.639992
9	Pena High School	Charter	962.0	585858.0	84.044699	83.839917	609.0	95.945946	94.594595	95.270270
10	Rodriguez High School	District	3999.0	2547363.0	80.744686	76.842711	637.0	80.220055	66.366592	73.293323
11	Shelton High School	Charter	1761.0	1056600.0	83.725724	83.359455	600.0	95.854628	93.867121	94.860875
12	Thomas High School	Charter	1635.0	1043130.0	83.848930	83.418349	638.0	97.308869	93.272171	95.290520
13	Wilson High School	Charter	2283.0	1319574.0	83.989488	83.274201	578.0	96.539641	93.867718	95.203679
14	Wright High School	Charter	1800.0	1049400.0	83.955000	83.682222	583.0	96.611111	93.333333	94.972222

Top 5 Schools based on Overall Passing Rate

	school	type	size	budget	reading_score	math_score	Per Student Budget	Percent Passing Reading	Percent Passing Math	Overall Passing Rate
1	Cabrera High School	Charter	1858.0	1081356.0	83.975780	83.061895	582.0	97.039828	94.133477	95.586652
12	Thomas High School	Charter	1635.0	1043130.0	83.848930	83.418349	638.0	97.308869	93.272171	95.290520
9	Pena High School	Charter	962.0	585858.0	84.044699	83.839917	609.0	95.945946	94.594595	95.270270
4	Griffin High School	Charter	1468.0	917500.0	83.816757	83.351499	625.0	97.138965	93.392371	95.265668
13	Wilson High School	Charter	2283.0	1319574.0	83.989488	83.274201	578.0	96.539641	93.867718	95.203679

Bottom 5 Schools based on Overall Passing Rate

	school	type	size	budget	reading_score	math_score	Per Student Budget	Percent Passing Reading	Percent Passing Math	Overall Passing Rate
10	Rodriguez High School	District	3999.0	2547363.0	80.744686	76.842711	637.0	80.220055	66.366592	73.293323
2	Figueroa High School	District	2949.0	1884411.0	81.158020	76.711767	639.0	80.739234	65.988471	73.363852
7	Huang High School	District	2917.0	1910635.0	81.182722	76.629414	655.0	81.316421	65.683922	73.500171
8	Johnson High School	District	4761.0	3094650.0	80.966394	77.072464	650.0	81.222432	66.057551	73.639992
3	Ford High School	District	2739.0	1763916.0	80.746258	77.102592	644.0	79.299014	68.309602	73.804308

Math Scores by Grade

	school	math_score_9th	math_score_10th	math_score_11th	math_score_12th
0	Bailey High School	77.083676	76.996772	77.515588	76.492218
1	Cabrera High School	83.094697	83.154506	82.765560	83.277487
2	Figueroa High School	76.403037	76.539974	76.884344	77.151369
3	Ford High School	77.361345	77.672316	76.918058	76.179963
4	Griffin High School	82.044010	84.229064	83.842105	83.356164
5	Hernandez High School	77.438495	77.337408	77.136029	77.186567
6	Holden High School	83.787402	83.429825	85.000000	82.855422
7	Huang High School	77.027251	75.908735	76.446602	77.225641
8	Johnson High School	77.187857	76.691117	77.491653	76.863248
9	Pena High School	83.625455	83.372000	84.328125	84.121547
10	Rodriguez High School	76.859966	76.612500	76.395626	77.690748
11	Shelton High School	83.420755	82.917411	83.383495	83.778976
12	Thomas High School	83.590022	83.087886	83.498795	83.497041
13	Wilson High School	83.085578	83.724422	83.195326	83.035794
14	Wright High School	83.264706	84.010288	83.836782	83.644986

Reading Scores by Grade

	school	reading_score_9th	reading_score_10th	reading_score_11th	reading_score_12th
0	Bailey High School	81.303155	80.907183	80.945643	80.912451
1	Cabrera High School	83.676136	84.253219	83.788382	84.287958
2	Figueroa High School	81.198598	81.408912	80.640339	81.384863
3	Ford High School	80.632653	81.262712	80.403642	80.662338
4	Griffin High School	83.369193	83.706897	84.288089	84.013699
5	Hernandez High School	80.866860	80.660147	81.396140	80.857143
6	Holden High School	83.677165	83.324561	83.815534	84.698795
7	Huang High School	81.290284	81.512386	81.417476	80.305983
8	Johnson High School	81.260714	80.773431	80.616027	81.227564
9	Pena High School	83.807273	83.612000	84.335938	84.591160
10	Rodriguez High School	80.993127	80.629808	80.864811	80.376426
11	Shelton High School	84.122642	83.441964	84.373786	82.781671
12	Thomas High School	83.728850	84.254157	83.585542	83.831361
13	Wilson High School	83.939778	84.021452	83.764608	84.317673
14	Wright High School	83.833333	83.812757	84.156322	84.073171

Performance by per Student Spending

	reading_score	math_score	Percent Passing Reading	Percent Passing Math	Overall Passing Rate
Spending per student					
\$575-599	83.892196	83.436210	96.459627	93.541501	95.000564
\$600-619	84.044699	83.839917	95.945946	94.594595	95.270270
\$620-639	82.120471	79.474551	87.468080	77.139934	82.304007
\$640-659	80.957446	77.023555	80.675217	66.701010	73.688113

Performance by School Size

	reading_score	math_score	Percent Passing Reading	Percent Passing Math	Overall Passing Rate
School Size Category					
Small	83.881343	83.603261	96.661677	93.441248	95.051462
Medium	82.676142	80.545935	89.628554	82.169092	85.898823
Large	80.919864	77.063340	81.059691	66.464293	73.761992

Performance by School Type

	reading_score	math_score	Percent Passing Reading	Percent Passing Math	Overall Passing Rate
type					
Charter	83.896421	83.473852	96.586489	93.620830	95.103660
District	80.966636	76.956733	80.799062	66.548453	73.673757