

School's Out: The New Jersey Funding Formula and Its Educational Outcomes

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Intro: “We don’t need a presentation on our PARCC scores to show that we are better funded than Paterson,” long-time River Edge, New Jersey Board of Education trustee Sheli Dansky lamented at a Board meeting in 2018. Dansky was referring to the mandatory practice of reporting on the district’s results on the Partnership for Assessment of Readiness for College and Careers (PARCC) exam. It was an assumption at what the exam results show compared to other districts in New Jersey; it was not the excellent teachers that made River Edge one of the better performers on the PARCC exam. It was the funding.

The question being posed in this research is: assuming that a high SAT score indicates an outcome of successful education, does the average home sale price of Bergen County, New Jersey school districts (one measure of the property tax value) impact those districts’ SAT scores? The findings indicate that the answer is yes.

•**Independent Variable:** average home sale price of Bergen County, New Jersey school districts

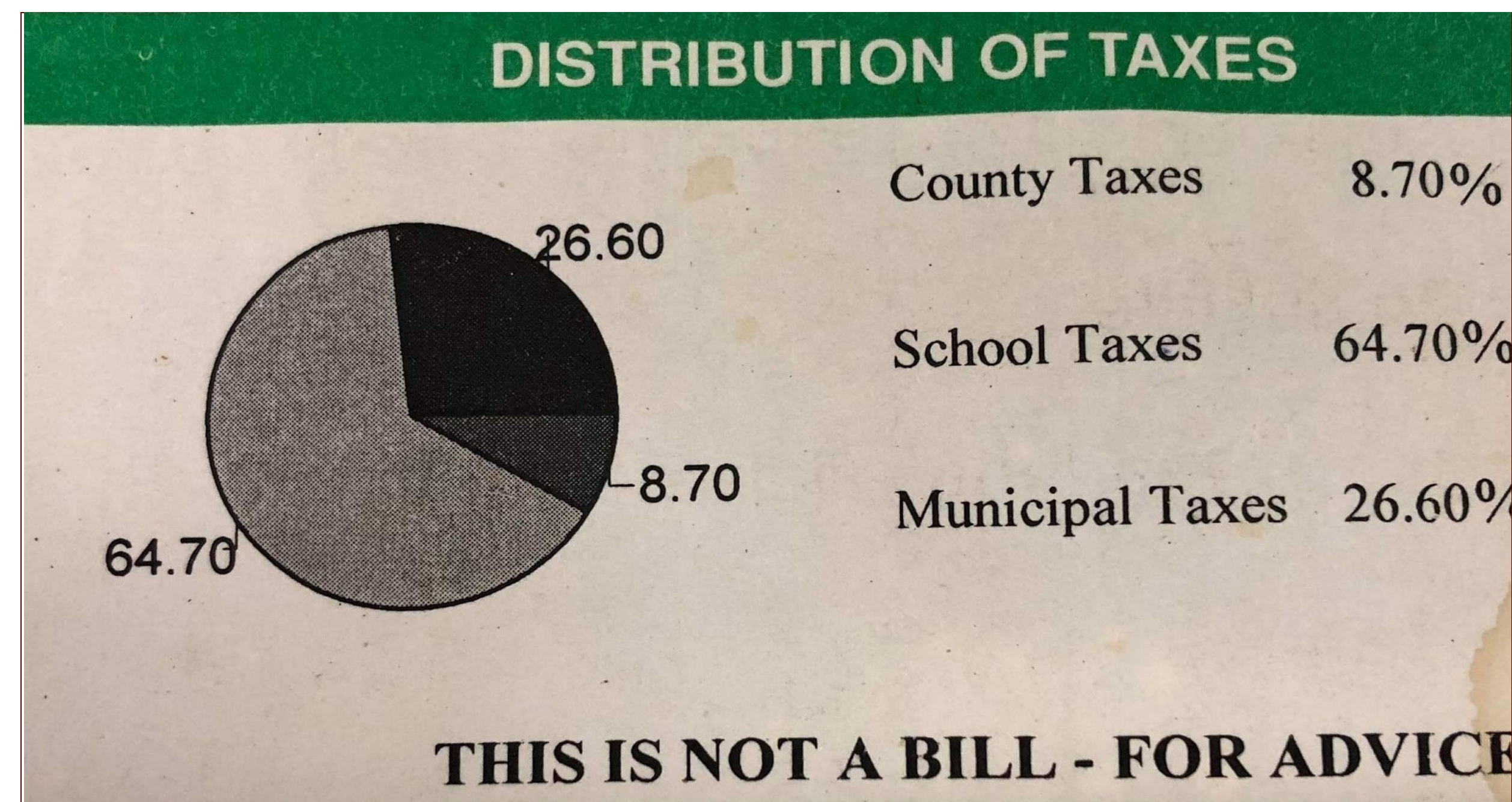
•**Dependent Variable:** school district SAT scores

•**Units of Analysis:** 43 Bergen County high school districts

The theory of this research states that property tax education funding (quantified through average home sale prices in school districts) will correlate with district SAT scores, assuming that higher average home sale prices lead to higher SAT scores, and vice versa. This theory held up after analysis, indicating that the theory may be accurate.

Background: There are two main Supreme Court opinions that impact education funding, one at the state level and one at the federal level.

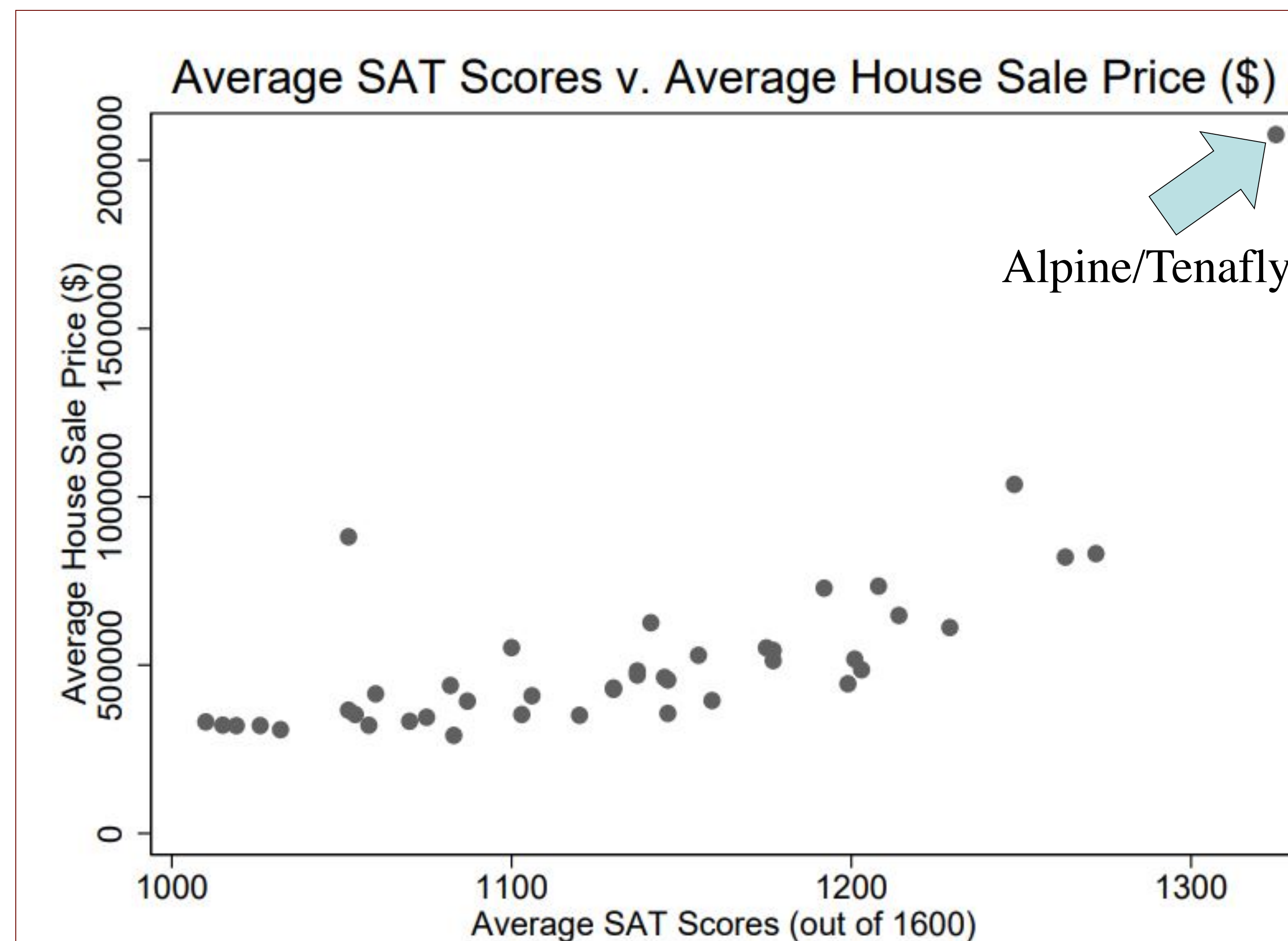
- San Antonio Independent School District v. Rodriguez** (1973): the property tax funding formula was challenged on the grounds that it violated the Equal Protection Clause of the Fourteenth Amendment, since school funding was not being equally distributed to each district. The Court ruled that education is not a constitutional right, so it is not protected by the Fourteenth Amendment. Property taxes are constitutional for education funding.
- Abbott v. Burke:** a series of NJ Supreme Court cases that attempted to help the legislature define “a thorough and efficient education” that the state is required to provide for its residents per the state constitution. It provided an outline for the state’s funding formula, but also permitted districts to raise money using property taxes. “Abbott districts” are those districts that are identified as in need of additional state money to provide the education quality outlined in the state constitution.



A property tax form from River Edge. School taxes make up almost two-thirds of the property tax distribution. In River Edge, the school taxes feed into two school districts; the River Edge School District which services elementary grades K-6, and River Dell Regional School District which services grades 7-12.



Bergen County, New Jersey. There are 76 total school districts in Bergen County. 43 high school districts were used in this research. Alpine, located right on the Hudson River, has the highest home sale prices of any town in Bergen County by far. They mix with Tenafly for their school district.



Correlation (above): Above is a scatterplot of the correlation. The breadth of the data comes out to 0.6935, or a moderately strong positive correlation. The Tenafly school district, a combination of the boroughs of Alpine and Tenafly, is a clear outlier in the top right corner. The district’s SAT scores average out to 1325, over 50 points greater than the next highest average SAT score. Not surprisingly, their average home sale price sits at a little bit over \$2 million, \$1 million more than the next highest home sale price. The Borough of Alpine itself has an average home sale price over \$3 million.

Hypotheses:

H₀: There is no correlation between a Bergen County school district’s average home sale price in 2016 and the SAT scores of its students in the following year.

H_A: There is a correlation between a Bergen County school district’s average home sale price in 2016 and the SAT scores of its students in the following year.

Findings: Since both variables are scale or interval quantitative variables, a Pearson Correlation was set up to test the hypothesis. The P-value in this case comes out to 0.0000, in which $P < 0.05$, so H_0 can be rejected. Therefore, it can be said with 95% confidence that home sale prices in Bergen County school districts impact the SAT scores of those districts. There is a moderately strong positive correlation of 0.6935 associated with the findings, which is indicated in the scatterplot correlation to the left.

Conclusion: The correlation works both ways, indicating that not only do the home sale prices impact the SAT scores of the schools, but the SAT scores impact the home sale prices of the homes in the districts as well. Broadly, this research scratches at the surface of the concept that greater wealth leads to better academic outcomes. It also provides a statistically significant argument against the usage of standardized tests; since SAT scores are so inherently tied to the wealth of a school district, they paint a tainted picture of the student taking the exam. Further research should explore the PARCC exams and the home values of the various districts.