Correlation between Crime and Education in Seattle Neighborhoods

Raden Roy Pradana

Sociology 225

Problem

According to the Washington Post article[1] - researchers have shown that schoolchildren exposed to neighborhood violence can have a tougher time learning, experiencing more stress and depression than their peers growing up in safe neighborhoods. Moreover, this might lead to a lower performance from the schools in the area. This problem becomes interesting in the metropolitan area because although the number of crimes is high, and the rate of economic growth also is reasonable. My research is *to find a correlation between crimes with the schools' performance in Seattle neighborhoods*. In other words, how the number of crimes affects the school's performance in the Seattle neighborhood.

Method

The data comes from the Seattle Police Department for the crime data, Seattle Public School Website for the schools rating, and Seattle gov for Seattle 2010 census. Since Seattle does not have a standardized way to define a neighborhood, each public school is assigned to a Seattle PD's **beat***. Then each school is assigned to each beat according to its longitude and latitude. If there are more than two schools in a beat, then the average score between those schools is used to get the final rating. Furthermore, since the larger the beat tends to have a higher number of crimes, then for each beat, we will take its ratio, so every beat has a fair comparison. In the end, the performance for the schools in the beat is compared against its crime ratio.

* WHAT ARE BEATS?

Seattle is divided into five geographic areas. Within those areas are the 5 precincts or police stations: North, East, South, West and Southwest. Precinct boundaries were determined through consideration of neighborhood boundaries, geographic and other natural boundaries. Each precinct contains smaller geographic areas called Sectors. There are 17 sectors total in the city. Each of these Sectors are divided into between 3 smaller sections called Beats. These are the areas that individual patrol officers are assigned responsibility for.
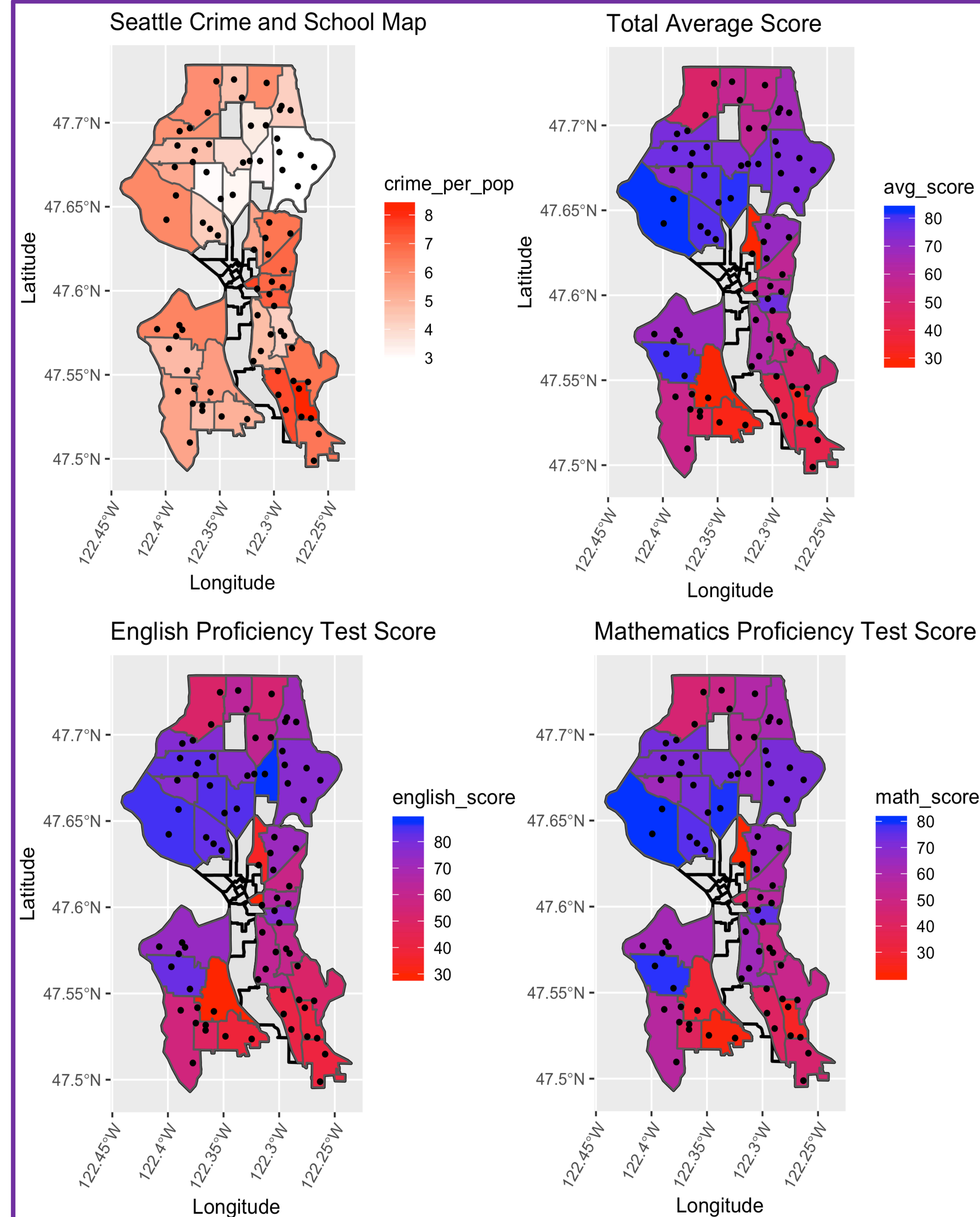
Discussion

Figure 1: The maps show the number of crime and test scores in each beat. The test score is divided into three categories: English, Mathematics, and the average between the two. Each dot in the map represents a school, and the score in each beat is the average between the schools in that beat. Looking at the maps, we can see the correlation between the two. The research found that there is a correlation between the number of crimes in one beat to schools' performance in the area. Where the area with high crime tends to have a poor school's performance. As we can see in the southwest of Seattle where the crime is high, the schools' performance in the area also tends to be high.

Figure 2 : Although the function is not strictly linearly decreasing, we can see from the graph that if the ratio between population and crime is increasing, then the test score for the schools in the area tends to be decreased. We can see how the crimes impact the school's performance in the area. In addition, we can see that the higher the number of crimes, the smaller the number of schools in the area.

Summary

Using multiple datasets from different sources helps us to see the pattern of how the crime in one area affected its schools' performance as we can see that the higher the crime in one area, tend to have a lower test score. However, there is also tendency that the school rating starts increasing when the population and crime ratio hits 5.5-6.5, which we possess us to claim that the number of crime is the only one factor to dictate school's performance in the area. Because if the number of crimes is the only factor, then the graph should be linearly decreasing, which contradict with the result.

Ethical Issue and Limitation

Ethical Issue:

Since the datasets come from three resources, each source might have different methods in how they gather data. The ethical issues that could appear from the Seattle Public School are how they calculate the test score, do the students only rely on learning in the school? Because there is a chance that the school in the wealthy neighborhood might have extra resources such as after school program that could help accelerate the score. Then, the census data, how they count the population in their data, and how accurate is the data.

Limitation:

- How Seattle's government describes a neighborhood is different from how Seattle PD describes a neighborhood and beat; thus, the population and crime ratio is not perfectly aligned. One beat in Seattle PD data might appear in two neighborhoods in the Seattle census; thus, this will skew the ratio, where one beat that appears in multiple neighbors will have a small number of ratios and vice versa.
- The school's ratings and the crime data are from 2018-2019, while the census is from 2010. There might be a different population from 2010 to 2019.

References

1. Balingit, M (2018). *The Washington Post*. Retrieved from What happens when schoolchildren live in violent neighborhoods?: https://www.washingtonpost.com/news/education/wp/2018/07/03/what-happens-when-schoolchildren-live-in-violent-neighborhoods-the-effects-are-broad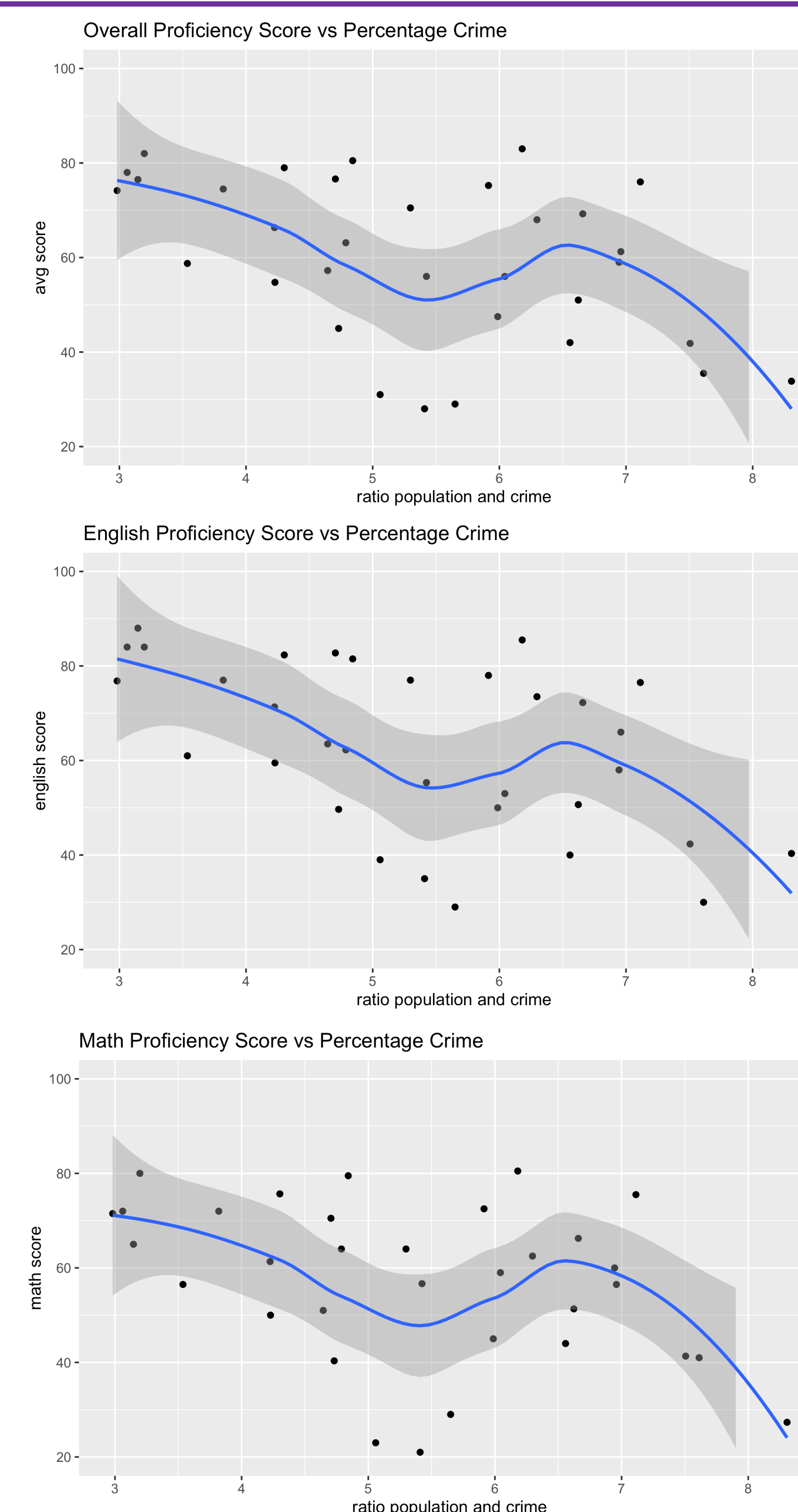er-than-previously-known-a-study-finds/