Comparison of SAT Mean Math Scores in New York Schools between 2010 and 2012

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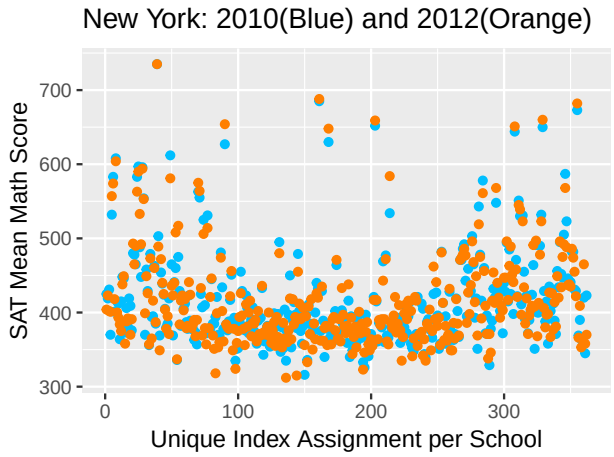

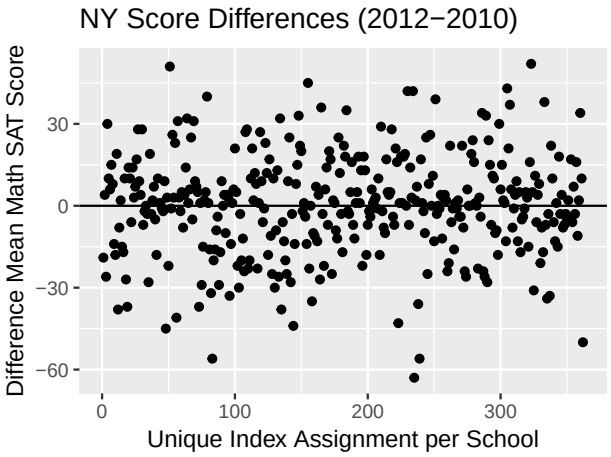

Objective

It is to our interest to see if there was an increase in mean SAT math scores in New York Schools between 2010 and 2012. We approach this question first with a simplified data visualization in mind. Some data analysis factors will be cautiously omitted for simplicity, such as not factoring in the sample sizes of the schools (which could be used as weights in more extensive analysis) or being cognizant to any unstable variance across groups or years.

Methodology

Using R and the dplyr package, the New York SAT 2010 and 2012 data first was downloaded as .csv files and imported from the data.gov website. We proceeded to clean the data, removing incomplete or incomparable data. In addition, we used dplyr to merge the 2010 and 2012 datasets and create or remove columns based on relevance. Two plots were first generated, one displaying the mean math SAT scores for 2010 and 2012 and one displaying the difference. The plots were conclusively drawn from a cleaned data table which finally contains the variables of SchoolID, SchoolName, Number of 2010 & 2012 SAT Takers, Mean Math Score in 2010 & 2012, a difference calculation, and a unique ascending index assigned to each school.

Conclusion

Based on the plots created, it does not seem statistically noticable that 2012 mean math SAT scores were significantly better than those in 2010. In fact, there is about a balanced distribution between some schools having higher 2012 mean SAT math scores and some lower. Examples of further analysis could involve narrowing by location (such as the boroughs) or by more specific demographic groups (such as race, gender, etc).