

Education Inequality



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The Problem

- Schools are going to perform differently on ACT/SAT exams for a number of reasons. Can socioeconomic factors be used to predict a schools performance on these tests?
 - ◆ Is there an inequality in the educational opportunity throughout high schools in The United States?

The Data

→ EdGap Data

- ◆ The first set of data came from EdGap.org, which contained ACT/SAT average scores for different schools along with some socioeconomic factors of specific schools, all from the school year 2016-2017

→ School Information Data

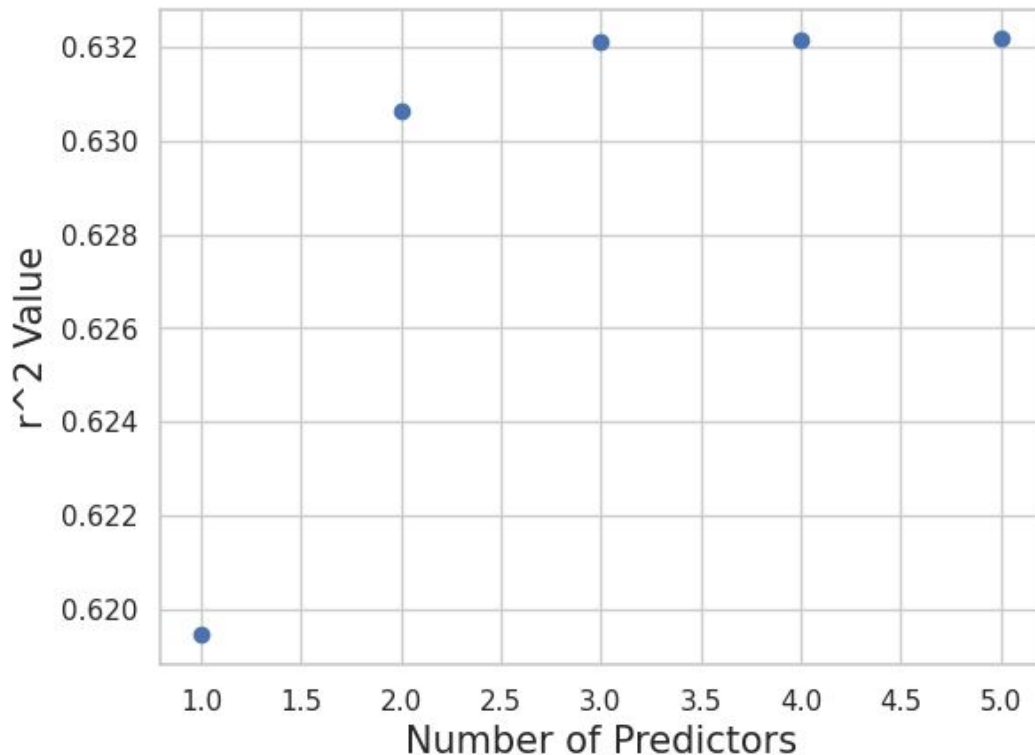
- ◆ The second set of data came from the National Center for Education Statistics (NCES) and contained basic characteristic information about schools

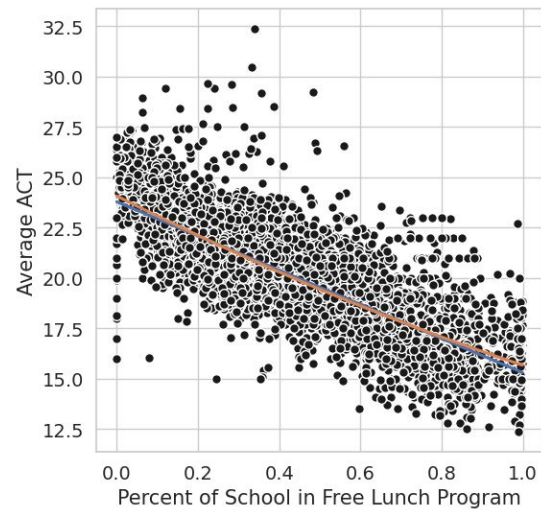
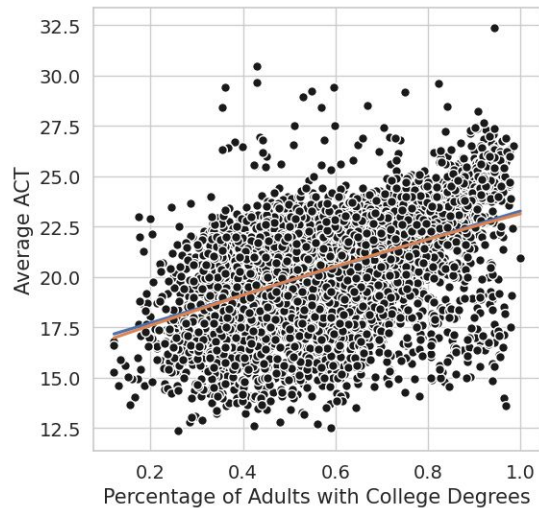
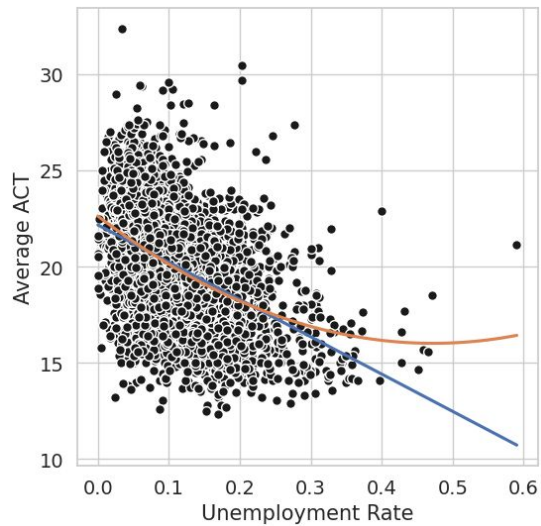
Data Analysis

- We wanted to find any strong correlations between average ACT score and socioeconomic predictors
- Linear Regression allowed us to create models to predict ACT scores
 - ◆ Different combinations of predictors
- Found best subset of predictors to best fit model and make most accurate predictions

Comparing Models

→ R^2 , BIC and AIC value helps us determine how well fitted to the data our model is

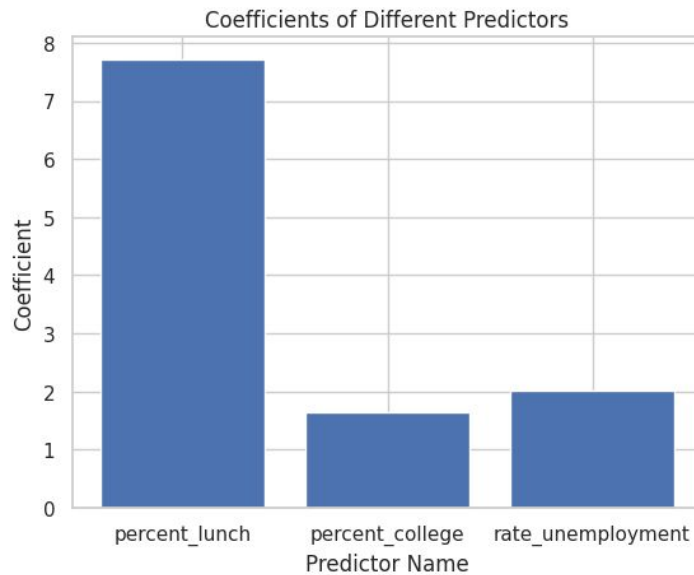
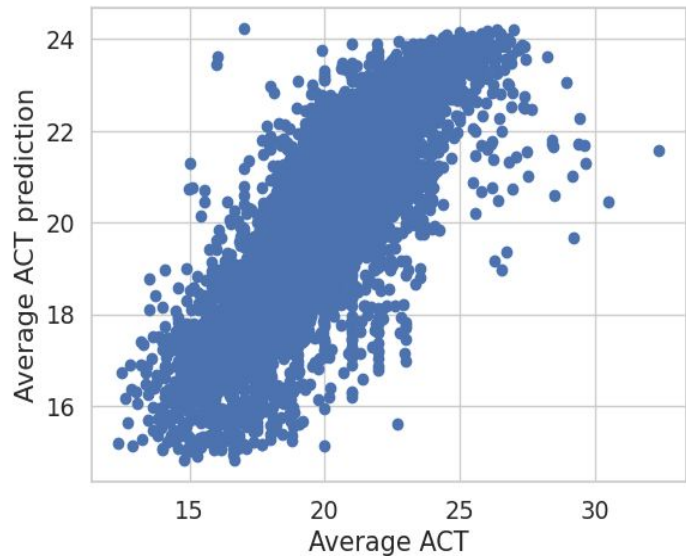




Our Three Predictors

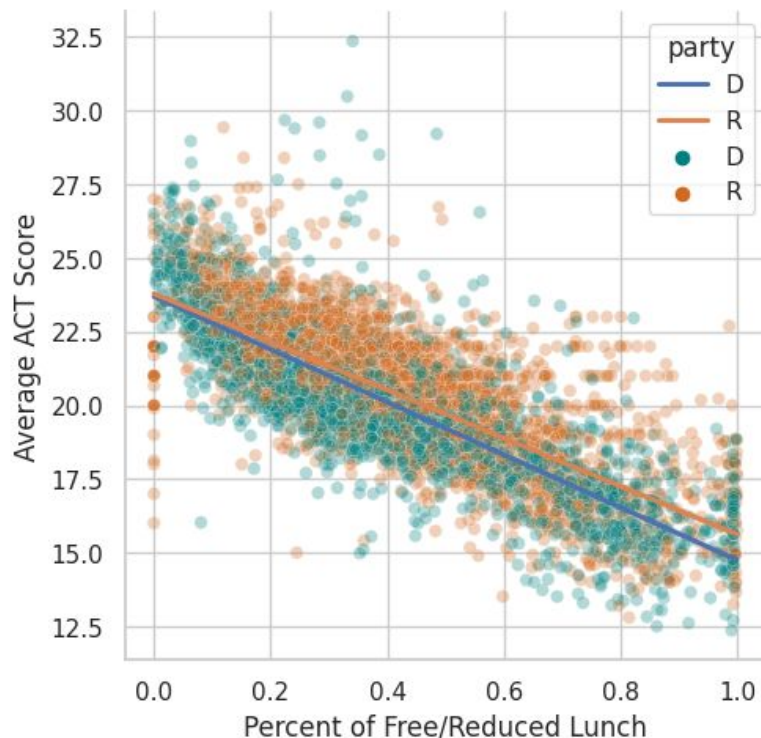
The Results

- Found a well fitted model using 3 predictors that resulted in being able to predict average ACT scores within just over 1 point



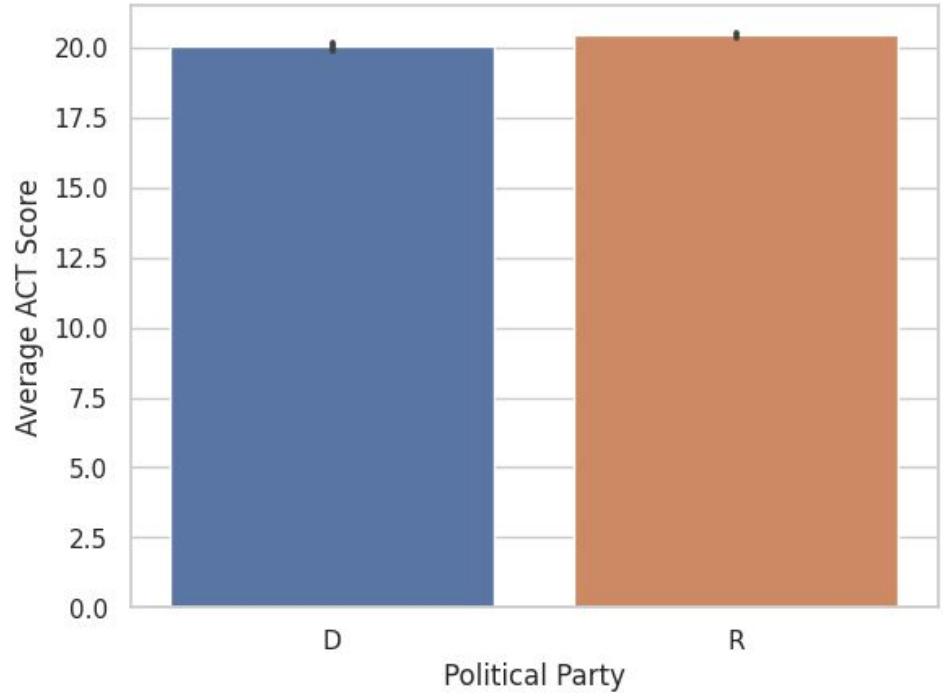
Additional Step

- Looked into the major political party of the states in the data set in the 2016 presidential election
- Wanted to see if there was any relationship between political party and average ACT score



Additional Step Cont.

- We determined that there wasn't enough of a significant difference between the Democratic and Republican



Conclusion

- Socioeconomic factors can be used to predict average ACT/SAT scores in high schools
- Percent of a school in the free/reduced lunch program was a key indicator of school testing performance
- Political Party does not have a significant impact on average ACT score