



CAN POORER DISTRICTS PERFORM BETTER THAN WE THINK? WHAT IS THE RELATIONSHIP BETWEEN POVERTY AND PERFORMANCE?

Background

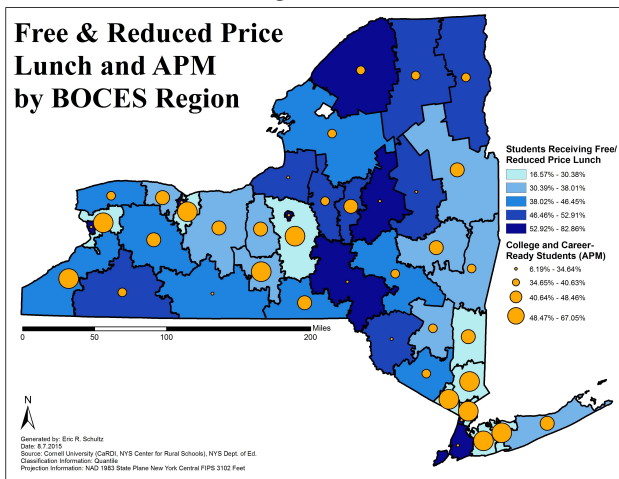
Today's focus on ensuring all high school graduates are college and career ready raises a number of questions about the plausibility of doing so, especially considering poverty's link with performance. If a district has a high poverty rate, does that mean we cannot expect its students to graduate college and career ready? How closely are poverty and performance related? How much performance variability exists within comparably poor or wealthy districts? What other factors are at play?

Definitions

1. **Poverty** is measured using the percentage of students receiving Free or Reduced Price Lunch (% FRPL).

We show variation in aggregate poverty rates around the state in Figure 1 as illustrated by BOCES regions.

Figure 1



The light blue BOCES Regions have the lowest student poverty rates and the dark blue the highest, with each shade representing quintiles of BOCES-level poverty rates.

2. **Performance** is measured using Regents exam scores (English, Algebra 1 & 2, and Global Studies) as well as the state's new Aspirational Performance Measure or APM.
3. **APM** is NYSED's measure of "College and Career Readiness," (C&C Readiness) defined as the percentage of a student cohort who graduated (with a Local, Regents, or Regents

with Advanced Designation diploma) and who earned a 75% or greater on their English Regents examination and a 80% or greater on a Math Regents examination.

A C&C Readiness measure were developed by NYSED to signal adequate preparation for post-secondary life. To reflect these standards, scores for APM were chosen such that the higher the score, the less likely a student would need to enroll in remedial post-secondary courses.ⁱ The variation in APM measures throughout the state is also represented in Figure 1 by the yellow circles on each BOCES region with larger circles representing higher percentage APM.

Student Poverty and Academic Performance

To examine the relationship between student poverty and academic performance, we conducted analyses across several measures using data from all school districts in NYSⁱⁱ.

Figure 2: 2013 %85Math vs %FRPL

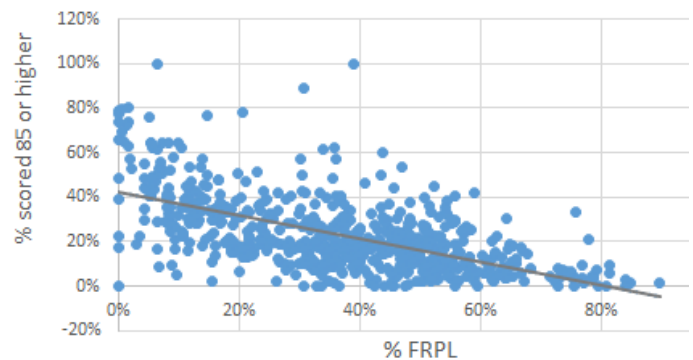
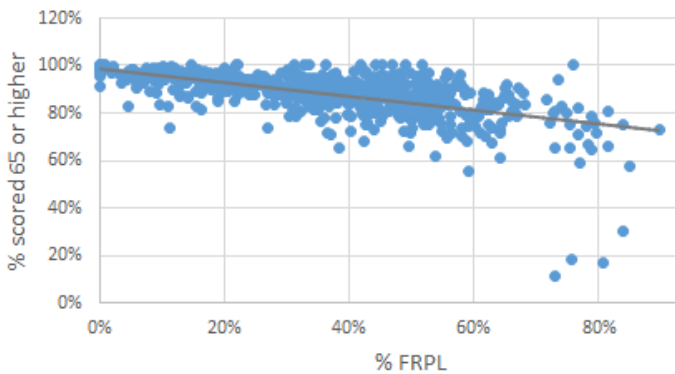


Figure 2 shows the relationship between poverty and mathematics performance at the 85% level for all school districts in the state.

Note the range of poverty from a low of ~0% to a high of 95%, but also note the variation in performance for districts with comparable rates of poverty. Numerous districts performed above the expected given their poverty level, most at an average level, and a surprising amount at below average. Figure 3 shows the trend between poverty and all NYS school district English performance.

Figure 3: 2013 %65English vs %FRPL

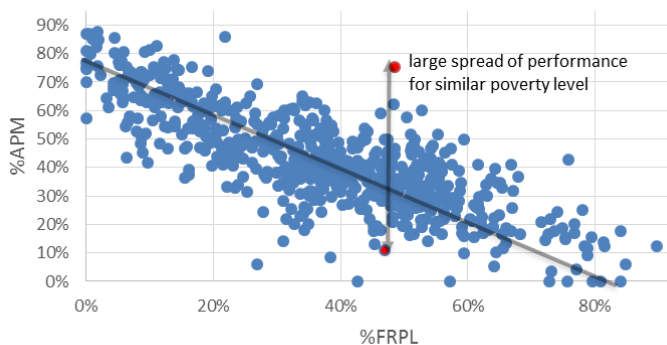


While poverty is associated with Regents exam performance, we find C&C Readiness to be more tightly linked to poverty than any of the individual tests (below, note the steeper slope).

Here it is clear that districts in the same FRPL quintile varied in their performance, with certain districts performing higher than would be expected based on their poverty level and certain districts lower. These results show that factors other than poverty are impacting C&C Readiness. **There is a certainly a relationship between poverty and performance, but based on the range in performance of districts, other factors do come into play.**

Finally, we illustrate findings from our multi-variate analyses in Figure 5. We show the independent effects of each variable above and beyond the effects of the other variables shown. Over the last 10 years we observe annual increases in English passing rates and steady annual improvement in math performance at the 85% level.

Figure 4: 2013 %APM vs %FRPL



Per-pupil spending, total spending, and minority enrollment have no significant effect on the

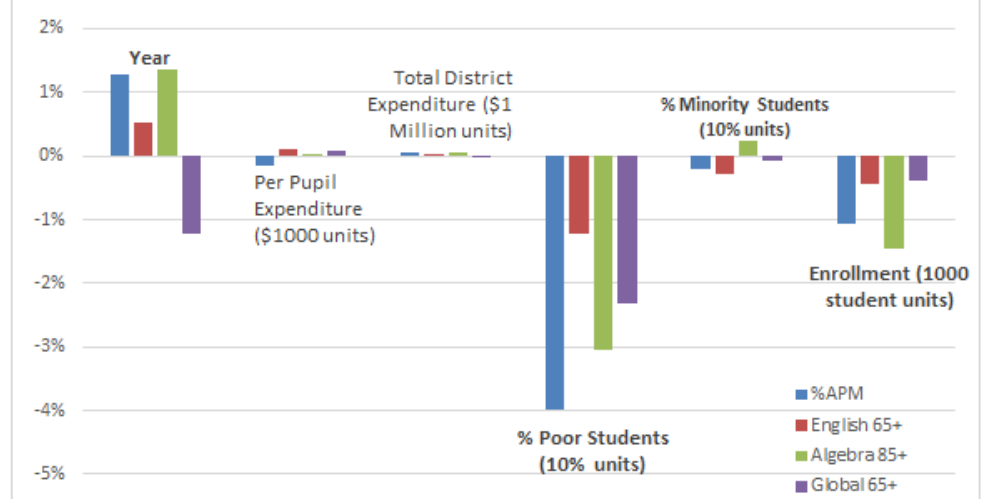
performance - above and beyond the effects of the other variables. Total district enrollment (see Figure 4) seems to benefit students in Algebra, but is negatively related to C&C Readiness. In BOCES with comparable levels of poverty, we can see that there are exceptions to the trend.

The largest, most consistent factor in explaining variation in performance indicator is indeed poverty. We see a modest effect on **tangling** and Global Studies performance, a slightly larger negative effect on Algebra, and large effect on C&C Readiness.

Moving Forward

While we must acknowledge that there is a relationship between performance and poverty, based on the observed variation in performance at

Fig. 5: Change in \$, Year, & Demographics by Subject Test



comparable poverty levels we must also recognize that there are other factors at play. Some districts and BOCES, expected to perform poorly based on their poverty levels, have done just the opposite. They seem to have figured out a way to defy expectations and perform well. Similarly, some districts with relatively low levels of poverty are not performing as well as similar peers. A question we must continue to investigate is why some districts are able to do better than others with comparable levels of poverty and how we can help promote the sharing of best practices among them in order to help improve the performance of all students.

i The 2012-2020 Statewide Plan for Higher Education, p.19 (<http://goo.gl/2ej44s>)

ii Data available from NYSED and FARU district financial profiles, School Report Card Data, and APM data from all districts with high schools.