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It's Elementary

A Monthly Column by EFAP Director John Yinger
April 2014

Poverty and Proficiency in New York State

Many scholars have documented the strong relationship between family poverty and student performance.[1] This relationship is at the heart of the educational inequities in New York State. High-poverty districts have much lower levels of student performance, whether measured by test scores or high-school completion rates. Every citizen should be concerned about these inequities. A good education makes workers more productive and citizens more informed.

Moreover, the highest court in New York has declared that the state constitution requires all children to be given "the opportunity for a meaningful high school education, one which prepares them to function productively as civic participants."[2] All citizens should also be concerned if the State is not meeting its constitutional obligations.

This column describes the current relationship between family poverty and student performance in New York State. Any analysis of this type must decide on a measure of poverty and a measure of student performance. This column follows the common practice of using the share of students eligible for a free or reduced-price lunch as a measure of poverty.[3] This approach makes sense because only poor and near-poor households, based on the federal poverty guidelines, are eligible for the federal National School Lunch Program.[4]

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[1] Scholars who have written about this relationship include: Helen F. Ladd and Edward B. Fiske. "Class Matters. Why Won't We Admit It?" (*The New York Times*, December 11, 2011, Op-Ed Page; available at http://www.nytimes.com/2011/12/12/opinion/the-unaddressed-link-between-poverty-and-education.html?pagewanted=all&_r=0) and Greg J. Duncan and Richard J. Murnane, *Restoring Opportunity: The Crisis of Inequality and the Challenge for American Education* (Cambridge, MA: Harvard University Press, 2013).

[2] This language comes from the New York Court of Appeals 2003 decision in *Campaign for Fiscal Equity v. New York*. This decision and related ones can be found at: http://www.edlawcenter.org/initiatives/campaign-for-fiscal-equity.html.

[3] The data on proficiency rates can be found at: http://www.p12.nysed.gov/irs/pressRelease/20130807/home.html; the data on free and reduced price lunch eligibility (for 2012) can be found at: https://reportcards.nysed.gov/. Results are similar using just free lunch eligibility.

[4] More specifically, "Any child at a participating school may purchase a meal through the National School Lunch Program. Children from families with incomes at or below 130 percent of the poverty level are eligible for free meals. Those with incomes between 130 percent and 185 percent of the poverty level are eligible for reduced-price meals, for which students can be charged no more than 40 cents. (For the period July 1, 2013, through June 30, 2014, 130 percent of the poverty level is $30,615 for a family of four; 185 percent is $43,568.) " See http://www.fns.usda.gov/sites/default/files/NSLPFactSheet.pdf .

The measures of student performance are the shares of students who reach "proficiency," as defined by the New York State Education Department (NYSED) on the 8th grade English language arts (ELA) and mathematics tests.[5] These proficiency rates refer to tests administered by NYSED in the spring of 2013, which was the first set of tests based on the new Common Core Learning Standards. The average proficiency rates on these tests were considerably lower than the average rates in previous years, but these averages may rise over time as the Common Core curriculum becomes more integrated into the practices of school districts around the state.

The focus here is on 8th grade proficiency rates, because they indicate the level of preparation that students bring into high school, and hence are a signal about a student's "opportunity for a meaningful high school education." Results for proficiency rates in earlier grades exhibit similar patterns.

The relationship between poverty and 8th-grade proficiency in New York in 2013 is summarized in Figure 1. This figure provides both scatter plots and average relationships between these two variables for both the ELA and mathematics tests.[6]

The scatter plots indicate that at any given level of poverty, test scores for both ELA and math vary considerably. Poverty is not the only factor linked to test scores.

The average relationships reveal, however, that poverty has a clear relationship with proficiency. Districts with no students from poor families have an average proficiency rate of 48 percent on the ELA test and 50 percent on the math test. In contrast, districts in which all the students come from poor families have an average proficiency rate of about 25 percent on both tests. More specifically, the proficiency rate is 45 percent lower on the ELA test and 53 percent lower on the math test in 100-percent poverty schools, on average, than in schools where no students come from poor families.

The proficiency rates in the median school district are 31 percent for ELA and 29 percent for math. Thus, one can also say that, on average, the proficiency rate in a 100-percent poverty school is 14 percent lower than the median for ELA and 19 percent lower than the median for math.

One striking feature of the average relationships between poverty and proficiency is that they have almost the same shape for ELA and math. The challenges that poverty poses for school districts in New York appear to have surprisingly similar impacts across considerably different subjects.

In short, New York is currently a state in which a student's preparation for high school depends heavily on the poverty rate in his or her school district. Students who find themselves in a high-poverty

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[5] "Proficiency" is defined as a test score in one of the top two categories created by NYSED.

[6] The "average" curves in Figure 1 are based on a (statistically significant) cubic regression. A linear regression results in a line that is lower at the top and bottom and higher in the middle, that is, at 50 percent poor. Nevertheless, the difference between the proficiency rates at zero and 100 percent poverty is virtually the same with a linear or a cubic regression. Because it is so different from other districts, New York City is left out of this figure, but including it has little impact on the average curves.

district, which is obviously no fault of their own, can expect to be far less prepared that other students. The performance of the median district could be interpreted as a minimal standard to ensure that students have an "opportunity for a meaningful high school education." By this standard, New York is clearly not meeting its constitutional obligations in high-poverty districts.

The link between poverty and proficiency exists because, on average, students from poor families come to school in need of more remediation, more health care, and more counseling, among other things, than students from non-poor families. These needs may be magnified by peer effects in high-poverty districts. As a result, it costs far more to provide the same quality of education, that is, to reach the same proficiency levels, in high-poverty than in low-poverty districts.[7]

In principle, these extra costs could be offset by a state aid funding formula to support the remediation, health, counseling, and other extra programs that are required to bring most students from poor families up to proficiency on state tests. Unfortunately, however, a recent report on the fairness of educational funding in the United States gives New York State a grade of "F," because New York spends more money in low-poverty districts, on average, than in high-poverty districts.[8] This outcome reflects, among other things, the state aid changes in recent years that favored rich over poor districts. See my November 2013 column.

New York State faces a test of its own. Based on simple standards of fairness and the constitutional principles laid out by the Court of Appeals, New York State needs to create an education system that gives all its students "an opportunity for a meaningful high school education," regardless of the poverty rate in their school district. So far, New York has failed this test. The citizens of the state should hold their elected officials accountable and push for better performance in the future.

Note: This is a revised version of the column originally posted.

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[7] The added costs of educating children from poor families are explored in William Duncombe and John Yinger, "How Much More Does a Disadvantaged Student Cost?" *Economics of Education Review* 24 (5) (October 2005), pp. 513-532.

[8] See Bruce D. Baker, David G. Sciarra, and Danielle Farrie, Is School Funding Fair: A National Report Card, Third Edition, www.schoolfundingfairness.org .

Figure 1.
Poverty and 8th Grade Proficiency,
New York State, 2013