

New evidence shows that school poverty shapes racial achievement gaps

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Education Professor Sean Reardon has launched an interactive data tool that shows how school poverty affects educational achievement. Credit: Holly Hernandez

Fifty years ago, communities across America began efforts to make

school districts more racially integrated, believing it would ease racial disparities in students' educational opportunities. But new evidence shows that while racial segregation within a district is a very strong predictor of achievement gaps, school poverty—not the racial composition of schools—accounts for this effect.

In other words, racial [segregation](#) remains a major source of educational inequality, but this is because racial segregation almost always concentrates black and Hispanic students in high-poverty schools, according to new research led by Sean Reardon, a professor at Stanford Graduate School of Education (GSE).

"The only school districts in the U.S. where racial achievement gaps are even moderately small are those where there is little or no segregation. Every moderately or highly segregated district has large racial achievement gaps," said Reardon, the Professor of Poverty and Inequality at Stanford GSE. "But it's not the racial composition of the schools that matters. What matters is when black or Hispanic students are concentrated in high-poverty schools in a district."

The findings were released on Sept. 23 in a paper accompanying the launch of a [new interactive data tool](#) from the Educational Opportunity Project at Stanford University, an initiative directed by Reardon to support efforts to reduce educational disparities throughout the United States.

Test scores as measures of opportunity

The Educational Opportunity Project gives journalists, educators, policymakers and parents a way to explore and compare data from the groundbreaking Stanford Education Data Archive (SEDA), the first comprehensive national database of academic performance.

The database, first made available online in 2016 in a format designed mainly for researchers, is built from 350 million reading and math [test scores](#) from third to eighth grade students during 2008-2016 in every public school in the nation. It also includes district-level measures of racial and socioeconomic composition, segregation patterns and other educational conditions.

Researchers have used the massive data set over the past few years to study variations in educational opportunity by race, gender and socioeconomic conditions throughout the United States. The data have also shown that students' early test scores do not predict academic growth over time, indicating that poverty does not determine the effectiveness of a school.

Now, with an interactive tool on the Educational Opportunity Project's website, any user can generate charts, maps and downloadable PDFs to illustrate and compare data from individual schools, districts or counties. (Visualizations also can be embedded elsewhere online so that users can access them directly from another site.)

The site provides detailed data on three measures of educational opportunity:

- Average test scores, which reflect all of the educational opportunities children have from birth through middle school
- Learning rates (how much students learn from one year to the next), which reflect the opportunities available in their schools
- Trends in how much average test scores change each year, which reflect changes in the opportunities available to successive cohorts of children

"We can also break it down and look at how students are performing differentially by race, by ethnicity, by gender, by family income," said

Reardon. "That lets us understand not just how a community is providing opportunity for everyone, but whether it's providing the same amount of opportunity for children from different backgrounds."

Beyond learning about their own school or districts, users can also find and learn from comparable communities with fewer inequities. For instance, superintendents concerned about the achievement gap between students of different race and ethnicity in their district could use the tool to identify other districts around the country that are similar in size and demographics but have smaller achievement gaps—and then reach out to leaders in those communities to find out about the practices and policies that have been effective.

A better gauge of school quality

The information on learning rates is a key innovation of the site, Reardon said, because these trends provide a picture of educational opportunity that's vastly different from what average test scores show.

By indicating how much students learn as they go through school, these rates are "a much better measure of school quality," said Reardon. "If parents were to use the learning rate data to help inform their decisions about where to live, they might make very different choices in many cases."

What's more, data on learning rates are largely unavailable elsewhere. "Some states and websites provide some measure of learning rates for a community, but their data are typically based on one year of growth, and they aren't comparable across states," he said. "Our learning rates are based on eight years of data, so they're much more reliable."

Reardon acknowledged the limitations of measuring student achievement through reading and math scores. "Test scores certainly

don't measure everything we want for our kids," he said. "We also want them to learn art and music, to learn to be empathetic and kind, creative and collaborative, and to have good friends and be happy—it's not all about math and reading."

He also cautioned that differences in average test scores do not reflect differences in students' intelligence or abilities. "When we look at average test scores in a community, a school district or a school, what we're measuring is really the amount of educational opportunity provided in those communities—not the average ability," he said.

"Average ability doesn't vary from one place to another, but [opportunity](#) does."

Identifying the effects of school segregation

In studying segregation in U.S. schools today, Reardon and colleagues sought to discover whether racial segregation has the same harmful effects that it did 50 years ago, when efforts to integrate Southern [school districts](#) began in earnest.

The research team used the data now available through the Educational Opportunity Project to investigate first how strongly segregation levels are associated with academic achievement gaps.

What they found was striking: Without exception, the level of segregation correlated not only with the size of the achievement gap, but also with the rate at which that gap grew as students progressed from third to eighth grade.

To determine what accounted for the correlation, they controlled for racial differences in school poverty and found that segregation no longer predicted the achievement gaps. That meant the association between racial segregation and the growth of achievement gaps operated entirely

through differences in school poverty.

"While racial segregation is important, it's not the race of one's classmates that matters, per se," said Reardon. "It's the fact that in America today, [racial segregation](#) brings with it very unequal concentrations of students in high- and low-poverty schools."

Educational epidemiology

With new, accessible evidence for the relationship between test score patterns and socioeconomic status, race and gender, the Educational Opportunity Project lays the groundwork for more targeted policies to address disparities.

Reardon sees the project as a kind of educational epidemiology. "In order to fix problems of inequality and improve schools, we need to have a good understanding of the landscape of the problem," he said. "In some ways, that's what epidemiologists do."

By pinpointing where disparities exist, where they're getting worse or better and the factors that correlate with local trends, the Educational Opportunity Project aims to bring both researchers and community members closer to understanding how to create more equitable learning opportunities, in and out of [school](#).

Then, said Reardon, "we can get to a place where we can start to have targeted social and educational policy solutions that will really make a difference."

Provided by Stanford University

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