



## Race and the Mismeasure of School Quality

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### Summary

Many states, school districts, and information-sharing platforms report measures of school performance. Often called “school ratings,” they are widely consulted by parents and educators alike. Families looking for a new home are likely to see ratings posted alongside listings, while low-rated schools may be closed or placed under state supervision.

A school’s rating is often strongly correlated with the racial make-up of its student body. Higher-rated schools tend to have a greater percentage of white students. Blueprint Labs economists **Joshua Angrist** (MIT), **Peter Hull** (Brown), **Parag Pathak** (MIT), and **Christopher Walters** (UC Berkeley) analyzed this correlation in commonly used ratings of schools in New York City (NYC) and Denver, formulating a new measure of school performance. In these settings, their new “race-balanced progress” rating is uncorrelated with race but just as predictive of school quality as conventional progress ratings.

The researchers begin by distinguishing a school’s quality — defined as its causal impact on student achievement — from the family background and past experience of its student body. High quality schools excel at boosting achievement for students of a given

background and preparation level. Ratings that are influenced primarily by student background and preparation rather than by school quality are said to be compromised by *selection bias*.

This study’s findings suggest that, for middle schools in NYC and Denver, the racial make-up of a school’s student body is largely unrelated to school quality. Selection bias drives the correlation between widely used ratings and student racial composition: many schools rate higher simply because they serve students who tend to have higher test scores regardless of school quality (e.g., higher-income students). Popular school ratings based on achievement *levels* are particularly misleading measures of quality and highly correlated with race. At the same time, ratings that look at achievement growth or *progress* across grades better reflect school quality and are less correlated with race. Still, even progress ratings have room for improvement.

This study offers a simple method for adjusting academic performance ratings that removes the correlation between the rating and race. The researchers find that race-balanced progress ratings are at least if not more predictive of school quality than are conventional progress ratings.



## Source

Angrist, J., Hull, P., Pathak, P.A., and Walters, C.R. (2022): "Race and the Mismeasure of School Quality," *MIT Blueprint Labs Discussion Paper #2022.01*.

## Background and Policy Relevance

The validity of school performance ratings is important to many stakeholders. Parents may be exposed to ratings as they choose schools and homes, and school districts use the same information to guide policies on closures, takeovers, and expansions.

In large urban districts, schools that typically receive high ratings tend to have a disproportionate share of white and Asian students. This correlation raises the question of whether such ratings may promote segregation and penalize schools that serve historically underserved students — concerns that motivate the research described here. Similar concerns have led some school ratings distributors and accountability offices to implement new types of measures like the GreatSchools [Equity Rating](#) (see their methodology report [here](#)).

## Setting and Methods

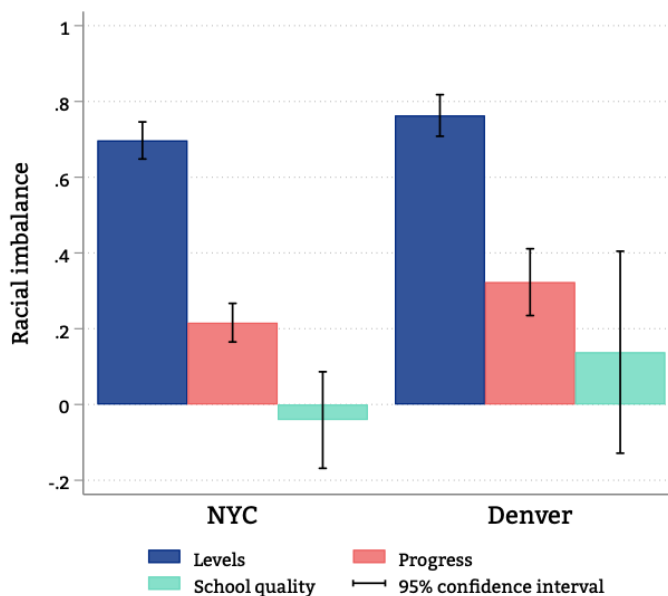
This work studies middle school achievement using data on students entering sixth grade in NYC (2017-2019) and Denver (2013-2019). Outcomes are sixth grade state achievement tests. The study leverages the randomization embedded in the lottery-based school assignment process used in both districts. By comparing outcomes for students whose assignments were random, the methods in this study reveal the causal impact of schools (true school quality), rather than other determinants of achievement like family background. This allows the researchers to estimate the relationship between quality and other school characteristics like racial composition. The study

uses data shared by the NYC Department of Education and Denver Public Schools.

**Key finding #1: Achievement levels are strongly correlated with race, while progress ratings are much less so. School quality is uncorrelated with race in NYC and Denver.**

Ratings based on achievement levels — constructed as the average share of students who are proficient in math and English language arts — are highly correlated with the share of enrolled students who are white. Progress ratings — based on the improvement in student achievement from fifth to sixth grade (via student growth percentile models) — are much less correlated with race. True school quality appears unrelated to race. Figure 1 depicts these relationships in both districts.

**Figure 1: The Racial Imbalance of School Ratings and School Quality**



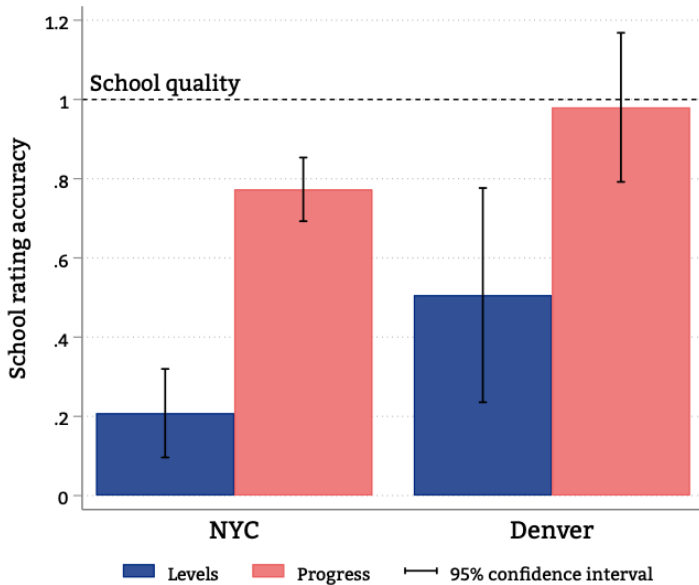
**How to read this figure:** This figure compares the racial imbalance of different school ratings and true school quality. Imbalance is defined as the relationship between the rating and the share of enrolled white students. The dark blue bar in NYC indicates that moving from a school with zero white students to all white students implies a 0.7 standard deviation increase in the levels rating (about an 80-percentage point increase in the share of proficient students). As seen in the teal bars, where the 95% confidence intervals straddle zero, school quality has little to no correlation with race.

**Key finding #2: Progress ratings predict school quality much more accurately than levels ratings.**

In both cities, levels ratings are only weakly related to quality due to *selection bias*. In other words, students’ average test scores might reflect factors such as family resources and parental involvement, rather than the causal impact of the school. Though progress measures better predict quality than levels, some selection bias remains.

Correlation between race and school ratings may arise either from a tendency for higher-quality schools to have a larger share of white students or from selection bias. Taken together, Figures 1 and 2 suggest that the latter is true: the relationship between school ratings and race is an artifact of selection bias.

**Figure 2: Prediction of School Quality by Different School Ratings**



**How to read this figure:** This figure shows how well levels and progress ratings predict school quality. The dashed horizontal line at an accuracy level of one indicates perfectly predicted school quality.

**Key finding #3: A novel measure can be constructed that eliminates the correlation with race and performs as well or better than progress measures.**

Building on key findings #1 and #2, this study develops a new, highly accurate quality measure called “race-balanced progress.” This measure is constructed using a simple adjustment that analysts could easily implement. In settings where quality is unrelated to race, like NYC and Denver, this adjustment removes correlation with race and can have even higher accuracy in predicting school quality. This measure could address policymakers’ concerns that commonly used ratings may promote segregation and penalize schools for serving historically marginalized students.

**Future Research**

The research team is exploring the relationship among school ratings, school quality, and race in other large urban districts. School finders and accountability offices also produce quality measures for non-test score outcomes like graduation and college enrollment. The research team plans to study these outcomes as well. The extent to which families act on school quality information is also an important avenue for future work.