PERFORMANCE OF GREATER CLEVELAND PUBLIC AND CHARTER SCHOOLS, IN CONTEXT, 2018-19

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The Ohio School Report Card gives schools grades meant to reflect their performance. But the Report Card indicators used to assign grades, like Performance Index (PI), are not good measures of *school* performance. They are good measures of *student* performance. Student performance on achievement tests is determined by many things, most of which have nothing to do with how teachers teach or how schools are organized. At least 80% of an Ohio school's PI score is explained by factors that are out of a school's control, like students' socioeconomic status and disabilities. If so much of Report Card grades are out of schools' control, how can we use these grades to draw conclusions about school performance?

This report presents a different way of thinking about school performance in 2018-19 in Greater Cleveland.[1] It focuses on the factors over which schools have some control and does not penalize them for the hardships and barriers that their students bring with them to school. The PI is a composite rating employed by the Ohio Department of Education that reflects, roughly, how many students fall into each of the performance categories (e.g., "basic" or "proficient") across all subject areas on the Ohio State Tests. The PI percent score ranges from 0 to 100, with higher scores indicating better performance. Public and charter schools receive an "Achievement" letter grade based on their PI percent on the Report Card.

THE CONTEXT OF SCHOOL PERFORMANCE

One problem with using a measure like the PI to make conclusions about the effectiveness of schools is that it does not take into account the types of students a school serves. For example, imagine that all of the students in School A come from wealthy families and receive additional tutoring, enrichment, and other educational resources outside of school. All of the students in school B come from economically disadvantaged families with few educational resources outside of school. If both School A and School B have PI percent scores of 80, which school would you conclude is more effective? Since School B has achieved its PI despite the barriers faced by its students, over which the school has no control, it is reasonable to conclude that School B performed better.

On average, schools with more disadvantaged students perform worse academically. This fact is illustrated in Figure 1, which shows the relationship between the median household income in a school's neighborhood[2] and PI percent in all Ohio public and charter elementary schools.[3] Each dot in the figure

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[1] Cuyahoga, Geauga, Lake, Lorain, and Medina Counties

[2] Data on median household income, private school K-12 enrollment, and educational attainment in a school's zip code derived from the 2017 (the most recent available) American Community Survey of the U.S. Census Bureau. All other data derived from the Ohio Department of Education 2018-19 Ohio School Report Card system.

[3] All public and charter schools in Ohio that had all grades 1-3 and that did not have any grades 9-12 were included in the elementary school analysis. For example, schools with grades ranging from K-5 and K-8 are included, but K-

represents a school. The *x*-axis indicates the median household income in the school's neighborhood in 2017. The *y*-axis indicates the school's PI percent score in 2018-19. The figure shows that, while some schools defy the trend, schools in neighborhoods with lower household incomes tend to have lower PIs.

Figure 1. Median household income and Performance Index in Ohio public and charter elementary schools
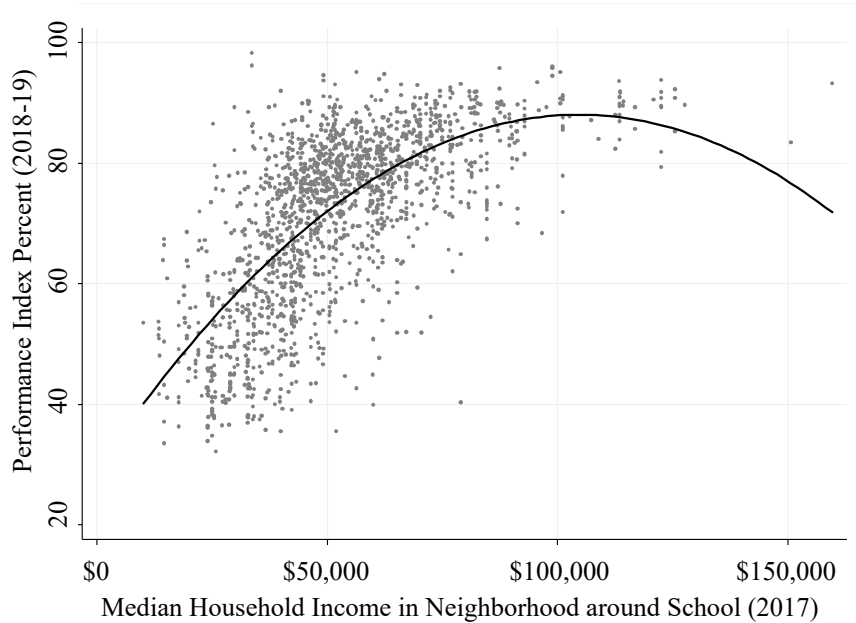
Though not shown in the figure, the same is true of schools with more economically disadvantaged,[4] homeless, fostered, Black or African American, and Hispanic or Latinx students and students with disabilities and limited English proficiency, with fewer gifted students, and in neighborhoods with lower average educational attainment. These trends hold for high schools, as well. In fact, together these factors explain over three quarters of any given school's PI. The things students bring with them to school go further in determining a school's PI than anything the school does.

The solid black line in Figure 1 shows a school's *predicted* PI percent given the median household income in its neighborhood. If a school is above the black line, its PI is better than predicted; if it is below the black line, its PI is worse than predicted. Median household income along with the other school characteristics noted in the preceding paragraph can be used in combination to predict any given school's PI. Generally, schools with more disadvantaged students are predicted to perform worse. How well a school actually performed relative to how well it was predicted to perform is referred to in this report as its "effective PI."

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12 and 4-8 schools are not. All public and charter schools in Ohio with grades 9-12 and that did not have any grades K-4 were included in the high school analysis.

[4] In some districts with particularly high rates of poverty, all schools in the district are automatically assigned a value of 100 percent economically disadvantaged students based on the Community Eligibility Provision of the federal school meals program (http://www.fns.usda.gov/school-meals/community-eligibiliy-provision). As a result, there are some schools in Greater Cleveland where less than half the enrolled students are eligible for free or reduced-price lunch, but all of the students in the school are considered economically disadvantaged.

EFFECTIVE SCHOOL PERFORMANCE

The school rankings below are based on the PI percent scores that schools would have achieved with exactly "average" students for Ohio. The difference between a school's actual PI and its predicted PI[5] based on its student and neighborhood demographics was added to the statewide average PI percent for elementary schools (71.5 in 2018-19) to calculate an effective PI. An effective PI higher than 71.5 indicates that a school did better than predicted, while an effective PI lower than 71.5 indicates that it did worse than predicted. The top public elementary schools in Greater Cleveland based on effective PI in 2018-19 are shown in Table 1, which also includes the letter grade the schools would receive based on their effective PIs and schools' actual PIs in 2018-19.

Table 1. Top public and charter elementary schools in Greater Cleveland, based on Effective Performance Index (2018-19)

School	District	Effective PI	Effective Grade	Actual PI
1. Clark	Cleveland Metropolitan	96.4	A	82.1
2. Westwood Elementary	Warrensville Heights	94.7	A	76.1
3. Adrian Elementary	South Euclid-Lyndhurst	89.9	B	78.6
4. Westpark Community Elementary	Constellation Schools	88.3	B	86.4
5. Wings Academy 1	Wings Academy 1	88.0	B	67.4
6. Chardon Hills Elementary	Euclid	87.2	B	73.5
7. Lakeshore Intergenerational	Cleveland Metropolitan	85.8	B	68.5
8. Apex Academy	Apex Academy	85.3	B	65.5
9. Broadway Academy	Broadway Academy	84.9	B	62.8
10. Douglas MacArthur	Cleveland Metropolitan	83.6	B	76.6
11. Clara E Westropp	Cleveland Metropolitan	83.6	B	60.2
12. Boulevard Elementary	Shaker Heights	83.4	B	86.5
13. Roxboro Elementary	Cleveland Heights-University Hts	83.0	B	75.8
14. The Intergenerational School	Cleveland Metropolitan	82.7	B	66.5
15. Canterbury Elementary	Cleveland Heights-University Hts	82.7	B	76.0
16. Onaway Elementary	Shaker Heights	82.5	B	85.2
17. Memorial	Cleveland Metropolitan	82.1	B	56.1
18. Gearity Professional Development	Cleveland Heights-University Hts	82.1	B	68.3
19. Sunview Elementary	South Euclid-Lyndhurst	81.6	B	81.7
20. Global Village Academy	Global Village Academy	81.4	B	87.2
21. Village Preparatory	Cleveland Metropolitan	81.3	B	67.1
22. Windsor Elementary	Elyria	81.1	B	80.9
23. Paul L Dunbar Elementary	Cleveland Metropolitan	81.0	B	67.2
24. Near West Intergenerational	Cleveland Metropolitan	80.8	B	72.1
25. Hawthorne Elementary	Lorain	80.3	B	63.6
26. Citizens Academy East	Cleveland Metropolitan	80.3	B	61.2
27. Lorain Community Elementary	Constellation Schools	80.1	B	72.1
28. Parkside Elementary	Solon	80.1	B	95.7
29. Hilltop Elementary	Beachwood	80.1	B	93.1
30. Citizens Academy	Cleveland Metropolitan	80.0	B	60.5

[5] Predicted performance index scores were estimated via a linear regression where the outcome variable was a school's performance index percent score in 2018-19. The predictor variables were the percentage of students in the school who were economically disadvantaged, homeless or in foster care at any time, Asian or Pacific Islander, Black or African American, Hispanic or Latinx, and multiracial and had disabilities and limited English proficiency in 2018-19, the median household income, private school K-12 enrollment rate, and percentage of residents with 4-year college degrees in the school zip code in 2017, and each of these variables squared.

The 30 Greater Cleveland elementary schools that most outperformed predictions and therefore have the highest Effective PIs are located in both high- and low-income neighborhoods. Ten of the top 30 are located in neighborhoods with median household incomes below the federal poverty line[6] of $30,170, and only five are in neighborhoods with a median household income above $60,000. Nineteen of the top 30 have student bodies that are majority Black or African American, eight are majority White, and three are majority Hispanic or Latinx. Three of the top 30 serve students who are either homeless or in foster care. Eleven (37%) of the top 30 schools are in the Cleveland Metropolitan School District (CMSD), whereas only 26% of all elementary schools in Greater Cleveland are in CMSD. Twelve of the top 30 are charter schools, including some that are part of CMSD.

The same analysis was replicated for high schools where the mean PI percent was 64.3 in 2018-19. The top public high schools in Greater Cleveland based on effective PI in 2018-19 are shown in Table 2.

Table 2. Top public and charter high schools in Greater Cleveland, based on Effective Performance Index (2017-18)

	School	District	Effective PI	Effective Grade	Actual PI
1.	Cleveland Early College High	Cleveland Metropolitan	87.0	B	83.3
2.	Cleveland Schl of Science & Medicine	Cleveland Metropolitan	82.7	B	75.7
3.	Whitney Young	Cleveland Metropolitan	81.1	B	71.5
4.	Cleveland Schl of Architecture & Design	Cleveland Metropolitan	80.9	B	75.1
5.	Cleveland High Schl for the Digital Arts	Cleveland Metropolitan	80.6	B	52.8
6.	iSTEM Geauga Early College High	iSTEM Geauga	77.8	C	85.6
7.	Cleveland Schl of the Arts High	Cleveland Metropolitan	77.1	C	64.7
8.	Warrensville Heights High	Warrensville Heights	76.9	C	51.0
9.	Davis Aerospace & Maritime High	Cleveland Metropolitan	76.1	C	49.9
10.	Mayfield High	Mayfield	74.2	C	78.9
11.	Lincoln West Schl of Science and Health	Cleveland Metropolitan	73.8	C	48.6
12.	Maple Heights High	Maple Heights	73.5	C	49.3
13.	Rocky River High	Rocky River	73.2	C	89.3
14.	Rhodes College and Career Academy	Cleveland Metropolitan	72.7	C	53.5
15.	Campus International High	Cleveland Metropolitan	72.5	C	53.3
16.	Cuyahoga Heights High	Cuyahoga Heights	72.2	C	86.4
17.	New Technology High @ East Tech	Cleveland Metropolitan	71.6	C	46.1
18.	John Marshall Schl of Information Tech	Cleveland Metropolitan	71.2	C	51.7
19.	Rhodes S of Environmental Studies	Cleveland Metropolitan	71.2	C	47.3
20.	Normandy High	Parma	70.7	C	75.2
21.	Facing History High @ Charles Mooney	Cleveland Metropolitan	70.6	C	51.7
22.	Euclid High	Euclid	70.4	C	47.3
23.	Solon High	Solon	70.2	C	90.8
24.	Richmond Heights High	Richmond Heights	69.9	D	56.5
25.	Collinwood High	Cleveland Metropolitan	69.8	D	42.0
26.	Garfield Heights High	Garfield Heights	69.7	D	49.2
27.	T2 Honors Academy	T2 Honors Academy	69.7	D	49.6
28.	Glenville High	Cleveland Metropolitan	69.6	D	41.9
29.	Brush High	South Euclid-Lyndhurst	69.5	D	59.1
30.	Garrett Morgan Schl Of Science	Cleveland Metropolitan	69.5	D	43.3

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[6] For a family of five in 2019

The 30 Greater Cleveland high schools with the highest Effective PIs include a mix of schools in high- and low-income neighborhoods. Ten of the top 30 are located in neighborhoods with median household incomes below the poverty line, while six of the top 30 are in neighborhoods with median household incomes above $60,000. Twenty-two of the top 30 have student bodies that are majority Black or African American; six are majority White; and two are majority Hispanic or Latinx. Three of the top 30 serve students who are either homeless or in foster care. The top five and 17 of the top 30 (57%) are in CMSD, whereas only 32% of all Greater Cleveland high schools are in CMSD.

These 30 elementary and 30 high schools achieved the best performance results in Greater Cleveland in 2018-19 given the characteristics of their students, including the advantages they enjoy and the disadvantages they face. If one were to replace each of these schools' student bodies with completely average students (based on levels of advantage and disadvantage), the effective PI suggests how well those students would perform.

There are other barriers to student success that are also largely outside of schools' control that are not considered in this report (for example, parent involvement). The factors that are included in this report do not perfectly capture the true disadvantage experienced by students in a school. Effective PI has limitations as a measure of school performance, as does PI or any other measure. This approach to measuring performance, however, is more sensitive to context than the standard approach of ranking schools by PI alone. It gets closer to comparing schools on an equal playing field.