

Unequal Access to Educational Opportunity Among Pennsylvania's High School Students

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Introduction

Pennsylvania's students consistently score above the national average on overall student achievement.¹ However, the state's achievement gaps between White students and Black and Hispanic students are consistently **among the worst in the country**, even when controlling for gaps in family income, poverty, unemployment, and parental educational attainment.²

Inequitable access to educational opportunity may contribute to Pennsylvania's achievement gaps. Research for Action's new [Educational Opportunity Dashboard](#) allows users to evaluate access to educational opportunity for high school students across the nation by using data from the biennial Civil Rights Data Collection (see call-out box defining "access"). As described below, the Dashboard also allows users to compare gaps in student access to educational opportunity by race and poverty in all 50 states.

In this brief, we highlight how Pennsylvania compares to other states in providing equitable access to educational opportunity. Following a more detailed discussion of the educational opportunity indicators, we first examine Pennsylvania's rankings on overall access and then how Pennsylvania compares to other states on gaps in access to educational opportunity between White and Black students, between White and Hispanic students, and between students eligible for free/reduced price lunch and students who are not eligible. Finally, we discuss how racial gaps in access to educational opportunity persist or change when examining just the subsets of high schools with high, medium, or low concentrations of student poverty.

ACCESS: A First Step to Opportunity

In this study, high school students are presumed to have access to an educational opportunity if they merely attend a school that provides the opportunity. For example, if a student attends a school that offers an Advanced Placement course or attends a school with a low student/teacher ratio, that student is considered to have access to those indicators of opportunity. Of course, this does not necessarily mean that the student is receiving the opportunity. The student may or may not be enrolled in an AP course or in a classroom with low student/teacher ratio.

Some Civil Rights Data Collection (CRDC) indicators are only available at this basic level of access to a school with opportunities. For consistency we examined all 14 indicators in this way. In addition, by examining this threshold question, we can narrow in on how well policymakers are taking the first step to providing adequate and equitable opportunities to all students regardless of race or poverty.

1 Hanna, Maddie. "Pennsylvania and New Jersey reading scores decline on 'nation's report card.'" The Philadelphia Inquirer. November 2019. Accessed at <https://www.inquirer.com/education/naep-pennsylvania-new-jersey-student-test-results-20191101.html>
2 Stanford Center for Education Policy Analysis. "The Educational Opportunity Monitoring Project." February 2015. Accessed at <https://cepa.stanford.edu/educational-opportunity-monitoring-project/achievement-gaps/race/>

Key Findings for Pennsylvania High Schools

- PA ranks above average on *overall* student access to educational opportunities, but disparities by race/ethnicity and income are stark.
- White high school students in PA have higher access to educational opportunity compared to White students in most other states.
- In contrast, Black and Hispanic high school students in PA have lower access to educational opportunity than do their Black and Hispanic peers in most other states.
- PA's gaps in access to educational opportunity rank among the five worst nationwide in terms of both race and poverty. On our Average Opportunity Score, PA's Black students, Hispanic students, and students eligible for free or reduced-price lunch (FRPL) all experience at least a 10% point gap compared to their White and non-FRPL peers.
- Two factors contribute to PA's deep racial inequity in access to educational opportunity:
 - First, Black and Hispanic students are disproportionately enrolled in high-poverty schools and those schools provide less access to educational opportunities. In contrast, White students are disproportionately enrolled in low-poverty schools which provide higher access to opportunity.
 - Second, even within high schools with mid or high concentrations of poverty, White students are more likely than Black and Hispanic students to attend schools that provide greater access to educational opportunities. (There are not notable gaps by race within low-poverty schools, where fewer Black and Hispanic students are enrolled.)

The bottom line is this: **while troubling race and income disparities in access to educational opportunity exist in most states, the size and pervasiveness of PA's gaps are among the most severe in the country.**

PA High School Student Demographics Compared to the Nation

As shown in Table 1, PA has a smaller percentage of students of color and those eligible for free or reduced-price lunch (FRPL) than does the nation overall.

Table 1. PA High School Students by Race/Ethnicity and Income Status

State	Distribution of Race/Ethnicity					FRPL-Eligible ³
	White	Black	Hispanic	Asian	Other ⁴	
PA	71%	14%	9%	4%	2%	43%
Nation	51%	16%	24%	5%	4%	46%

VIEW DATA ON EACH STATE ON THE EDUCATIONAL OPPORTUNITY DASHBOARD AT researchforaction.org/educational-opportunity

Nationwide, close to 50% of students are non-White compared to under 30% in PA. Among students of color, Hispanic students make up the largest group nationwide (24%), while Black students are the largest group in PA (14%).

³ Students are categorized by income based on eligibility for FRPL, which is determined by household income of 185% of the Federal Poverty Level or less, or categorically eligible based on other assistance programs such as SNAP.

⁴ Includes students who identified as American Indian or Alaskan Native, Native Hawaiian or Pacific Islander, or two or more races.

The Educational Opportunity Dashboard

Using the 2015-16 federal Civil Rights Data Collection (CRDC) data on virtually every public high school in the nation, RFA's Educational Opportunity Dashboard compares disparities in access to educational opportunity at the state and national level. All 50 states are ranked on 14 CRDC indicators, which are compiled into an overall **"Average Opportunity Score"** and used to create composite indices on the following three Access to Educational Opportunity domains:

1. Access to Quality Educators Index
2. Access to College Ready Curriculum Index
3. Access to a Positive School Climate Index

The Dashboard ranks states on both overall access scores and by the size of gaps in access scores by student race and poverty subgroups. Table 2 provides definitions and explains which indicators comprise each access to educational opportunity index.

Table 2. Access to Educational Opportunity Indicators and Definitions

Educational Access Indicators	Definition
Average Opportunity Score	An average score for access to educational opportunity created by averaging the scores across the three composite indices, as described below. $\frac{\text{Access to Quality Educators Index \%} + \text{Access to Positive School Climate Index \%} + \text{Access to College and Career Readiness Curriculum Index \%}}{3} = \text{Average Opportunity Score \%}$
Access to Quality Educators Index	A composite index for access to quality educators created by averaging the scores across the five indicators listed below.
Certified Teachers	Percentage of students who attend a high school in which all teachers have met all applicable state teacher certification requirements.
STEM Certified Teachers	Percentage of students who attend a high school in which all science and math courses are taught by teachers certified in math and science.
Experienced Teachers	Percentage of students who attend a high school in which the proportion of teachers with more than two years of experience is at or above the U.S. median of 90.9%.
Low Student/Teacher Ratio	Percentage of students who attend a high school with a student/teacher ratio at or below the U.S. median of 14.4:1.
Low Student/Counselor Ratio	Percentage of students who attend a high school with a student/counselor ratio at or below the recommended ratio of 250:1.
Access to Positive School Climate Index	A composite index for access to a positive school climate created by averaging the scores across the four indicators listed below.
Low Suspension Rate	Percentage of students who attend a high school with a suspension rate that is at or below the U.S. median of 5%.
Low Chronic Absenteeism Rate	Percentage of students who attend a high school with a chronic absenteeism rate that is at or below the U.S. median of 17.4%.
Teacher Chronic Absenteeism Rate	Percentage of students who attend a high school with a teacher chronic absenteeism rate that is at or below the U.S. median of 21%.
Low Grade Retention Rate	Percentage of students who attend a high school with a grade retention rate that is at or below the U.S. median of 1.1%.
Access to College and Career Readiness Curriculum Index	A composite index for access to college and career readiness curriculum created by averaging the scores across the five curriculum indicators listed below.
Advanced Math	Percentage of students who attend a high school that offers Advanced Math (i.e., trigonometry, analytic geometry, probability and statistics, precalculus).
Calculus	Percentage of students who attend a high school that offers Calculus.
AP Courses	Percentage of students who attend a high school that offers AP courses.
Chemistry	Percentage of students who attend a high school that offers Chemistry.
Physics	Percentage of students who attend a high school that offers Physics.

View Methodology for more detail about indicators and composite indices at www.researchforaction.org/educational-opportunity.

Overall Access to Educational Opportunities in PA

Our analysis reveals that, for high school students overall, PA schools provide high access to educational opportunity compared to most other states. As described above, the Average Opportunity Score on RFA’s Educational Opportunity Dashboard is an average of students’ access to the three indices: (1) quality educators, (2) positive school climate, and (2) college/career readiness curriculum. In PA, 60% of all high school students have access to quality educators, 38% have access to a positive school climate, and 95% have access to college/career readiness curriculum for an **Average Opportunity Score of 64% for all students**. As shown in Table 3, this score ranks PA’s students 15th nationwide on overall access to educational opportunities.

Table 3. Average Opportunity Scores and Rankings in PA High Schools, by Race/Ethnicity and Income

	All Students	Race/Ethnicity				Income Status	
		Black	Hispanic	White	Asian	FRPL	Non-FRPL
Average Opportunity Score	64%	53%	56%	68%	65%	59%	69%
How Do Pennsylvania High Schools Compare? (Rank Out of 50 States)	15	30	28	11	13	23	9

Yet disparities by race/ethnicity and income are stark. As Table 3 shows, White and Asian high school students in PA have higher Average Opportunity Scores compared to White and Asian students in most other states. In contrast, Black and Hispanic high school students in PA rank lower on the Average Opportunity Score than do their Black and Hispanic peers in most states. Likewise, students eligible for FRPL in PA rank lower than their peers in other states compared to students who are not eligible for FRPL.

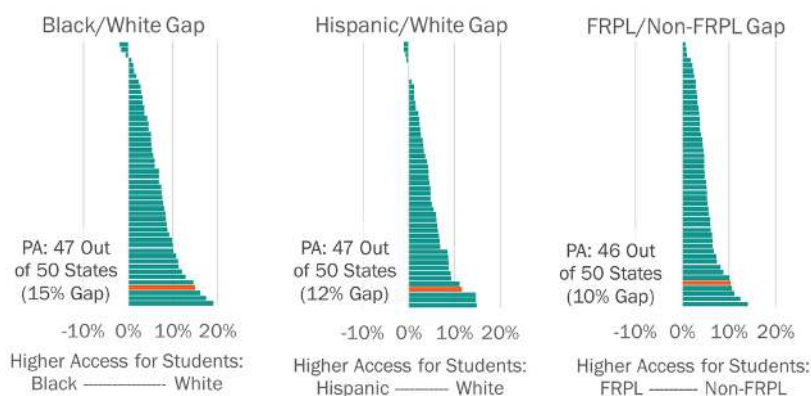
Gaps in Access to Educational Opportunity

We also measure the size of the gaps in access to educational opportunity between students of different races and income groups and compare PA’s gaps to other states. First, we examine gaps on the Average Opportunity Score, followed by a more detailed analysis of gaps on each of the three educational opportunity indices, as well as on the individual indicators that comprise each domain.

PA’s Gaps in Average Opportunity Score Are Among the Most Inequitable in the Country

Figure 1 shows that **PA high schools rank among the five worst states** nationally based the size of the **gaps** in the Average Opportunity Score between Black and White, between Hispanic and White, and between FRPL and non-FRPL students.

Figure 1. Gaps in Average Opportunity Score in High Schools, by Race/Income Gaps and State



SEE HOW ALL STATES RANK AT
researchforaction.org/educational-opportunity/state-rankings.

PA's Black students, Hispanic students, and students eligible for FRPL **experienced at least a 10% gap** in Average Opportunity Score compared to their White and non-FRPL peers. Each of these disparities places PA among the **five states with the worst gaps in the nation**.

Gaps in Access to Educational Opportunity by Domain

A more detailed look at the three domains of educational opportunity included in this analysis reveals the breadth of inequity for PA's high school students in access to (1) quality educators, (2) college and career readiness curriculum, and (3) a positive school climate. This section describes disparities in access to these three indices of educational opportunity, and examines gaps across each of the individual indicators within each index.

Table 4 provides PA's national ranking on race and income gaps on each educational quality index and indicator.

Table 4. PA State Ranking on Race/Income Gaps in Access to Educational Opportunities, by Index and Indicators

Educational Access Indicators	How Do Pennsylvania High Schools Compare? (Rank Out of 50 States)		
	Black/White Student Opportunity Gap	Hispanic/White Student Opportunity Gap	FRPL/Non-FRPL Student Opportunity Gap
Average Opportunity Score	47	47	46
Quality Educators Index	49	47	47
Certified Teachers	43	46	43
Experienced Teachers	38	38	31
Low Student/Counselor Ratio	38	13	46
Low Student/Teacher Ratio	45	49	48
STEM Certified Teachers	44	32	47
College/Career Readiness Curriculum Index	48	46	31
Advanced Math	42	37	28
AP Courses	43	35	25
Calculus	47	49	37
Chemistry	33	39	18
Physics	45	48	38
Positive School Climate Index	31	39	46
Low Grade Retention	36	45	45
Low Student Absenteeism	36	26	42
Low Suspension Rate	42	47	46
Low Teacher Absenteeism	4	11	11

darker shading = lower national rank

As discussed in the previous section, **PA's race and income gaps in Average Opportunity Score rank among the five worst in the nation** (46th-47th out of 50 states, shown in the first row of this table). **This poor ranking is reflected across all three indices, with at least one race or income gap ranking 46th or worse, among the five least equitable states.**

PA's Black/White gaps are larger than the national median, ranking worse than 25th out of 50 states on all three indices and on 13 of the 14 indicators. The **Hispanic/White gaps are larger than the national median** on all three indices and on 12 of the 14 indicators. The **FRPL/non-FRPL gaps are larger than the national median** on all three indices and on 11 of the 14 indicators.

PA's Black/White and Hispanic/White gaps in access to quality educators and access to college/career readiness curriculum indices rank respectively as the second and fourth worst in the nation

(49th and 47th out of 50 states). The gaps in positive school climate index are also substantial, ranking PA lower than most states on both Black/White and Hispanic/White gaps (31st and 39th out of 50 states).

PA’s FRPL/non-FRPL gaps in access to quality educators and positive school climate indices are both among the worst five in the nation (47th and 46th out of 50 states), while the FRPL/non-FRPL gap in college/career readiness curriculum index also ranked worse than most states (31st out of 50 states).

Are Gaps in Access to Educational Opportunity Attributable to Poverty?

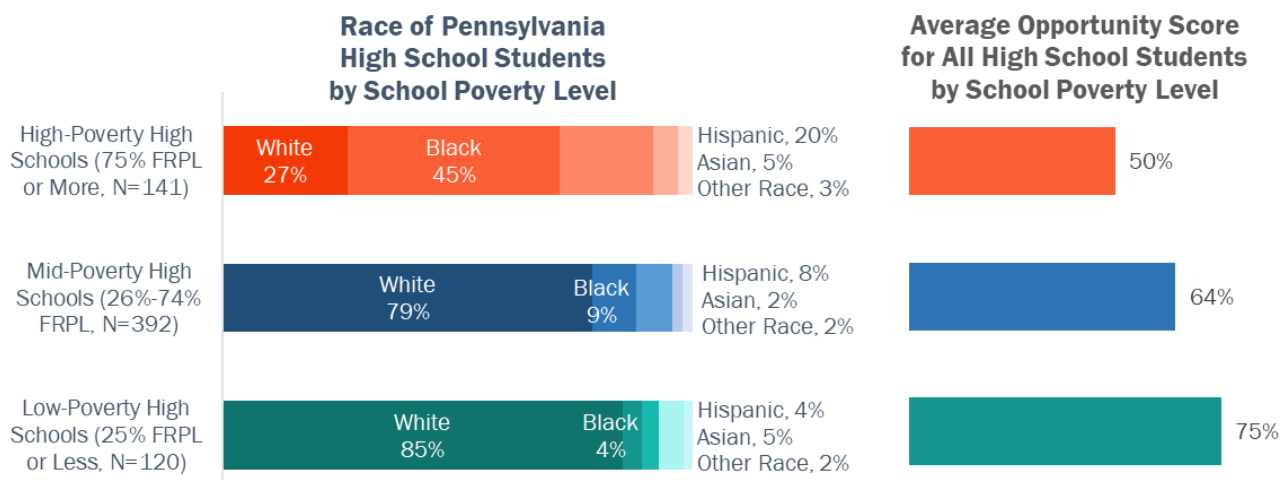
The disparities in access to educational opportunity demonstrated in the previous sections show stark inequities in PA high schools compared to other states. To further examine whether these gaps persist after controlling for school poverty, we compared the gaps in access to educational opportunity within subsets of schools with similar levels of poverty: low-, mid-, and high-poverty high schools.

This analysis reveals that disparities in access to educational opportunity in PA are not merely attributable to poverty and that at least two factors contribute to racial inequity: (1) racial disparities in rates of enrollment in low-, mid-, and high-poverty schools which provide, respectively, high, mid, and low levels of access to educational opportunity; and (2) substantial racial inequality even within mid- and high-poverty school groups. We discuss each factor below.

Factor 1: Disparities in Enrollment and Access to Opportunity between Schools with Low, Mid, or High Poverty

As shown in Figure 2, Black and Hispanic students in PA are disproportionately enrolled in high-poverty schools, and those schools provide less access to educational opportunities. In contrast, White students are disproportionately enrolled in low-poverty schools which provide higher access to opportunity.

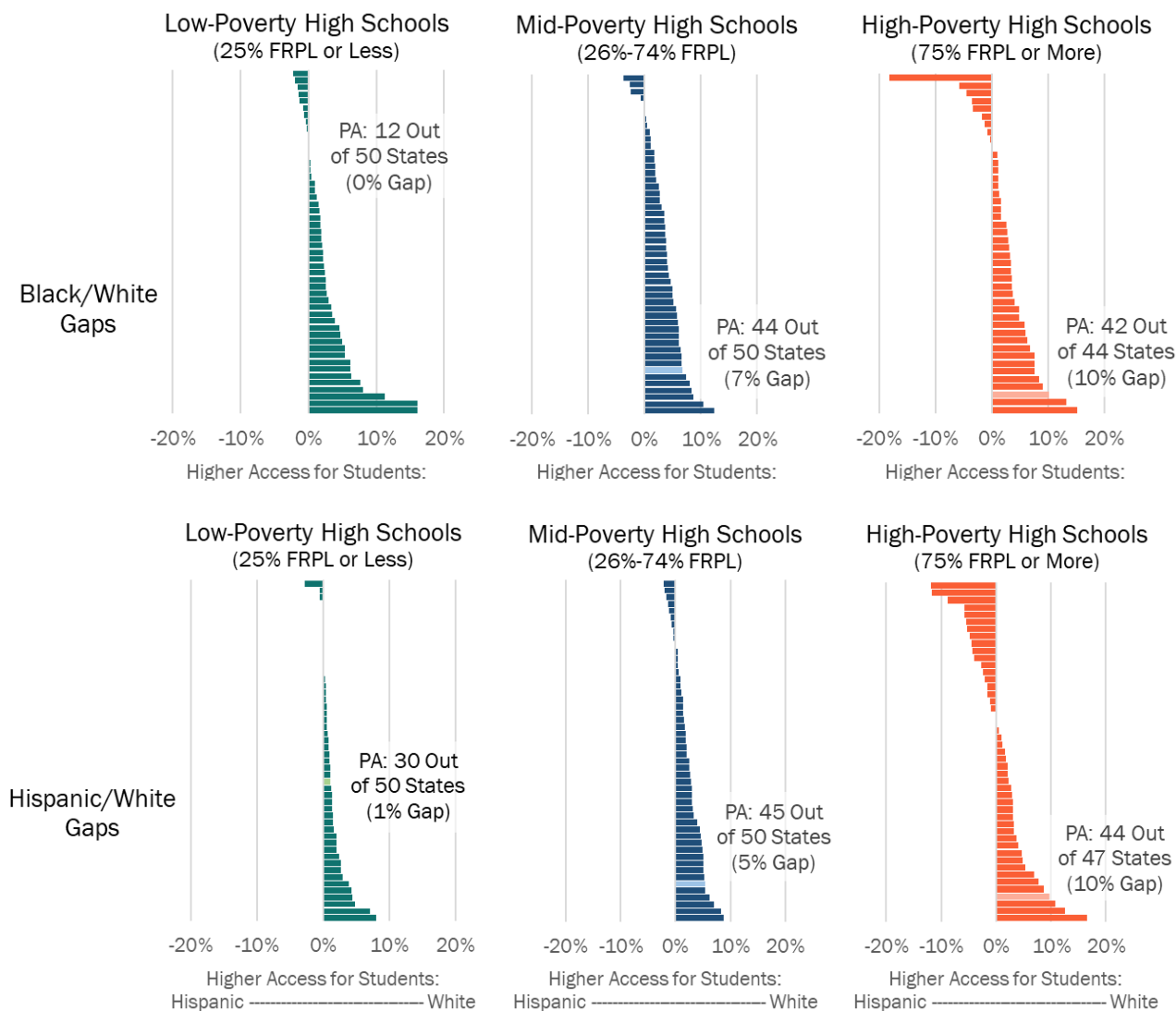
Figure 2. Race and Average Opportunity Scores in PA, by School Poverty Groups



Factor 2: Racial Disparities in Access to Educational Opportunity Within Mid- and High-Poverty Schools

Meanwhile, as shown in Figure 3, even within high schools with mid and high concentrations of poverty, White students are more likely than Black and Hispanic students to attend schools that provide greater access to educational opportunities.

Figure 3. Gaps in Average Opportunity Score, by Race and School Poverty Groups



Note: High-poverty high school ranking is out of 44 states for Black/White gap and 47 states for Hispanic/White gap because Delaware, New Hampshire, and Vermont do not have high-poverty schools and Maine, Montana, and Wyoming do not have Black students attending high-poverty schools. PA has 120 low-poverty high schools, 392 mid-poverty high schools, and 141 high-poverty high schools.

Racial gaps in access to opportunity are substantial in mid-poverty schools and most severe in high-poverty schools, placing PA among the worst six states in the nation on racial gaps in mid-poverty schools and the worst four states on racial gaps in high-poverty schools. Notably, Black/White student gaps and Hispanic/White student gaps in access to opportunity are minimal in PA’s low-poverty high schools, though relatively few Black or Hispanic students are enrolled in those schools.

Conclusion

RFA’s analysis of the U.S. Department of Education Office of Civil Rights’ Civil Rights Data Collection dataset provides a unique opportunity to examine inequity in access to educational opportunity in high schools across all 50 states. Similar analyses can be conducted for other states using RFA’s [Educational Opportunity Dashboard](#). For more information or assistance using the Dashboard, contact Research for Action.

This deeper dive into Pennsylvania’s data reveals that, even amidst persistent national inequity among race and income groups, the degree of inequity that exists in access to educational opportunity in Pennsylvania stands among the worst in the nation. Few states provide so much opportunity to their White students and yet so little for their Black and Hispanic students. Few states provide so much less to their poor students compared to their non-poor students. Policymakers and the education community should consider how to close these gaps to ensure that race and income do not continue to dictate access to high-quality educational opportunities for Pennsylvania’s youth.

About Research for Action

Research for Action (RFA) is a Philadelphia-based nonprofit education research organization. We seek to use research as the basis for the improvement of educational opportunities and outcomes for traditionally underserved children and students. Our work is designed to strengthen early education, public schools and postsecondary institutions; provide research-based recommendations to policymakers, practitioners, and the public; and enrich civic and community dialogue. For more information, please visit our website at www.researchforaction.org.

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