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Whose Schools Are Failing?

John R. Logan
Brown University

Summary

Persistent school segregation does not mean just that children of different racial and ethnic backgrounds attend different schools, but that their schools are also unequal in their students' performance. This study documents nationally the extent of disparities in student performance between schools attended by whites and Asians compared to blacks, Hispanics, and Native Americans. The analysis shows that a focus solely on schools at the bottom of the distribution as in No Child Left Behind would only modestly reduce the wide disparities between groups.

Whose Schools Are Failing?

The principal question raised by most research on racial segregation in schools is whether children of different racial and ethnic background attend different schools. Many studies have traced the trends in segregation, which persists at fairly high levels despite substantial desegregation of schools in the 1970s in the wake of the *Brown v. Board of Education* decision (Clotfelter 2004; Logan, Oakley, & Stowell, 2008). Researchers emphasize that segregation undermines equal opportunity not only because it separates children by race but because it leaves minority children in inferior schools (Orfield and Yun 1999). If many children are being "left behind" in public schools, one hard fact is that those children are disproportionately minorities. Yet until recently it has not been possible to measure these inequalities at a national level. Our purpose here is to ask which schools minority children attend and how students in those schools perform.

The assumption is that, all else equal, it is advantageous to attend a school where more students are successful. This is why the No Child Left Behind Act (NCLB), signed into law in 2002, introduced mechanisms to identify "failing schools" (Borman et al., 2004). We take advantage of the testing requirements of that legislation to offer a national-level accounting of the student performance disparities in the schools attended by white and minority children. This is not a study of how well schools are carrying out their educational purpose: There is no information on individual children, how much they learn over time, or on the quality of instruction, and we cannot judge the performance of the school simply by its test scores. This is a study instead about the nature of the environment in which children go to school (and more specifically, about the performance of their classmates). The question is when a child is assigned to a school, what is that school like? We use test scores as the indicator of quality of the school environment.

It is widely reported that minority students attend worse schools than non-Hispanic whites, though few studies have had direct measures of school-level outcomes. There is more evidence that minority children are disproportionately attending high poverty schools. Black and Hispanic students are also more likely to attend city schools. This analysis covers all public schools in the U.S. for which standardized test score data were available for 2004-2005.

Disparities in outcomes in the schools attended by different groups

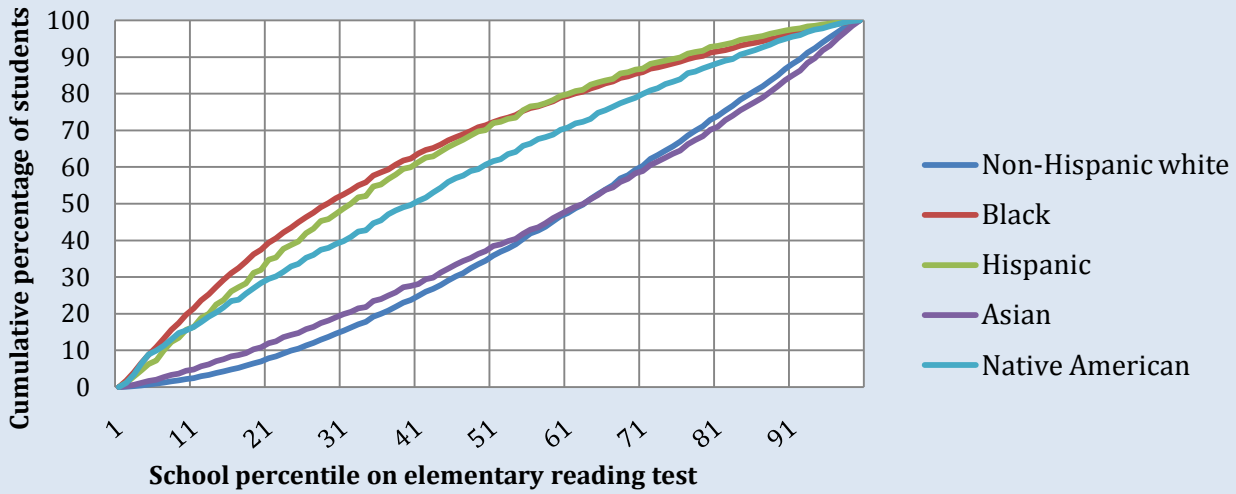
Table 1 displays the average test score results for schools in which students of different race/ethnicity are enrolled. As noted in the Appendix, every state administers its own standardized tests. In order to do a national study, state test scores have been transformed here into percentile rankings. The key outcome variable, then, is how a school's test results rank in relation to others in the same state. Table 1 presents average values for schools, weighted by the number of students of a given group in the grade level that was tested. They are therefore the value for the school that the average group member attends. These data show a high level of disparities across groups at every grade level and in both reading and mathematics. Note that these scores are not group-specific but are a characteristic of the school as a whole.

Table 1. Average Test Scores in Schools (Percentiles within States) by Race/Ethnicity and Grade Level

	Elementary		Middle		High School	
	Reading	Math	Reading	Math	Reading	Math
White	59.9	59.2	61.0	61.2	60.5	60.8
Black	35.1	35.5	36.5	36.4	38.4	36.4
Hispanic	36.4	38.9	37.9	40.8	43.5	45.7
Asian	58.9	59.2	59.6	61.5	61.3	63.6
Native American	42.0	42.5	43.3	44.4	47.0	49.3
Number of schools	**45,248**	**43,305**	**21,800**	**20,579**	**14,389**	**14,436**

The reading scores for elementary students reflect the general pattern. The highest values are for white and Asian students, who on average attend schools at close to the 60th percentile in their state. Values for Native Americans and Hispanics are considerably lower, around the 40th percentile, and black students on average attend schools at the 35th percentile. There is only small variation on different measures. For example, for high school mathematics, Asians attend schools that score three points higher than those attended by white students. But on every measure – reading and math, at each grade level – whites and Asians are found to be in the best performing schools, and black students in the worst, with Hispanics and Native Americans closer to the black values than to those of whites or Asians.

Figure 1. Distribution of students by percentile ranking of school reading test score: Elementary students by race and ethnicity



A more complete portrait of the disparities across groups is provided in Figure 1, which shows the distribution of students in each group across schools by the schools' percentile on the elementary

reading test. The curves for mathematics tests and for other grade levels are quite similar. Note that the non-Hispanic white and Asian curves are very close to one another and contrast sharply with the curves for blacks, Hispanic, and Native Americans. One can read from this figure, for example, that only about 8 percent of non-Hispanic white students and 12 percent of Asian students are in schools below the 20th percentile while nearly 30 percent of them are in schools above the 80th percentile. The strongest contrast is to black students, about 40 percent below the 20th percentile and less than 10 percent in schools above the 80th percentile. The space between the curves represents the disparity between groups across the whole distribution of students.

Table 2 returns to using the mean value to represent performance of schools attended by students in each group. It introduces controls for two variables that have been prominent in the literature on school disparities: the level of poverty in the school and the school's location in city, suburban, or non-metropolitan areas. To limit the size of the table, values are only shown for elementary schools, but similar patterns are found for middle schools and high schools. The sample size for this table is reduced due to missing data on poverty. Note that although poverty and location are strongly related (higher-poverty schools in the central cities) there are nonetheless many low-poverty central-city schools and many high-poverty suburban schools in the nation.

Adding these controls also diminishes the differences across groups. Most often but not always, white and Asian students still are found to be in higher-performing schools within every combination of poverty and location. Typically, the gap between the highest and lowest group is no more than 10 points. (An exceptional case is for reading scores in low-poverty city schools. In this category of schools, Hispanics are found on average in schools at the 53rd percentile, 30 points below Asians, 25 points below whites, and 12 points below blacks.) Hence Table 2 seems to suggest that most racial-ethnic disparities are the consequence not so much of the racial composition of schools but rather of their levels of poverty.[1]

[1] These observations are supported by an analysis of covariance (not shown) in which the percentage of black, Hispanic, Asians, and Native American students are included as covariates along with the direct effects of the categories of poverty and location. The joint effects of the predictors (treating racial composition as a set of covariates, the percentage of students in each minority category) are powerful, explaining 32-34 percent of the variance in schools' test scores. Because the predictors are strongly intercorrelated, no single variable by itself (entered as the last predictor in the model) explains a large portion of variance. However in models for both reading and math, the largest effects are for poverty (responsible for 4 to 5 percent of the variance), percent black (6 percent), and percent Hispanic (4 percent). Much smaller shares are explained by the remaining predictors, although all are statistically significant.

Table 2. Test Scores (Percentiles at the National Level) by Race/Ethnicity, School Poverty and Metropolitan Location - Elementary Grades

	Reading			Mathematics		
Percent Poor:	***City***	***Suburban***	***Non-Metro***	***City***	***Suburban***	***Non-Metro***
High (more than 55.0%)						
White	33.3	40.5	45.0	35.4	41.3	45.4
Black	22.4	28.4	34.5	24.0	28.8	34.3
Hispanic	25.6	28.8	37.6	29.6	32.7	39.3
Asian	31.9	34.0	36.0	36.0	38.4	38.3
Native American	29.1	31.3	31.7	31.4	33.5	33.5
Number of schools	**7,308**	**5,056**	**3,682**	**6,968**	**4,948**	**3,614**
Medium (25.0-55.0 %)						
White	57.5	55.6	53.1	56.3	55.2	52.4
Black	52.2	49.9	54.3	50.9	49.7	54.1
Hispanic	51.7	52.0	49.1	51.6	52.7	48.7
Asian	59.8	54.7	52.3	59.7	54.7	51.6
Native American	57.2	56.4	51.6	55.4	54.6	49.3
Number of schools	**2,881**	**6,400**	**4,272**	**2,792**	**6,077**	**4,064**
Low (less than 25.0%)						
White	78.8	73.2	63.8	77.0	72.1	60.9
Black	65.9	68.5	60.6	63.2	67.2	56.8
Hispanic	53.4	66.4	51.5	56.3	66.9	52.7
Asian	83.9	77.3	69.6	83.2	76.8	65.7
Native American	78.5	71.1	66.8	76.4	69.2	60.4
Number of schools	**2,029**	**8,228**	**1,061**	**1,997**	**7,741**	**954**

Comparisons across metropolitan regions

These national figures are typical of schools across the country, but there are variations in the degree of disparities among schools in different metropolitan regions. These variations make it possible to document the relationship between school segregation and student-performance disparities experienced in the schools that different groups attend. The metropolitan region is the most meaningful unit at which to study the issue, because it captures not only segregation among schools within each school district, but also segregation across districts. In the era of formal school desegregation, the latter has become a more important component of the overall situation.

Our approach here is to focus on public elementary schools in the 50 metropolitan regions with the largest black and Hispanic enrollments. There are too few Native Americans tested to be able to

make reliable metro-level comparisons for this group. In each metropolitan region the tables document the average performance of schools attended by non-Hispanic white students and either black students (Table 3) or Hispanic students (Table 4). For simplicity we present only the reading scores, but similar results are found for math. Metropolitan regions are listed in order of performance disparities, as reflected in the ratio of white to minority percentile scores. The tables also list the level of segregation across elementary schools in the metropolis (the Index of Dissimilarity, ignoring district boundaries).

Table 3. Reading scores, ethnic segregation, and class segregation:

50 metropolitan regions with the largest black elementary enrollments in 1999-2000

	White school mean	Black school mean	Ratio white to black	Black-white segregation	Class segregation
Philadelphia, PA-NJ	66.0	20.5	3.22	0.740	0.627
Chicago, IL	67.6	21.2	3.20	0.839	NA
Newark, NJ	66.1	21.8	3.04	0.823	0.703
Buffalo-Niagara Falls, NY	65.4	22.4	2.93	0.753	0.565
Milwaukee-Waukesha, WI	65.7	22.5	2.92	0.784	0.650
Cleveland-Lorain-Elyria, OH	64.0	23.8	2.69	0.811	0.630
New York, NY	68.7	26.3	2.61	0.794	0.576
Pittsburgh, PA	63.5	25.2	2.52	0.721	0.484
West Palm Beach-Boca Raton, FL	69.5	29.2	2.38	0.565	0.484
New Orleans, LA	68.5	30.1	2.28	0.715	0.503
Boston, MA-NH	65.1	29.1	2.24	0.700	0.617
Columbus, OH	56.3	25.5	2.21	0.687	0.527
Cincinnati, OH-KY-IN	62.2	28.9	2.15	0.809	0.550
Detroit, MI	60.1	28.3	2.12	0.878	0.639
Minneapolis-St. Paul, MN-WI	58.7	27.7	2.12	0.701	0.508
Rochester, NY	62.1	29.8	2.08	0.755	0.549
Birmingham, AL	69.0	33.9	2.04	0.761	0.430
Fort Lauderdale, FL	63.0	31.0	2.03	0.579	0.477
Kansas City, MO-KS	58.9	29.2	2.02	0.750	0.548
Baltimore, MD	70.9	35.3	2.01	0.722	0.560
Oakland, CA	74.4	37.8	1.97	0.698	0.530
Los Angeles-Long Beach, CA	70.2	36.2	1.94	0.662	0.566
Baton Rouge, LA	65.8	33.9	1.94	0.660	0.415
Miami, FL	64.6	34.4	1.88	0.705	0.454

	White school mean	Black school mean	Ratio white to black	Black-white segregation	Class segregation
Greensboro--Winston-Salem--High Point, NC	59.0	33.4	1.77	0.549	0.388
Washington, DC-MD-VA-WV	63.3	35.9	1.76	0.651	0.465
Shreveport-Bossier City, LA	71.4	41.5	1.72	0.554	0.463
Indianapolis, IN	66.1	38.9	1.70	0.641	0.469
Atlanta, GA	70.0	41.6	1.68	0.678	0.521
Houston, TX	66.9	40.2	1.66	0.693	0.541
Norfolk-Virginia Beach-Newport News, VA-NC	60.4	36.7	1.64	0.447	0.452
Augusta-Aiken, GA-SC	61.4	38.0	1.62	0.500	0.444
Mobile, AL	67.3	41.5	1.62	0.643	0.407
Jacksonville, FL	68.4	42.4	1.61	0.476	0.412
Charlotte-Gastonia-Rock Hill, NC-SC	63.5	39.5	1.60	0.457	0.347
Richmond-Petersburg, VA	69.2	44.3	1.56	0.621	0.564
Fort Worth-Arlington, TX	64.6	41.4	1.56	0.654	0.492
Memphis, TN-AR-MS	59.1	38.1	1.55	0.729	0.402
Dallas, TX	65.4	42.1	1.55	0.608	0.532
Tampa-St. Petersburg-Clearwater, FL	58.0	37.6	1.54	0.445	0.382
Orlando, FL	65.0	43.5	1.49	0.506	0.370
Jackson, MS	61.0	40.9	1.49	0.731	0.462
Charleston-North Charleston, SC	67.6	45.4	1.49	0.490	0.459
Columbia, SC	71.4	48.7	1.47	0.559	0.432
Riverside-San Bernardino, CA	53.5	36.7	1.46	0.480	0.452
San Diego, CA	73.2	52.0	1.41	0.575	0.508
Raleigh-Durham-Chapel Hill, NC	70.2	51.1	1.37	0.359	0.343
Greenville-Spartanburg-Anderson, SC	64.9	51.3	1.27	0.392	0.294
Louisville, KY-IN	49.5	38.9	1.27	0.412	0.394
Nassau-Suffolk, NY	76.3	62.3	1.22	0.699	0.539

Table 3 shows that the most extreme disparities in reading performance between schools attended by white and black students are found in the large metropolitan areas of the Northeast and Midwest. Philadelphia is the extreme case, where the average white student is in a school where students perform at the 66th percentile, and black students are in schools below the 21st percentile. The white-black ratio is over three to one. Other metros at the top of this list include Chicago, Newark, Buffalo, Milwaukee, Cleveland, New York, and Pittsburgh. In all of these areas, the average white child attends a school that performs much greater than the 60th percentile in reading, while the average black child's school is close to the 20th percentile. In this list of the metros with the largest number of black students, the areas that stand out for relative equality (ratios of white to black schools' performance that are below 1.50) are in the South, in Southern California, or suburban regions in the Northeast.

The table also lists two characteristics of regions that might contribute to school disparities. One is school segregation between whites and blacks, and the other is class segregation (measured as the segregation between students eligible for free lunch programs versus those who are not). Segregation here is measured as an Index of Dissimilarity, which range from 0 (if every school had the same proportions of blacks and whites, or poor and non-poor students) to 100 (representing total apartheid). Both dimensions of segregation seem to have higher values at the top of the list and lower values at the bottom. Figure 2 displays the stronger relationship, which is between performance disparities and racial segregation of schools. The figure is extended to the 100 metropolitan regions with the largest black enrollments. At one extreme is the metropolis in the bottom left corner, with segregation just above 20 and near-equality in performance of schools attended by blacks and whites. The other extreme is found in cases at the upper right, with high segregation and high disparities. The R^2 shown in this figure, above .45, is a measure of the strength of the relationship, and it indicates that much of the variation in disparities can be attributed to segregation. There are of course exceptional cases, but the overall tendency is clear. Not shown here, the R^2 of the relationship with class segregation is also high, about .37. But segregation by race is the more important contributor to inequalities in access to good schools.

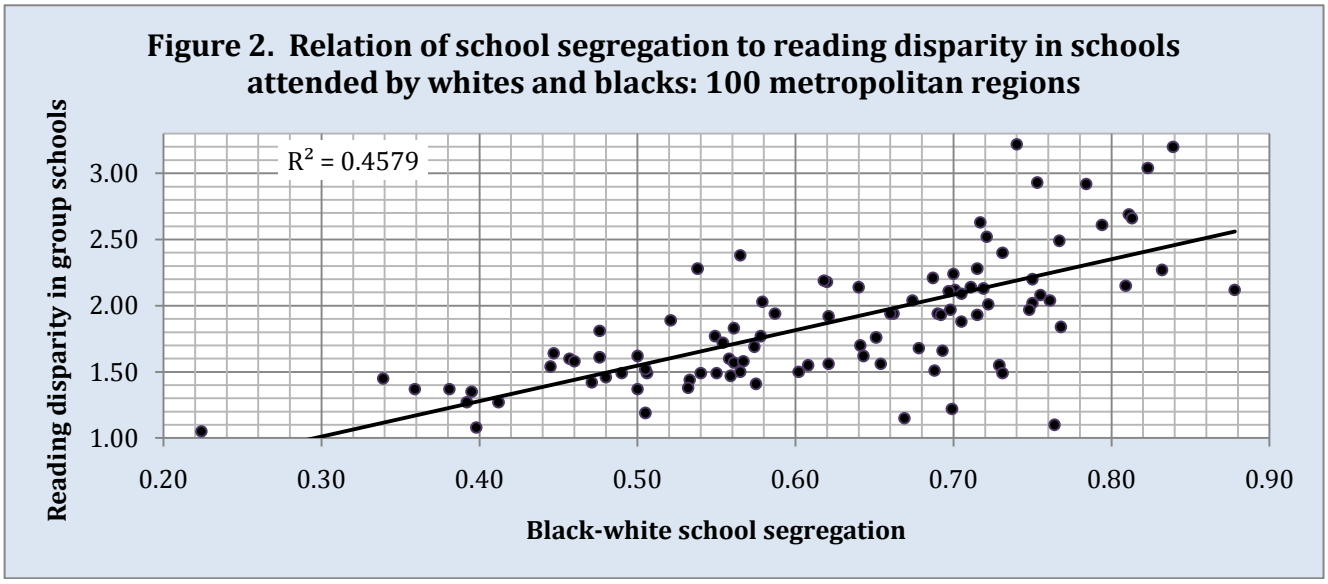


Table 4 provides a listing of the 50 metropolitan regions with the largest Hispanic elementary enrollments. Note that the entire list is more oriented toward the Sun Belt, reflecting the location of the nation's Hispanic population. Nevertheless, several regions with high white-Hispanic reading disparities are found in the Northeast: Philadelphia, Hartford, New York, Boston, Newark, and Bergen-Passaic. Disparities are also extreme in some Sun Belt locales: Salinas, Denver, Los Angeles, Orange County, and Ventura.

Table 4. Reading scores, ethnic segregation, and class segregation:

50 metropolitan regions with the largest Hispanic elementary enrollments in 1999-2000

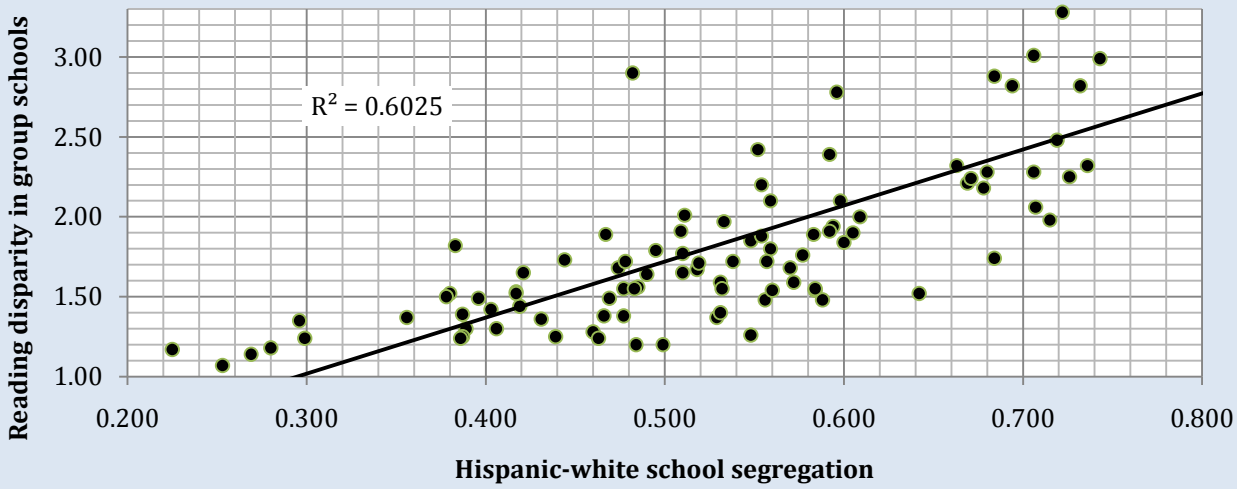
	White school mean	Hispanic school mean	Ratio white to Hispanic	Hispanic-white segregation	Class segregation
Philadelphia, PA-NJ	66.0	20.1	3.28	0.722	0.627
Hartford, CT	65.9	23.4	2.82	0.732	0.561
Salinas, CA	58.1	20.9	2.78	0.596	0.532
New York, NY	68.7	27.7	2.48	0.719	0.576
Denver, CO	58.7	24.6	2.39	0.592	0.558
Los Angeles-Long Beach, CA	70.2	30.8	2.28	0.680	0.566
Boston, MA-NH	65.1	28.5	2.28	0.706	0.617
Newark, NJ	66.1	29.4	2.25	0.726	0.703
Bergen-Passaic, NJ	70.9	31.6	2.24	0.671	0.705
Orange County, CA	77.1	34.8	2.21	0.669	0.615
Oakland, CA	74.4	35.4	2.10	0.559	0.530
Ventura, CA	75.8	36.1	2.10	0.598	0.577
Yakima, WA	37.4	18.6	2.01	0.511	NA
Chicago, IL	67.6	34.1	1.98	0.715	NA
Fresno, CA	62.7	31.8	1.97	0.533	0.504
Phoenix-Mesa, AZ	67.9	35.1	1.94	0.594	NA
Bakersfield, CA	52.3	27.3	1.91	0.592	0.542
San Francisco, CA	80.1	42.2	1.90	0.605	0.563
Las Vegas, NV-AZ	59.1	31.2	1.89	0.467	0.437
Dallas, TX	65.4	35.6	1.84	0.600	0.532
San Jose, CA	79.7	44.2	1.80	0.559	0.486
Santa Barbara-Santa Maria-Lompoc, CA	66.6	37.2	1.79	0.495	0.488
Fort Worth-Arlington, TX	64.6	36.8	1.76	0.577	0.492
Riverside-San Bernardino, CA	53.5	30.9	1.73	0.444	0.452
Visalia-Tulare-Porterville, CA	42.5	24.7	1.72	0.478	0.515
Tucson, AZ	63.3	37.1	1.71	0.519	NA
Laredo, TX	41.9	24.9	1.68	0.474	0.446
San Diego, CA	73.2	43.9	1.67	0.518	0.508
Austin-San Marcos, TX	67.2	42.2	1.59	0.531	0.513
Albuquerque, NM	69.7	44.9	1.55	0.477	0.529
Atlanta, GA	70.0	45.2	1.55	0.584	0.521

	White school mean	Hispanic school mean	Ratio white to Hispanic	Hispanic-white segregation	Class segregation
San Antonio, TX	62.1	40.4	1.54	0.584	0.419
West Palm Beach-Boca Raton, FL	69.5	45.5	1.53	0.417	0.484
Houston, TX	66.9	44.1	1.52	0.642	0.541
Modesto, CA	50.2	32.9	1.52	0.380	0.453
Portland-Vancouver, OR-WA	53.1	35.6	1.49	0.396	0.389
McAllen-Edinburg-Mission, TX	53.4	36.2	1.48	0.556	0.531
Washington, DC-MD-VA-WV	63.3	42.7	1.48	0.588	0.465
Orlando, FL	65.0	45.0	1.44	0.419	0.370
Stockton-Lodi, CA	49.5	34.8	1.42	0.403	0.520
Tampa-St. Petersburg-Clearwater, FL	58.0	42.1	1.38	0.477	0.382
Jersey City, NJ	39.8	29.2	1.37	0.529	0.363
Las Cruces, NM	59.6	46.0	1.30	0.406	0.401
Miami, FL	64.6	50.6	1.28	0.460	0.454
Nassau-Suffolk, NY	76.3	60.8	1.26	0.548	0.539
Brownsville-Harlingen-San Benito, TX	48.5	39.2	1.24	0.463	0.619
El Paso, TX	49.5	41.1	1.20	0.484	0.421
Corpus Christi, TX	57.9	48.3	1.20	0.499	0.447
Fort Lauderdale, FL	63.0	53.2	1.18	0.280	0.477

In most of these metros the average white attends a school that is well above the 60th percentile in reading, while the average Hispanic child's school is between the 20th and 30th percentile of performance. This yields a white-to-Hispanic ratio as high as 3.3 in the case of Philadelphia. Similar to Table 3, values of less than 1.50 represent "relative" equality.

Again there appears to be some relationship between the degree of disparities and the ethnic and class segregation of metropolitan schools. Figure 3, which includes the 100 largest metros, confirms a very strong association with Hispanic-white school segregation; here the R^2 is more than .60. Not shown, the association with class segregation is surprisingly weak, yielding an R^2 of less than .10.

Figure 3 . Relation of school segregation to reading disparity in schools attended by whites and Hispanics: 100 metropolitan regions



Discussion and conclusion

This is the first national-level study at all grade levels to look beyond the racial segregation of schools to the question of inequalities in student performance of schools attended by children of different race and ethnicity. The concern of this analysis is the geography of opportunity. We have no information on group-specific test scores. Rather, we identify the schools where children are taught. In the unlikely event that school test scores are a function only of the ability or willingness to learn of the students who attend them, these results would have little interest. However, our assumption is that attending a school in the 60th percentile of the distribution provides a significant advantage for the educational future of a child in comparison to attending a school in the 35th percentile. And that is the order of magnitude of differences that we find here. Public schools are not only separate but also unequal.

The key result is the simple accounting of disparities presented in Table 1. Disparities already are clear in the elementary grades, where black, Hispanic and Native American children attend schools that are on average at the 35th to 40th percentile of performance compared to other schools in the same state. White and Asian children are in schools at close to the 60th percentile. The degree of disparity is not much different at higher grades, and there is almost no change across grades in relative reading scores. At higher grade levels, there is noticeable improvement in reading and mathematics scores in the schools attended by Hispanics, Asians, and Native Americans, which could result from the larger attendance zones of middle and high schools. But this trend is not found for blacks.

Taken together, these data show that racial inequalities in education are large and deeply entrenched in the society. When the typical black, Hispanic, and Native American children are assigned to schools that perform so much below the median, few can be in above-average schools and a substantial share attend schools well below the 30th percentile. Attacking this pattern by focusing on a few low-achieving schools (NCLB's policy to close failing schools at the very bottom of the distribution) can have only marginal results. To drive this point home, Figures 4 and 5 present simulations of the distribution of students across schools under two different scenarios. In the first scenario, we evaluate how much of the problem is in schools that perform under the 10th percentile.

Suppose we could set these failing schools aside and focus on the 90 percent that are doing better. How different are the schools attended by children of different race/ethnicity in the rest of the distribution? Figure 4 depicts the results of this exercise. All students in schools at or below the 10th percentile have been removed from the analysis, and all remaining schools are at the 11th percentile and above. Less than 20 percent of white and Asian students, about 30 percent of Native American students, and about 40 percent of black and Hispanic students are in schools below the 31st percentile. About 40 percent of white and Asian students, 15 percent of Native American students, and 10 percent of black and Hispanic students are in schools above the 81st percentile. Comparing to Figure 1, these results show that the disparities across groups are not only the result of minorities' concentration in the worst schools, but that they are found across the whole distribution of "non-failing" schools.

Figure 4. Distribution of students by school reading performance: omitting below 10th percentile

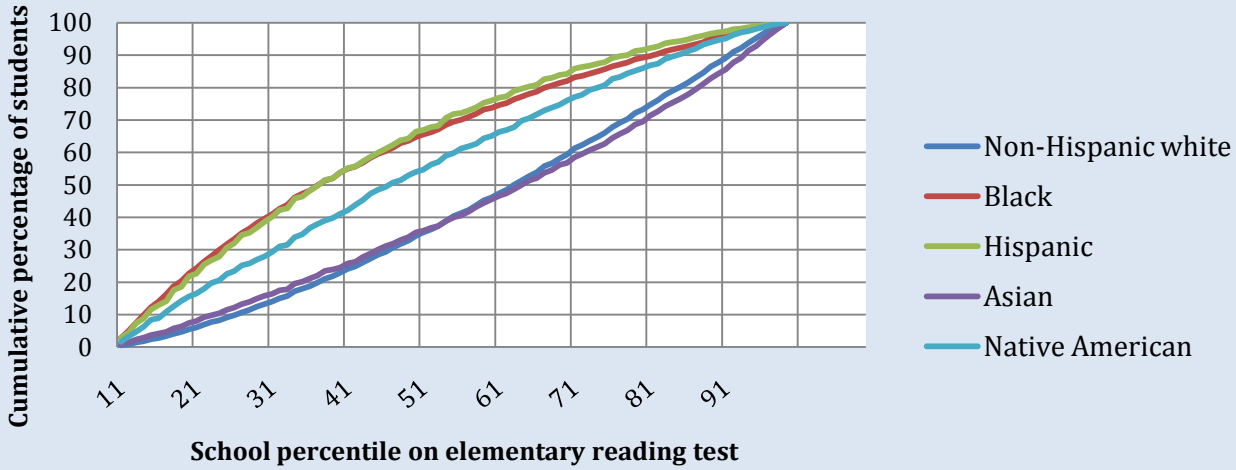
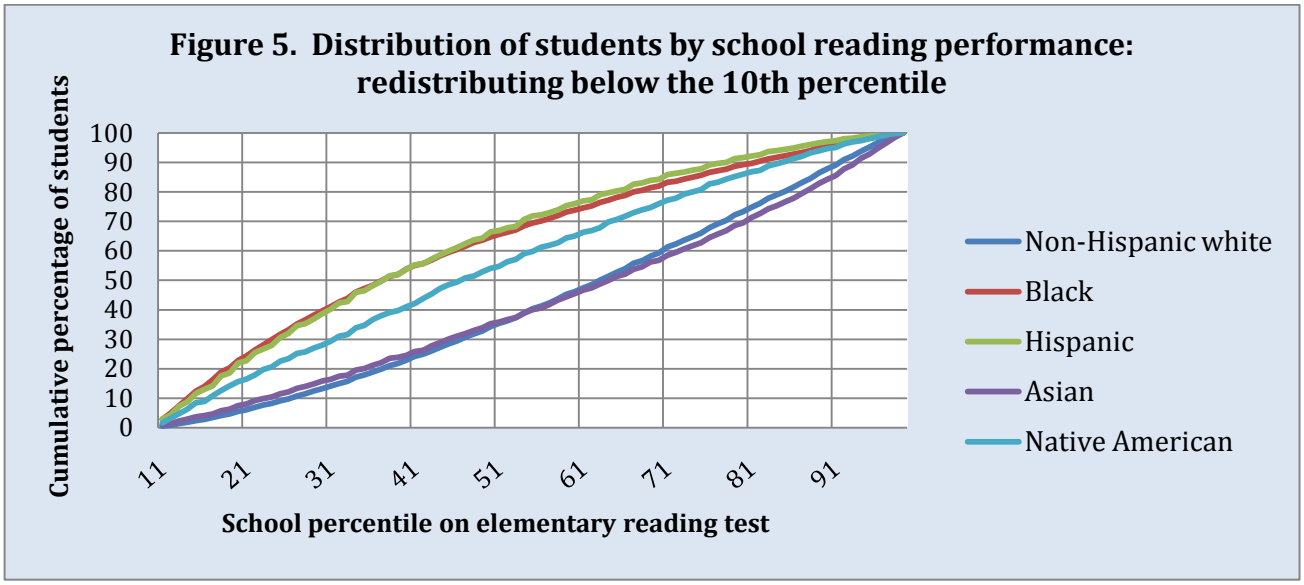


Figure 5 better represents the strategy of No Child Left Behind policies that propose closing the worst schools and reassigning students to other schools. For this simulation we have assumed a very optimistic scenario in which all students in the worst performing schools (10th percentile and below) are reassigned to schools in proportion to white students' presence in the remaining schools. This is optimistic because it means that black, Hispanic and Native American children would gain much greater access to the resources of predominantly white schools. It is unrealistic because it is more likely that reassigned students would become enrolled in schools not much better than the ones that were closed. It would be a stunning change if more than a quarter of these children ended up in schools above the 80th percentile, which is what we assume in this simulation. So what is the result? A visual comparison of Figures 4 and 5 suggests that disparities across groups would be diminished, but a similar pattern would remain. Less than 20 percent of white and Asian students but about 35 percent of black and Hispanic students would still be in schools below the 31st percentile. About 15 percent of black and Hispanic students but close to 30 percent of white and Asian students would be in schools above the 81st percentile. Figure 5 represents an outcome that is probably much better than can be achieved even by an unexpectedly successful program of closing failing schools. The actual impacts of such a policy are likely to be much smaller.



In fact, it is hard to imagine how the disadvantages in schools attended by black and Hispanic children can be redressed unless there are major changes in the segregation of schools by race and class. And the issue of segregation is not on the policy agenda. Trends in residential segregation will not move many black children soon into more diverse neighborhood schools, and residential changes exacerbate rather than solve the isolation of Hispanic children. Since progress in school desegregation has come to a halt in most parts of the country, partly due to the strong boundaries between school districts, and court rulings are creating obstacles to existing desegregation plans, there is little chance for improvement from this source. Efforts at equalization of poverty rates across schools, which could make a strong contribution, will also run up against the barrier of district boundaries. Decades after the Brown v. Board of Education desegregation order, separate and unequal continues to be the pattern in American public education.

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Appendix: Methods

This study includes all public schools in the United States for which relevant data are available from national sources. It draws on school results on statewide standardized tests for 2004, data about public elementary schools gathered by the National Center for Education Statistics, and data about the school district populations from the 2000 census.

The testing data are from reading and mathematics tests for elementary, middle and high school grades. Data are drawn from each state's school report cards assembled by the School Matters project of the National Education Data Partnership. This is a collaborative effort of the Council of Chief State School Officers, Standard & Poor's School Evaluation Services, the CELT Corporation, the Broad Foundation, the Bill & Melinda Gates Foundation and the U.S. Department of Education to provide school-level performance data for every public school in the country (http://www.schoolmatters.org). In most cases, the elementary tests are for the fourth grade; where that is not available, we selected the closest available grade. Middle-school test scores in most cases are for the eighth grade, and high-school test scores for grade 10. We have recalibrated these data as percentiles of school performance within each state. This allows us to make comparisons across schools in different states, because the reference point in every case is how the school's performance ranks in relation to other schools in the same state. We cannot say that students in a school at the 80th percentile in one state are learning at the same level as those in a school at the 80th percentile in another state, because these scores are based on different tests. But being at the 80th percentile has the same meaning in relation to peer schools in every state, and in this sense the performance measures are standardized.

NCES (http://nces.ed.gov/ccd) provides several requisite characteristics for each individual public school. Data on the number of students by race/ethnicity and grade are used to compute total school size; whether elementary students (grades K-6) are in the same school with students in higher grades; and the racial/ethnic composition of the grade for which test results are used. Race/ethnicity is reported in the following categories: non-Hispanic white, black, Hispanic, Asian, and Native American/other races. NCES also reports for most states the number of students who are eligible for free or reduced-price lunches, which we use as an indicator of poverty. The metropolitan location of the school (central city, suburban, or non-metropolitan) was also coded by NCES.

We report only for schools with valid test score data, and this sample is different for reading and math tests. The numbers of schools included in the sample are provided in Table 1: approximately 40,000 elementary schools, 19,000 middle schools, and 10,000 high schools. Many schools include a wide range of grade levels and they are included in the analysis as separate cases for the elementary, middle, and high-school grades for which they provide test data. Consequently, some schools (e.g., K-12 schools) enter the study as many as three times. Test scores in these cases are grade-specific, as are the number of students by race and ethnicity. Other school characteristics (e.g., eligibility for reduced-price lunches) are for the entire school.