



## Where We Stand: 8th Edition

### White Paper 3: School Quality

November 28, 2018

This white paper looks into a number of factors that affect learning environments and student outcomes. Student-teacher interactions and the overall learning environment of schools have important impacts on student outcomes, both in the short-term and long-term. Classroom size and teacher quality, for example, are both found to have significant effects on student test scores and long-term outcomes, such as college attainment and earnings as an adult (Chetty, et. al, 2010).

The tables and figures in this paper indicate that the region has many high quality schools. The region performs relatively well on measures of school quality, such as pupil-teacher ratios, teacher pay, teacher experience, and on rates of teacher absenteeism.

However, not all students enjoy the privilege of attending a quality school. St. Louis has one of the highest rates of school segregation, and consequently, the learning experiences of students vary significantly by race. The region ranks above average on several measures of racial disparity between black and white students, including suspension rates and rates of chronic absenteeism. Sixty-four years after the Supreme Court ruling on *Brown v. Board of Education*, black students continue to have school experiences that are vastly different, and more challenging, compared to their non-black peers.

## Classroom Size

Many factors shape the learning environments of schools. One such factor is class size. Researchers often point to class size, or pupil-teacher ratios, as an indicator of school quality. Smaller pupil-teacher ratios are found to have short-term benefits, such as better standardized test scores, and several long-term benefits for students as well, including greater levels of college enrollment and greater earnings later on in life (Chetty et. al., 2010; Card and Krueger, 1990).

The St. Louis region has one of the smallest regional pupil-teacher ratios of the peer regions. There are about 15 students for every teacher in the region, a rate that ranks 35th among the peer regions. Compared with the Midwest peers, the St. Louis region has the second lowest pupil-teacher ratio, above only Kansas City. Regions in California and in the West make up nine of the regions in the top 10 on this measure, and all of the regions in California have pupil-teacher ratios over 20.

There is considerable variation in pupil-teacher ratios across districts in the St. Louis region. Many districts with the highest pupil-teacher ratios are located on the Illinois side of the region. The five districts with the highest pupil-teacher ratios include Breese Elementary School District (in Clinton County), Granite City Community Unit School District (CUSD), East St. Louis School District, O’Fallon Community Consolidated School District, and Jersey CUSD. The two districts with the lowest pupil-teacher ratios are the Special School District of St. Louis County and the Missouri School for the Blind, with 2.1 and 3.6 students per teacher, respectively. Beyond these two, the districts with the lowest ratios are Venice CUSD, Brentwood, Brussels CUSD, and two charter schools: Preclarus Mastery Academy and the Hawthorn Leadership School for Girls (Preclarus Mastery Academy closed in the summer of 2018) (Lewis-Thompson, 2018).

**Table 1**  
**Pupil-Teacher Ratio**

2015-2016

1	Riverside	24.6
2	Los Angeles	24.3
3	San Diego	23.6
4	San Jose	23.1
5	Sacramento	22.8
6	San Francisco	22.5
7	Las Vegas	20.9
8	Portland	19.9
9	Seattle	19.3
10	Indianapolis	19.0
11	Detroit	18.7
12	Columbus	18.4
13	Cincinnati	18.3
14	Denver	18.1
15	Birmingham	17.5
16	Louisville	17.2
17	Milwaukee	17.1
18	Oklahoma City	16.9
19	Cleveland	16.8
20	Charlotte	16.6
21	Miami	16.6
22	Jacksonville	16.5
23	Memphis	16.4
24	Minneapolis	16.4
25	Virginia Beach	16.3
26	Houston	16.2
27	Chicago	16.1
28	Richmond	16.1
29	Atlanta	15.9
	<b>United States</b>	<b>15.9</b>
30	Raleigh	15.8
31	San Antonio	15.8
32	Nashville	15.4
33	Dallas	15.3
34	Orlando	15.3
35	St. Louis	15.1
36	Baltimore	15.0
37	Washington, D.C.	14.9
38	Kansas City	14.9
39	Austin	14.8
40	Philadelphia	14.5
41	Tampa	14.3
42	Pittsburgh	14.2
43	Buffalo	13.7
44	Providence	13.7
45	New York	13.3
46	New Orleans	13.3
47	Boston	13.2
48	Hartford	12.4

Source: National Center for  
Education Statistics

## Teacher Quality

Teacher quality is another important factor contributing to learning environments and student outcomes. Some argue that teacher quality outweighs pupil-teacher ratios in terms of its benefits for students (Rivkin, Hanushek, and Kain, 2005). Teacher quality is difficult to measure precisely, although two measures tend to correlate with higher teacher quality: teacher experience and teacher pay. The following pages look at these two measures, as well as rates of teacher absenteeism, which is correlated with lower student test scores.

### First- and Second-Year Teachers

Having teachers with more experience benefits schools and students in at least two ways. First, having more experienced teachers results in lower turnover rates. A study based on public school teachers in Texas found that first- and second-year teachers “are almost twice as likely as prime age teachers (11 to 30 years experience) to exit Texas public schools and almost four times as likely to switch districts” (Hanushek, Kain, and Rivkin, 2004). The study also found that districts with higher percentages of non-white students have even higher mobility rates among first- and second-year teachers. With higher turnover rates, districts must reinvest time and resources into new teachers. The National Commission on Teaching and America’s Future estimates that districts spend between \$6,250 to \$8,750 for each teacher that leaves a district. This includes costs for “recruiting, hiring, processing and training a new teacher” (NCTAF, 2018).

Second, teachers with more experience are found to have characteristics that benefit students in the long run. More experienced teachers tend to “be more passionate or more skilled at teaching,” characteristics that are correlated with higher student earnings later on in life (Chetty et. al., 2010, p. 20). Research from the Equality of Opportunity Project finds that students assigned to a kindergarten teacher “with more than 10 years of experience earn an extra \$1,093 on average at age 27 relative to students with less experienced teachers” (Chetty et. al., 2010, p. 2).

In the St. Louis region, 11 percent of teachers employed at public schools are in their first- or second-year of teaching. This is relatively low, ranking 34th among the peer regions and is below the peer average of 13.1 percent. Memphis has the largest percentage, with nearly 52 percent of teachers in their first or second year of teaching.

The high rate of first- and second-year teachers in Memphis is partially explained by changes made to poor performing schools in the region, many of which now operate as charter schools or under the state-run Achievement District. Teachers in the Achievement District must reapply for their positions every year and do not receive tenure. The Achievement District and many of the region’s charter schools rely on “new teachers who come through alternative preparation programs such as Teach for America or the Memphis Teacher Residency” (Carr, 2013).

**Table 2**  
**New Teachers**

Teachers in their first or second year of teaching as a percent of all teachers, 2015-2016

1	Memphis	51.7
2	Indianapolis	21.4
3	Orlando	20.9
4	San Antonio	20.1
5	Denver	19.0
6	Phoenix	18.8
7	Jacksonville	18.6
8	Dallas	16.2
9	Oklahoma City	15.6
10	Washington, D.C.	15.6
11	New Orleans	15.5
12	Houston	15.4
13	Salt Lake City	15.3
14	Baltimore	15.0
15	Nashville	14.5
16	Columbus	14.3
17	San Francisco	14.0
18	Milwaukee	13.7
19	Minneapolis	13.6
20	Tampa	13.5
21	Kansas City	13.1
	<b>Peer Average</b>	<b>13.1</b>
22	Chicago	13.0
23	Austin	12.8
24	San Jose	12.4
25	Boston	12.3
26	Virginia Beach	12.2
27	Richmond	12.2
28	Cincinnati	12.2
29	Cleveland	12.0
30	Philadelphia	11.8
31	Las Vegas	11.3
32	New York	11.3
33	Riverside	11.3
34	St. Louis	11.0
35	San Diego	10.9
36	Atlanta	10.9
37	Louisville	10.8
38	Seattle	10.7
39	Hartford	10.7
40	Buffalo	10.0
41	Birmingham	9.9
42	Sacramento	9.6
43	Portland	9.4
44	Los Angeles	9.1
45	Detroit	9.0
46	Providence	9.0
47	Pittsburgh	7.4
48	Charlotte	7.1
49	Miami	6.3
50	Raleigh	6.2

Source: U.S. Department of Education, Office of Civil Rights

Teacher pay is also often used as a measure of teacher quality. In most school districts, teacher salaries are based on a schedule that rises with additional years of experience and higher levels of educational attainment (Hansen and Quintero, 2017). Thus, teachers with more professional training and more years of experience tend to earn a higher salary than newer teachers or teachers with lower levels of educational attainment.

In St. Louis, elementary and secondary teachers earn an average annual salary of around \$58,000. This is below the peer region average of \$66,000 but ranks around the middle of the peer regions, at 29th.

Across the peer regions, differences in teacher pay are explainable by a variety of factors, including local costs of living and state and local education policies. With this in mind, the table on the far right is an attempt to control for these confounding factors. This table shows average teacher wages relative to the average wage for all jobs in each region. In St. Louis, the ratio is 1.18, meaning the average teacher makes around 18 percent more than the typical wage earner in St. Louis. In San Francisco, a region that has become notorious for its high cost of living, the average teacher wage is much higher than it is in St. Louis--\$77,000 annually. However, teachers in San Francisco receive a lower relative wage than in St. Louis, with a ratio of 1.10.

**Table 3  
Average Wage for  
Elementary, Middle,  
and High-School  
Teachers**

2017		
1	New York	83,524
2	Riverside	80,950
3	Los Angeles	79,675
4	Washington, D.C.	77,129
5	San Francisco	76,907
6	San Jose	76,383
7	Hartford	75,811
8	Boston	75,569
9	San Diego	74,143
10	Sacramento	72,310
11	Portland	72,148
12	Philadelphia	69,393
13	Chicago	68,268
14	Virginia Beach	68,216
15	Minneapolis	68,006
16	Buffalo	67,614
17	Detroit	67,592
18	Providence	67,362
19	Baltimore	67,047
	<b>Peer Average</b>	<b>66,480</b>
20	Pittsburgh	66,096
21	Seattle	64,755
22	Houston	62,425
23	Columbus	62,145
24	Cincinnati	61,526
25	Cleveland	61,209
26	Milwaukee	60,744
27	Dallas	60,263
28	Louisville	59,111
29	<b>St. Louis</b>	<b>57,853</b>
30	San Antonio	57,387
31	Denver	56,788
32	Atlanta	56,380
33	Richmond	56,327
34	Salt Lake City	55,976
35	Las Vegas	55,710
36	Austin	55,386
37	Kansas City	55,101
38	Indianapolis	53,801
39	Memphis	53,650
40	Miami	51,710
41	Birmingham	51,155
42	Jacksonville	50,295
43	New Orleans	50,294
44	Nashville	49,260
45	Tampa	48,380
46	Charlotte	48,079
47	Raleigh	47,886
48	Orlando	47,770
49	Phoenix	47,082
50	<b>Oklahoma City</b>	<b>42,659</b>

Source: Bureau of Labor Statistics, Occupational Employment Statistics

**Table 4  
Relative Wages for  
Elementary, Middle,  
and High School  
Teachers**

Ratio of average teacher wage to the average wage of all occupations, 2017

1	Riverside	1.71
2	Virginia Beach	1.44
3	Los Angeles	1.42
4	Buffalo	1.40
5	Pittsburgh	1.36
6	New York	1.33
7	Sacramento	1.31
8	San Diego	1.31
9	Louisville	1.31
10	Portland	1.30
11	Detroit	1.30
12	Providence	1.29
13	Philadelphia	1.26
14	Hartford	1.26
15	Chicago	1.26
16	Cincinnati	1.26
17	Las Vegas	1.25
18	Cleveland	1.25
19	Columbus	1.24
20	San Antonio	1.24
21	Memphis	1.22
22	Minneapolis	1.21
23	Milwaukee	1.21
	<b>Peer Average</b>	<b>1.21</b>
24	Baltimore	1.19
25	<b>St. Louis</b>	<b>1.18</b>
26	Dallas	1.18
27	New Orleans	1.16
28	Houston	1.16
29	Boston	1.16
30	Richmond	1.13
31	Salt Lake City	1.13
32	Indianapolis	1.12
33	Washington, D.C.	1.11
34	Kansas City	1.11
35	Miami	1.10
36	San Francisco	1.10
37	Jacksonville	1.10
38	Atlanta	1.10
39	Birmingham	1.08
40	Orlando	1.08
41	Austin	1.07
42	Tampa	1.05
43	Nashville	1.05
44	Seattle	1.03
45	San Jose	0.99
46	Denver	0.99
47	Charlotte	0.96
48	Phoenix	0.95
49	Raleigh	0.93
50	<b>Oklahoma City</b>	<b>0.93</b>

Source: Bureau of Labor Statistics, Occupational Employment Statistics

Frequently absent teachers have been found to be detrimental to learning environments and student outcomes. Fortunately, teachers in the St. Louis region have a relatively low rate of absenteeism. The table on the right measures teacher absenteeism as the percentage of teachers who have missed more than 10 school days in a given school year, or two weeks. In St. Louis, one out of every four teachers missed more than 10 school days in the 2015-2016 school year. This rate is below the peer region average of 27.4 percent and lower than many peer regions, with a ranking of 35th.

Las Vegas has the highest percentage of absent teachers with 58.6 percent of teachers in Las Vegas missing more than 10 days of school in 2015-2016. This percentage is considerably higher than the rest of the peer regions. Local news outlets from the Las Vegas area have reported varying explanations for this high percentage including struggles with teacher shortages and the fact that the Clark County School District offers 15 sick days to teachers, which is above the national average (Castro, 2018; Whitaker, 2016)

High rates of teacher absenteeism are problematic for schools and students for a number of reasons. There are many good substitute teachers, but instructional quality is generally reduced when regular teachers are absent. Researchers from Harvard have found that student learning suffers when regular teachers are frequently absent. Lessons are less instructionally rigorous, and the continuity of lessons is disrupted. Their research also finds that frequent teacher absence is significantly correlated with lower student test scores (Miller, Murnane, and Willett, 2008).

There are also significant financial costs associated with absent teachers. According to an article in *Education Next*, average daily rates for substitutes ranges from \$60 to \$100 with a estimated annual cost of \$4 billion throughout the United States (Kronholz, 2013).

**Table 5  
Absent Teachers**

Teachers who were absent more than 10 school days during the school year as a percent of all teachers, 2015-2016

1	Las Vegas	58.6
2	Baltimore	38.5
3	Providence	38.0
4	Virginia Beach	37.3
5	Columbus	36.8
6	Cleveland	35.5
7	Buffalo	35.2
8	Louisville	35.1
9	Hartford	34.1
10	Pittsburgh	34.1
11	Richmond	33.8
12	Raleigh	33.7
13	Birmingham	33.6
14	Seattle	33.2
15	Charlotte	31.6
16	Minneapolis	31.6
17	Oklahoma City	31.3
18	Riverside	30.5
19	Philadelphia	29.4
20	Cincinnati	29.3
21	Portland	29.3
22	Memphis	29.2
23	Atlanta	29.1
24	Kansas City	29.0
25	Houston	28.5
26	Nashville	28.5
27	Miami	27.8
28	Washington, D.C.	27.7
	<b>Peer Average</b>	<b>27.4</b>
29	Chicago	27.1
30	New Orleans	26.8
31	Denver	25.7
32	San Diego	25.2
33	New York	25.2
34	San Jose	25.0
35	St. Louis	25.0
36	Boston	24.5
37	Dallas	24.2
38	San Francisco	24.1
39	Indianapolis	24.0
40	Detroit	23.6
41	Tampa	23.5
42	Phoenix	23.5
43	Jacksonville	23.1
44	San Antonio	21.9
45	Milwaukee	21.1
46	Austin	20.4
47	Los Angeles	19.7
48	Salt Lake City	19.5
49	Sacramento	17.5
50	Orlando	11.1

Source: U.S. Department of Education, Office of Civil Rights

Learning environments are not uniform across schools, and with 166 school districts in the St. Louis MSA, students have a variety of experiences. Regions with more school districts also tend to have higher rates of student segregation (see Figure 1, page 7). As a result, in regions with numerous school districts, learning experiences also tend to vary by race.

Research suggests that high rates of school segregation perpetuate academic achievement gaps between black and white students. A report from the National Center of Education Statistics finds black students who attend schools that are over 60 percent black tend to perform worse academically than black students who attend schools with smaller shares of black students (Bohrstedt, et. al, 2015). The report finds that these achievement gaps persist even after controlling for variables related to socioeconomic status.

St. Louis has a relatively large number of school districts compared to the peer regions. The region has the 10th highest number of districts among the peers as shown on Table 6. Many older regions and regions in the Midwest also tend to have a relatively high number school districts. New York has the highest number of school districts of the peer regions with over 900, whereas in Las Vegas, there is only one. The Clark County School District serves all of Clark County, Nevada, which is the sole county in the Las Vegas Metropolitan Statistical Area.

The number of districts does not correlate with the number of students. As shown on Table 7, regions with more school districts tend to have fewer students per district. In St. Louis, the average district has around 2,500 students, which ranks 40th among the peer regions. In New York, there are roughly six times as many students as St. Louis, but it has an average district size that is only 25 percent bigger than St. Louis (around 3,100 students per district).

**Table 6  
School Districts**

2015-2016

1	New York	915
2	Chicago	440
3	Phoenix	397
4	Philadelphia	363
5	Boston	290
6	Detroit	284
7	Minneapolis	246
8	Cleveland	176
8	Dallas	176
10	St. Louis	166
11	Columbus	165
12	Pittsburgh	154
13	Los Angeles	149
14	Cincinnati	127
14	Indianapolis	127
<b>Peer Average</b>		<b>120</b>
16	Houston	113
17	San Francisco	108
18	Kansas City	107
19	Washington, D.C.	101
20	New Orleans	99
21	Oklahoma City	92
21	Providence	92
23	Milwaukee	76
24	Hartford	70
25	San Antonio	68
26	Seattle	66
27	Riverside	65
28	Sacramento	60
29	Atlanta	59
30	Buffalo	58
31	Portland	56
32	Charlotte	55
33	Austin	54
34	Salt Lake City	51
35	San Jose	50
36	Denver	47
37	San Diego	46
38	Birmingham	36
39	Richmond	34
40	Raleigh	32
41	Virginia Beach	30
42	Louisville	27
43	Memphis	20
44	Nashville	19
45	Baltimore	9
46	Miami	7
47	Jacksonville	6
48	Orlando	5
49	Tampa	4
50	Las Vegas	1

Source: National Center for Education Statistics

**Table 7  
Average District Enrollment**

Students per school district, 2015-2016

1	Las Vegas	347,382
2	Miami	116,826
3	Tampa	101,887
4	Orlando	75,235
5	Baltimore	44,580
6	Jacksonville	36,679
7	Atlanta	17,065
8	Nashville	14,750
9	Los Angeles	13,458
10	Riverside	12,838
11	Houston	11,589
12	Memphis	11,196
13	San Diego	10,866
14	Denver	9,973
15	Washington, D.C.	9,378
16	Virginia Beach	8,842
17	Seattle	8,016
18	Dallas	7,789
19	Charlotte	7,355
20	Louisville	6,815
21	Raleigh	6,649
22	San Antonio	6,559
23	Austin	6,317
24	Portland	6,139
25	Sacramento	6,122
26	Richmond	5,776
27	San Jose	5,693
28	San Francisco	5,447
29	Birmingham	4,934
<b>Peer Average</b>		<b>4,588</b>
30	Salt Lake City	4,538
31	Chicago	3,485
32	Kansas City	3,249
33	New York	3,105
34	Milwaukee	3,058
35	Indianapolis	2,698
36	Buffalo	2,677
37	Hartford	2,602
38	Oklahoma City	2,590
39	Cincinnati	2,494
40	St. Louis	2,469
41	Providence	2,408
42	Philadelphia	2,356
43	Minneapolis	2,319
44	Detroit	2,304
45	Boston	2,274
46	Columbus	2,009
47	Phoenix	1,968
48	Pittsburgh	1,958
49	New Orleans	1,704
50	Cleveland	1,610

Source: National Center for Education Statistics

## Student Segregation

In terms of district-level segregation, the St. Louis region has one of the highest rates of segregation between black and white students. Table 8 ranks the peer regions on a common measure of segregation, the dissimilarity index. On this measure, the St. Louis region has the 6th highest measure of district-level segregation among black and white students.

Over the last two decades, districts within the St. Louis region have become gradually more segregated, as shown in Figure 2. Based on historical data from the National Center for Education Statistics, the segregation level of school districts in the St. Louis region has increased by a little over 7 points since the 1995-1996 school year. Meanwhile, the peer average has actually declined by around 3 points.

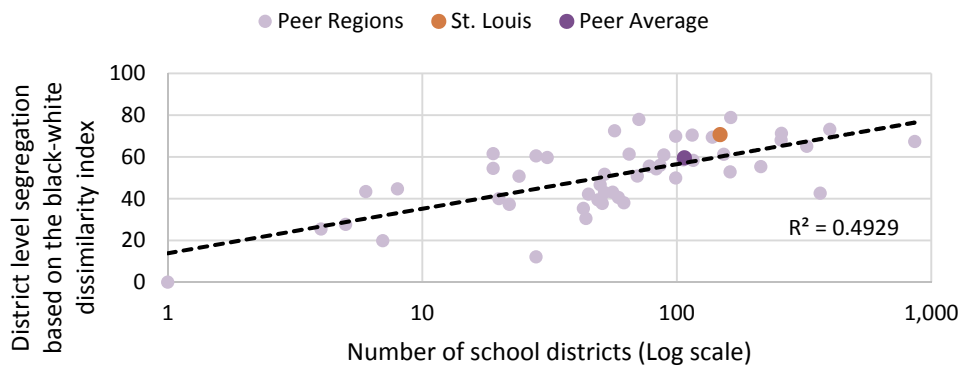
**Table 8**  
**Segregation of School Districts**

Black-white student segregation, based on the dissimilarity index, 2015-2016

1	Cleveland	78.8
2	Milwaukee	77.9
3	Chicago	73.2
4	Buffalo	72.4
5	Detroit	71.2
6	St. Louis	70.6
7	Cincinnati	70.4
8	Indianapolis	69.8
9	Pittsburgh	69.4
10	Boston	68.0
11	New York	67.3
12	Philadelphia	65.1
13	Memphis	61.5
14	Hartford	61.3
15	Columbus	61.2
16	San Francisco	60.9
17	Denver	60.5
18	Birmingham	59.7
<b>Peer Average</b>		<b>59.5</b>
19	Kansas City	58.5
20	Los Angeles	58.3
21	Providence	55.9
22	Oklahoma City	55.6
23	Minneapolis	55.3
24	Nashville	54.4
25	Washington, D.C.	54.3
26	Dallas	52.8
27	Sacramento	51.6
28	New Orleans	50.7
29	Louisville	50.7
30	Houston	49.8
31	Seattle	46.7
32	Baltimore	44.7
33	Jacksonville	43.4
34	Portland	43.0
35	Atlanta	42.9
36	Phoenix	42.6
37	San Diego	42.1
38	Riverside	40.5
39	Virginia Beach	40.0
40	Charlotte	39.4
41	San Antonio	38.0
42	Austin	37.7
43	Richmond	37.2
44	San Jose	35.3
45	Salt Lake City	30.5
46	Orlando	27.7
47	Tampa	25.4
48	Miami	19.8
49	Raleigh	12.1
50	Las Vegas	0.0

**Figure 1: Number of School Districts and Student Segregation**

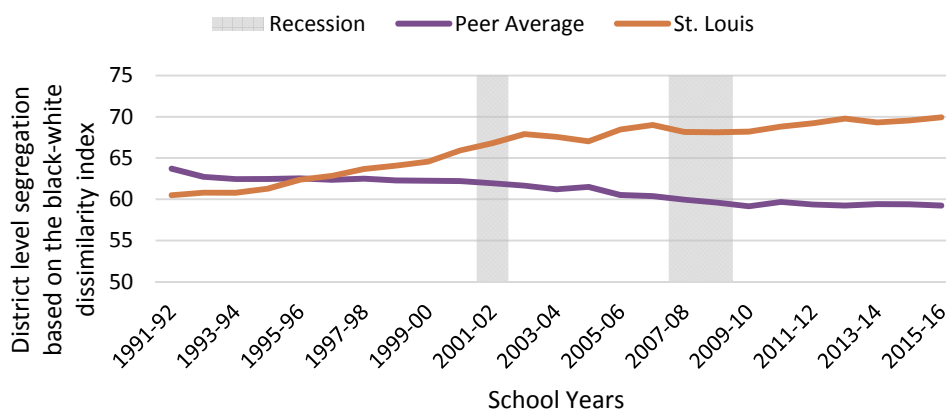
St. Louis MSA and the Peer Region, 2015-2016



Source: U.S. Department of Education, Office of Civil Rights

**Figure 2: Student Segregation**

St. Louis MSA and the Peer Average



Source: National Center for Education Statistics

Source: U.S. Department of Education, Office of Civil Rights

## Racial Disparities in Teacher Quality

Measures of teacher quality vary considerably across schools in the St. Louis MSA. In the St. Louis region, schools with the larger percentages of black students tend to have more teachers in their first- or second-year of teaching as well as teachers who are frequently absent from school (see note on page 22 on the distribution of schools by black student share).

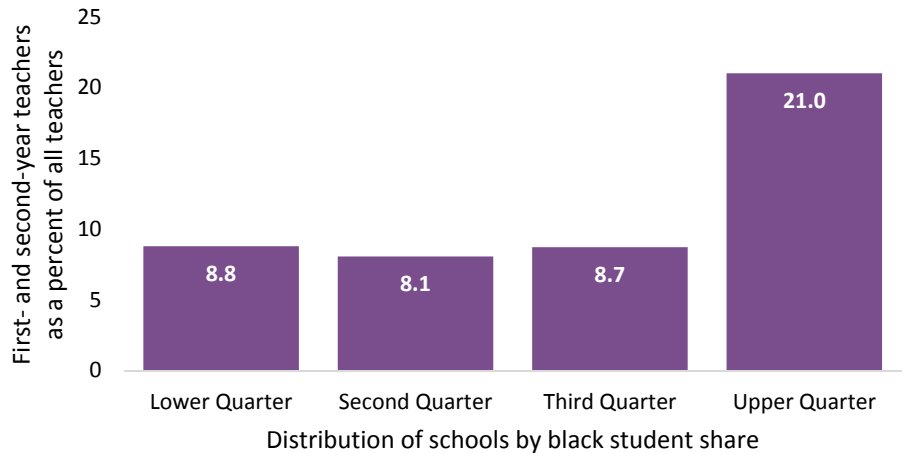
As shown in Figure 3, in schools with the highest percentages of black students, one-fifth of all teachers are first- or second-year teachers. Among schools with smaller percentages of black students, new teachers make up around 8 percent of all teachers.

Figure 4 shows that rates of teacher absenteeism are also higher for schools with a larger percentage of black students. Among schools with the highest percentages of black students, nearly a third of all teachers are frequently absent. Among schools with the lowest percentages of black students about 22 percent of teachers are frequently absent.

The St. Louis region is not alone in these disparities. In particular, the disparity in teacher experience is a common problem observed across schools in the United States. A 2012 paper on the impact of teacher mobility states that “teachers generally move to better schools with higher achieving students and with smaller shares of poor and minority students,” and, unfortunately, this trend tends to “exacerbate differences in teacher quality” across schools (Feng and Sass, 2012).

**Figure 3: Black Students and New Teachers**

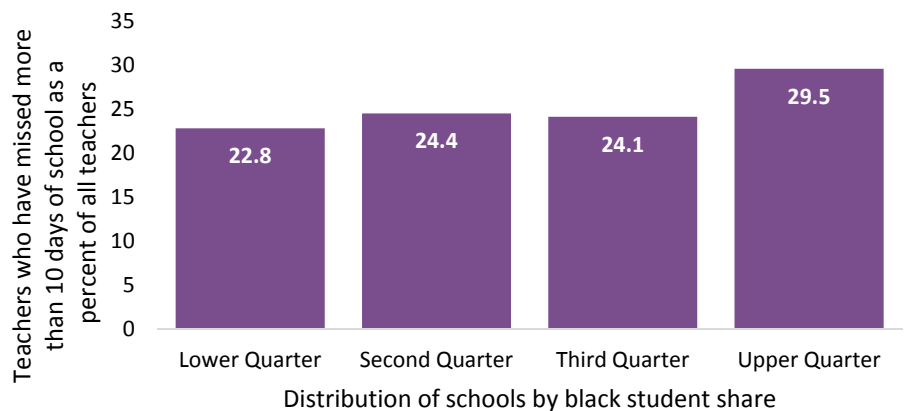
Schools in the St. Louis MSA, 2015-2016



Source: U.S. Department of Education, Office of Civil Rights

**Figure 4: Black Students and Frequently Absent Teachers**

Schools in the St. Louis MSA, 2015-2016



Source: U.S. Department of Education, Office of Civil Rights



## The Challenge of Attracting Quality Teachers

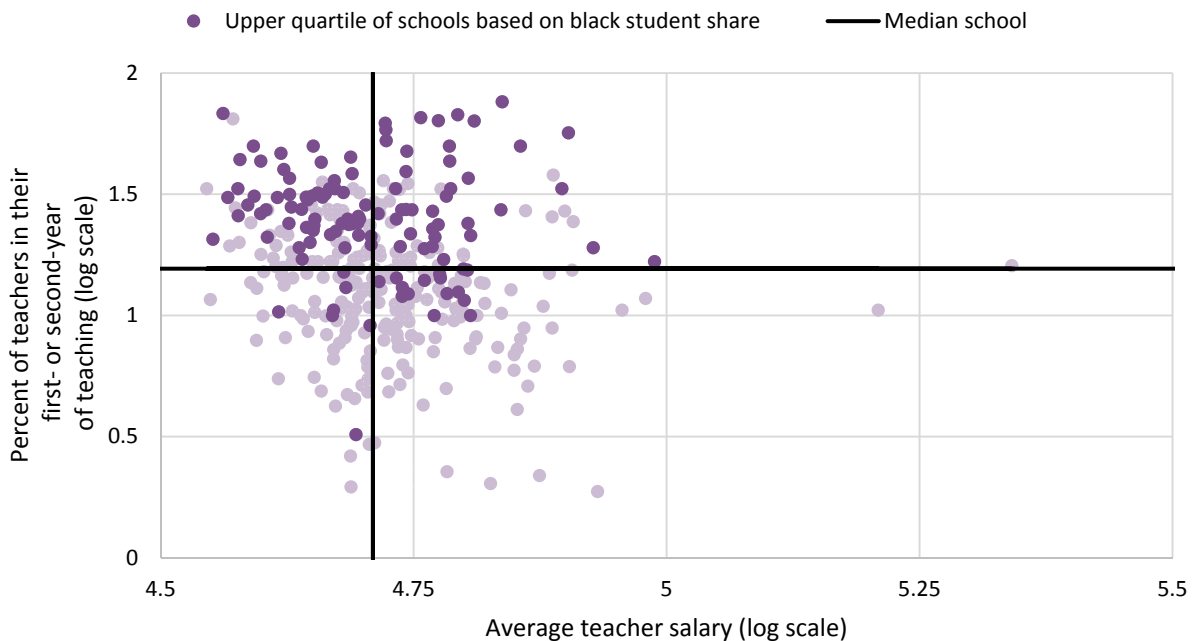
Attracting quality teachers is a challenge for some schools. Higher average teacher salaries are correlated with fewer first- or second-year teachers and fewer frequently absent teachers. Schools with larger percentages of black students struggle to attract teachers who have more experience and who are less frequently absent. As shown in Figure 5 and in Table 9, this holds true even after controlling for average teacher pay.

Figure 5 compares average teacher pay with the percentage of teachers who are in their first- or second-year of teaching. The purple points in this figure represent schools in the St. Louis MSA, with the dark purple points representing schools with the largest percentages of black students. The black lines represent the median school for the St. Louis region. Schools that are above the horizontal line have a greater percentage of new teachers than the median school in the region. Schools that are to the right of the vertical line have a higher average teacher salary than the median school.

The figure shows that even when predominantly black schools pay teachers more, the percentage of teachers who are new is still higher than it is in most schools. There are 116 schools that are in the upper quartile of schools based on black student share. Of those, 94 have a greater share of new teachers than the median school. Fifty-three have a greater average salary than the median school.

**Figure 5: Average Teacher Salaries and New Teachers**

Schools in the St. Louis MSA, 2015-2016



Source: U.S. Department of Education, Office of Civil Rights

Table 9 shows correlations between teacher salaries and two measures of teacher quality (new teachers and frequently absent teachers). The table shows negative and statistically significant correlations between teacher salaries and both measures. A 1 percent increase in teacher pay is associated with a 46 percent reduction in the rate of new teachers and a 33 percent reduction in the rate of teacher absenteeism, holding other factors constant.

The negative correlation between new teachers and average salary is partially explained by the salary schedules that are used in most school districts (described on page 4). New teachers generally receive lower salaries than more experienced teachers. For absent teachers, the negative correlation shown in Table 9 suggests that higher wages might incentivize teachers to miss fewer days of school.

However, even after holding teacher pay constant, rates of new teachers and teacher absenteeism are still higher among predominantly black schools. Table 9 includes a variable that compares schools in the upper quartile of schools based on black student share with the rest of schools in the St. Louis MSA. The results show that after controlling for teacher pay, rates of new teachers are about 72 percent higher among schools in the upper quartile, and rates of teacher absenteeism are 25 percent higher.

Table 9: Relationship between Average Teacher Salaries and Teacher Quality Controlling for the Racial Make-Up of Schools Schools in the St. Louis MSA, 2015-2016		
Independent Variables:	Dependent Variable: New Teachers (logged)	Dependent Variable: Absent Teachers (logged)
Intercept	7.529 ***	6.578 ***
Average Salary (logged)	-0.462 **	-0.327 *
Upper quartile of schools based on black student share	0.719 ***	0.251 **
R-squared	0.291	0.025
Degrees of Freedom	347	665

Source: U.S. Department of Education, Office of Civil Rights; East-West Gateway Calculations

Note: Asterisks represent levels of statistical significance.

0.001 \*\*\*

0.01 \*\*

0.05 \*

## Student Suspensions

School discipline has been an area of focus in recent years in the St. Louis region and across the country. Locally, the Ferguson Commission included reforming school discipline policies as one of its signature calls to action. In its report, the Ferguson Commission cited research findings that higher suspension rates are correlated with poor academic performance, higher dropout rates, and, for black students, higher rates of incarceration rates later in life (The Ferguson Commission, 2015; Okonofua and Eberhardt, 2015).

Across the country, a number of states have considered barring or limiting suspensions, or promoting alternatives. The state of California gained some attention recently after it banned suspensions for acts of “willful defiance” (Resmovits, 2017). Several legislative attempts to reform school discipline policies were also proposed in Illinois in 2016 and in Missouri in 2017, but none were passed or enacted (Education Commission of the States, 2018).

The St. Louis region has relatively high rates of in-school and out-of-school suspensions as shown in Tables 10 to Table 21 (pages 12-14). In the 2015-2016 school year, 9 percent of all students received at least one in-school suspension, a rate that ranks 5th among the peer regions (Table 10, page 12). Seven percent of students received at least one out-of-school suspension, a rate that ranks 13th (Table 14, page 13). On average, students in St. Louis miss a half a day of school due to out-of-school suspension, which is more than twice as much as a student in the average peer region (Table 18, page 14).

Compared to white students, black students in St. Louis are three times more likely to receive at least one in-school suspension (Table 13, page 12); nearly six times more likely to receive at least one out-of-school suspension (Table 17, page 13); and on average, miss over six times as many days of school due to out-of-school suspension (Table 21, page 14).

Each of these disparities in St. Louis are higher than the peer average. Black students in St. Louis are much more likely to face in-school and out-of-school suspensions than black students in other peer regions. Black students in St. Louis are nearly twice as likely to receive an in-school suspension as black students in the the average peer region, and are 36 percent more likely to receive an out-of-school suspension.

**Table 10  
In-School  
Suspensions**

Students who have received one or more in-school suspensions as a percent of all students, 2015-2016

1	Memphis	12.1
2	Jacksonville	10.4
3	Houston	10.0
4	Louisville	9.1
5	St. Louis	9.0
6	San Antonio	8.8
7	New Orleans	8.6
8	Atlanta	8.6
9	Tampa	8.5
10	Nashville	8.0
11	Dallas	7.8
12	Charlotte	7.7
13	Kansas City	7.4
14	Oklahoma City	7.3
15	Austin	7.0
16	Richmond	6.8
17	Virginia Beach	6.7
18	Orlando	6.4
19	Hartford	6.1
20	Birmingham	5.6
21	Raleigh	5.6
22	Columbus	5.4
23	Phoenix	5.3
24	Cincinnati	5.1
25	Chicago	4.7
<b>Peer Average</b>		<b>4.6</b>
26	Miami	4.5
27	Las Vegas	4.3
28	Buffalo	4.1
29	Providence	3.9
30	Indianapolis	3.8
31	Cleveland	3.7
32	Pittsburgh	3.6
33	Philadelphia	3.3
34	Minneapolis	3.0
35	Detroit	3.0
36	New York	2.9
37	Denver	2.9
38	Portland	2.8
39	Seattle	2.6
40	Boston	2.3
41	Milwaukee	2.2
42	Riverside	2.1
43	Washington, D.C.	2.1
44	Sacramento	1.9
45	Baltimore	1.8
46	San Diego	1.3
47	San Francisco	1.1
48	Salt Lake City	1.0
49	San Jose	0.9
50	Los Angeles	0.8

Source: U.S. Department of Education, Office of Civil Rights

**Table 11  
In-School  
Suspensions  
White Students**

White students who have received one or more in-school suspensions as a percent of all white students, 2015-2016

1	Memphis	7.5
2	Houston	7.2
3	Louisville	6.8
4	Jacksonville	6.7
5	San Antonio	6.7
6	Nashville	6.5
7	Tampa	6.3
8	Atlanta	6.1
9	Dallas	5.9
10	New Orleans	5.8
11	St. Louis	5.8
12	Charlotte	5.7
13	Oklahoma City	5.6
14	Kansas City	4.7
15	Austin	4.6
16	Richmond	4.4
17	Birmingham	4.3
18	Virginia Beach	3.9
19	Columbus	3.9
20	Cincinnati	3.9
21	Phoenix	3.7
22	Orlando	3.7
23	Hartford	3.5
24	Buffalo	3.4
25	Providence	3.3
<b>Peer Average</b>		<b>3.3</b>
26	Indianapolis	3.3
27	Miami	3.0
28	Raleigh	3.0
29	Pittsburgh	2.7
30	Las Vegas	2.6
31	Chicago	2.5
32	Portland	2.3
33	Minneapolis	2.2
34	Philadelphia	2.1
35	Detroit	2.1
36	Seattle	2.1
37	New York	2.0
38	Riverside	1.9
39	Washington, D.C.	1.9
40	Denver	1.8
41	Boston	1.7
42	Cleveland	1.6
43	Sacramento	1.6
44	Milwaukee	1.4
45	Baltimore	1.4
46	San Diego	1.1
47	Los Angeles	1.0
48	Salt Lake City	0.9
49	San Francisco	0.8
50	San Jose	0.7

Source: U.S. Department of Education, Office of Civil Rights

**Table 12  
In-School  
Suspensions  
Black Students**

Black students who have received one or more in-school suspensions as a percent of all black students, 2015-2016

1	Kansas City	18.2
2	Jacksonville	17.9
3	St. Louis	17.5
4	San Antonio	17.0
5	Houston	17.0
6	Louisville	16.9
7	Tampa	16.2
8	Memphis	15.8
9	Oklahoma City	15.5
10	Austin	15.3
11	Dallas	14.7
12	Hartford	13.7
13	Charlotte	13.0
14	Nashville	12.9
15	Orlando	12.4
16	Atlanta	12.1
17	Raleigh	11.6
18	Phoenix	11.5
19	New Orleans	11.1
20	Cincinnati	10.7
21	Richmond	10.6
22	Virginia Beach	10.5
23	Columbus	9.9
24	Chicago	9.7
<b>Peer Average</b>		<b>9.3</b>
25	Las Vegas	9.1
26	Cleveland	9.0
27	Birmingham	8.4
28	Pittsburgh	8.1
29	Denver	7.5
30	Minneapolis	7.3
31	Miami	7.1
32	Buffalo	7.0
33	Portland	6.6
34	Riverside	6.0
35	Seattle	5.9
36	Indianapolis	5.8
37	Providence	5.7
38	New York	5.7
39	Philadelphia	5.6
40	Detroit	5.2
41	Sacramento	5.1
42	Boston	4.7
43	Milwaukee	4.0
44	San Diego	3.7
45	San Francisco	3.5
46	San Jose	3.3
47	Salt Lake City	3.1
48	Washington, D.C.	2.7
49	Baltimore	2.3
50	Los Angeles	2.2

Source: U.S. Department of Education, Office of Civil Rights

**Table 13  
Racial Disparity in  
In-School Suspension**

Ratio of black to white students, 2015-2016

1	Cleveland	5.75
2	San Francisco	4.56
3	San Jose	4.42
4	Denver	4.24
5	Hartford	3.93
6	Raleigh	3.92
7	Kansas City	3.91
8	Chicago	3.81
9	Salt Lake City	3.49
10	Las Vegas	3.48
11	Minneapolis	3.41
12	Orlando	3.36
13	Austin	3.36
14	Sacramento	3.29
15	San Diego	3.23
16	Riverside	3.23
17	Phoenix	3.11
18	Pittsburgh	3.04
19	St. Louis	3.02
20	Seattle	2.87
<b>Peer Average</b>		<b>2.85</b>
21	Portland	2.83
22	New York	2.83
23	Cincinnati	2.78
24	Oklahoma City	2.77
25	Milwaukee	2.75
26	Boston	2.74
27	Jacksonville	2.68
28	Virginia Beach	2.67
29	Philadelphia	2.62
30	Tampa	2.58
31	San Antonio	2.55
32	Columbus	2.55
33	Dallas	2.51
34	Louisville	2.48
35	Detroit	2.48
36	Richmond	2.42
37	Houston	2.37
38	Miami	2.32
39	Charlotte	2.28
40	Los Angeles	2.21
41	Memphis	2.11
42	Buffalo	2.09
43	Atlanta	1.99
44	Nashville	1.98
45	Birmingham	1.96
46	New Orleans	1.90
47	Indianapolis	1.76
48	Providence	1.70
49	Baltimore	1.63
50	Washington, D.C.	1.48

Source: U.S. Department of Education, Office of Civil Rights

**Table 14**  
**Out-of-School**  
**Suspensions**

Students who have received one or more out-of-school suspensions as a percent of all students, 2015-2016

1	Memphis	14.1
2	New Orleans	10.0
3	Cleveland	9.7
4	Virginia Beach	9.2
5	Las Vegas	8.9
6	Detroit	8.6
7	Birmingham	8.0
8	Columbus	8.0
9	Louisville	7.8
10	Oklahoma City	7.7
11	Richmond	7.6
12	Charlotte	7.5
13	St. Louis	7.4
14	Philadelphia	7.1
15	Milwaukee	7.1
16	Atlanta	7.0
17	Buffalo	7.0
18	Orlando	6.9
19	Pittsburgh	6.6
20	Nashville	6.6
21	Indianapolis	6.3
22	Tampa	6.2
23	Cincinnati	5.8
24	Kansas City	5.8
25	Sacramento	5.6
26	Houston	5.6
27	Phoenix	5.5
28	Jacksonville	5.5
29	Raleigh	5.2
<b>Peer Average</b>		<b>5.0</b>
30	Providence	5.0
31	Denver	5.0
32	Dallas	5.0
33	San Antonio	4.9
34	Riverside	4.7
35	Baltimore	4.6
36	Minneapolis	4.5
37	Seattle	4.3
38	Chicago	4.1
39	Hartford	4.1
40	Portland	3.9
41	Washington, D.C.	3.7
42	San Francisco	3.6
43	Austin	3.3
44	San Diego	3.2
45	Boston	3.2
46	New York	2.9
47	San Jose	2.8
48	Miami	2.3
49	Los Angeles	2.2
50	Salt Lake City	2.1

Source: U.S. Department of Education, Office of Civil Rights

**Table 15**  
**Out-of-School**  
**Suspensions**  
**White Students**

White students who have received one or more out-of-school suspensions as a percent of all white students, 2015-2016

1	Las Vegas	5.7
2	New Orleans	5.2
3	Oklahoma City	5.0
4	Louisville	4.9
5	Detroit	4.6
6	Charlotte	4.3
7	Cincinnati	4.3
8	Sacramento	4.2
9	Virginia Beach	4.2
10	Tampa	4.1
11	Orlando	4.0
12	Columbus	4.0
13	Riverside	4.0
14	Cleveland	3.8
15	Memphis	3.8
16	Phoenix	3.8
17	Birmingham	3.7
18	Pittsburgh	3.7
19	Indianapolis	3.6
20	Jacksonville	3.4
21	Richmond	3.4
22	Providence	3.4
23	Denver	3.4
24	Nashville	3.3
25	Buffalo	3.2
26	Seattle	3.2
27	Kansas City	3.2
28	St. Louis	3.2
29	Portland	3.2
30	Atlanta	3.2
31	Houston	3.0
<b>Peer Average</b>		<b>2.9</b>
32	San Antonio	2.8
33	Philadelphia	2.7
34	Raleigh	2.7
35	San Diego	2.6
36	Baltimore	2.5
37	Dallas	2.4
38	San Jose	2.3
39	San Francisco	2.2
40	Minneapolis	2.2
41	Milwaukee	2.1
42	Chicago	2.0
43	Boston	1.9
44	Washington, D.C.	1.9
45	Los Angeles	1.8
46	Miami	1.8
47	Austin	1.7
48	New York	1.7
49	Hartford	1.7
50	Salt Lake City	1.5

Source: U.S. Department of Education, Office of Civil Rights

**Table 16**  
**Out-of-School**  
**Suspensions**  
**Black Students**

Black students who have received one or more out-of-school suspensions as a percent of all black students, 2015-2016

1	Pittsburgh	22.8
2	Cleveland	22.3
3	Memphis	21.3
4	Las Vegas	20.9
5	Columbus	20.5
6	Milwaukee	19.8
7	Oklahoma City	19.0
8	Buffalo	18.6
9	St. Louis	18.5
10	Detroit	18.4
11	Louisville	16.9
12	Nashville	16.4
13	Indianapolis	16.3
14	Birmingham	16.3
15	Kansas City	16.1
16	Philadelphia	16.0
17	Virginia Beach	15.9
18	Sacramento	15.5
19	Minneapolis	14.7
20	New Orleans	14.7
21	Charlotte	14.6
22	Phoenix	14.4
23	Richmond	14.2
24	Orlando	13.8
25	Tampa	13.5
26	San Francisco	13.0
27	Houston	12.9
28	Riverside	12.7
<b>Peer Average</b>		<b>12.4</b>
29	Dallas	12.4
30	Cincinnati	12.2
31	Atlanta	12.1
32	Denver	11.5
33	Raleigh	11.4
34	San Antonio	11.3
35	Portland	11.1
36	Chicago	10.5
37	Seattle	10.4
38	Providence	10.4
39	Hartford	9.9
40	Jacksonville	9.7
41	San Jose	9.5
42	Austin	9.5
43	San Diego	8.9
44	Boston	8.3
45	Washington, D.C.	7.7
46	Baltimore	7.6
47	Los Angeles	7.0
48	New York	6.6
49	Salt Lake City	6.5
50	Miami	4.4

Source: U.S. Department of Education, Office of Civil Rights

**Table 17**  
**Racial Disparity in**  
**Out-of-School**  
**Suspensions**

Ratio of black to white students, 2015-2016

1	Milwaukee	9.38
2	Minneapolis	6.78
3	Pittsburgh	6.23
4	San Francisco	5.91
5	Philadelphia	5.87
6	Cleveland	5.81
7	St. Louis	5.76
8	Buffalo	5.74
9	Hartford	5.71
10	Memphis	5.56
11	Austin	5.45
12	Chicago	5.31
13	Columbus	5.11
14	Dallas	5.06
15	Kansas City	5.02
16	Nashville	5.01
17	Indianapolis	4.48
18	Birmingham	4.39
19	Salt Lake City	4.34
20	Houston	4.29
21	Raleigh	4.28
22	Boston	4.28
<b>Peer Average</b>		<b>4.22</b>
23	Richmond	4.13
24	Washington, D.C.	4.07
25	San Jose	4.05
26	San Antonio	4.02
27	Detroit	4.01
28	Los Angeles	3.99
29	Atlanta	3.83
30	Oklahoma City	3.82
31	Phoenix	3.81
32	Virginia Beach	3.80
33	New York	3.79
34	Sacramento	3.71
35	Las Vegas	3.67
36	Portland	3.49
37	San Diego	3.47
38	Louisville	3.46
39	Orlando	3.41
40	Denver	3.41
41	Charlotte	3.37
42	Tampa	3.27
43	Seattle	3.24
44	Riverside	3.17
45	Providence	3.06
46	Baltimore	3.01
47	Cincinnati	2.87
48	Jacksonville	2.84
49	New Orleans	2.82
50	Miami	2.53

Source: U.S. Department of Education, Office of Civil Rights

**Table 18**  
**Days of School Missed to Out-of-School Suspension**

Days missed per student, 2015-2016

1	Memphis	0.80
2	Virginia Beach	0.61
3	Buffalo	0.59
4	Richmond	0.57
5	St. Louis	0.50
6	Cleveland	0.50
7	Oklahoma City	0.43
8	Columbus	0.39
9	Charlotte	0.39
10	Raleigh	0.39
11	Detroit	0.38
12	New Orleans	0.38
13	Kansas City	0.36
14	Atlanta	0.35
15	Louisville	0.35
16	Las Vegas	0.32
17	Orlando	0.30
18	Birmingham	0.28
19	Milwaukee	0.28
20	Indianapolis	0.25
21	Philadelphia	0.25
22	Phoenix	0.25
23	Cincinnati	0.25
24	Nashville	0.23
25	Seattle	0.23
26	Jacksonville	0.22
	Peer Average	0.22
27	Tampa	0.21
28	Pittsburgh	0.21
29	Baltimore	0.20
30	Washington, D.C.	0.20
31	Hartford	0.18
32	Sacramento	0.18
33	Houston	0.17
34	New York	0.17
35	Dallas	0.17
36	Providence	0.16
37	Riverside	0.16
38	San Antonio	0.16
39	Denver	0.14
40	Chicago	0.14
41	Minneapolis	0.14
42	Portland	0.13
43	San Diego	0.13
44	Austin	0.12
45	Boston	0.11
46	San Francisco	0.10
47	Miami	0.07
48	San Jose	0.07
49	Salt Lake City	0.07
50	Los Angeles	0.06

Source: U.S. Department of Education, Office of Civil Rights

**Table 19**  
**Days of School Missed to Out-of-School Suspension White Students**

Days missed per student, 2015-2016

1	Oklahoma City	0.28
2	Virginia Beach	0.23
3	St. Louis	0.22
4	Cincinnati	0.20
5	Las Vegas	0.20
6	Charlotte	0.19
7	Louisville	0.19
8	Richmond	0.19
9	Seattle	0.18
10	Detroit	0.18
11	Kansas City	0.18
12	Buffalo	0.18
13	Columbus	0.17
14	Cleveland	0.17
15	New Orleans	0.17
16	Orlando	0.15
17	Phoenix	0.15
18	Raleigh	0.14
19	Indianapolis	0.14
20	Tampa	0.14
21	Riverside	0.13
22	Jacksonville	0.13
23	Atlanta	0.13
24	Washington, D.C.	0.12
25	Sacramento	0.12
26	San Diego	0.12
27	Providence	0.12
28	Memphis	0.12
29	Portland	0.12
	Peer Average	0.11
30	Pittsburgh	0.11
31	Denver	0.11
32	Birmingham	0.10
33	Nashville	0.10
34	Baltimore	0.09
35	Philadelphia	0.08
36	Houston	0.08
37	Boston	0.07
38	San Antonio	0.07
39	Hartford	0.07
40	New York	0.07
41	Dallas	0.07
42	Chicago	0.06
43	Minneapolis	0.06
44	Milwaukee	0.06
45	San Jose	0.06
46	San Francisco	0.05
47	Miami	0.05
48	Salt Lake City	0.05
49	Los Angeles	0.04
50	Austin	0.04

Source: U.S. Department of Education, Office of Civil Rights

**Table 20**  
**Days of School Missed to Out-of-School Suspension Black Students**

Days missed per student, 2015-2016

1	Buffalo	1.94
2	St. Louis	1.30
3	Memphis	1.27
4	Cleveland	1.25
5	Richmond	1.21
6	Virginia Beach	1.20
7	Kansas City	1.17
8	Columbus	1.16
9	Oklahoma City	1.08
10	Raleigh	1.02
11	Milwaukee	0.90
12	Detroit	0.90
13	Louisville	0.89
14	Charlotte	0.88
15	Las Vegas	0.85
16	Pittsburgh	0.80
17	Orlando	0.71
18	Indianapolis	0.71
19	Atlanta	0.67
20	Sacramento	0.66
21	Seattle	0.66
22	Birmingham	0.63
23	Phoenix	0.63
24	Nashville	0.63
	Peer Average	0.62
25	Philadelphia	0.61
26	New Orleans	0.59
27	Minneapolis	0.51
28	Hartford	0.50
29	Tampa	0.49
30	New York	0.47
31	Cincinnati	0.47
32	Riverside	0.47
33	Dallas	0.45
34	Houston	0.44
35	Jacksonville	0.44
36	Washington, D.C.	0.43
37	San Diego	0.42
38	San Francisco	0.42
39	Baltimore	0.39
40	Chicago	0.38
41	San Antonio	0.34
42	Portland	0.34
43	Providence	0.33
44	Denver	0.32
45	Boston	0.31
46	Austin	0.31
47	San Jose	0.22
48	Salt Lake City	0.21
49	Los Angeles	0.21
50	Miami	0.15

Source: U.S. Department of Education, Office of Civil Rights

**Table 21**  
**Racial Disparity in Days of School Missed to Out-of-School Suspension**

Ratio of black to white students, 2015-2016

1	Milwaukee	16.19
2	Buffalo	11.11
3	Memphis	10.79
4	Minneapolis	8.21
5	San Francisco	7.99
6	Austin	7.83
7	Pittsburgh	7.53
8	Philadelphia	7.41
9	Cleveland	7.32
10	Raleigh	7.24
11	Hartford	7.10
12	Dallas	6.78
13	Columbus	6.75
14	New York	6.72
15	Kansas City	6.58
16	Richmond	6.47
17	Nashville	6.07
18	Birmingham	6.05
19	Chicago	6.04
20	St. Louis	6.01
21	Sacramento	5.49
	Peer Average	5.43
22	Houston	5.39
23	Virginia Beach	5.33
24	Atlanta	5.11
25	Detroit	5.04
26	Indianapolis	5.04
27	Los Angeles	4.90
28	San Antonio	4.82
29	Louisville	4.68
30	Orlando	4.61
31	Charlotte	4.56
32	Las Vegas	4.35
33	Salt Lake City	4.33
34	Boston	4.30
35	Baltimore	4.26
36	Phoenix	4.15
37	San Jose	3.94
38	Oklahoma City	3.87
39	Seattle	3.66
40	Riverside	3.57
41	San Diego	3.57
42	Tampa	3.51
43	New Orleans	3.51
44	Washington, D.C.	3.47
45	Jacksonville	3.31
46	Miami	3.10
47	Denver	3.07
48	Portland	2.85
49	Providence	2.80
50	Cincinnati	2.40

Source: U.S. Department of Education, Office of Civil Rights

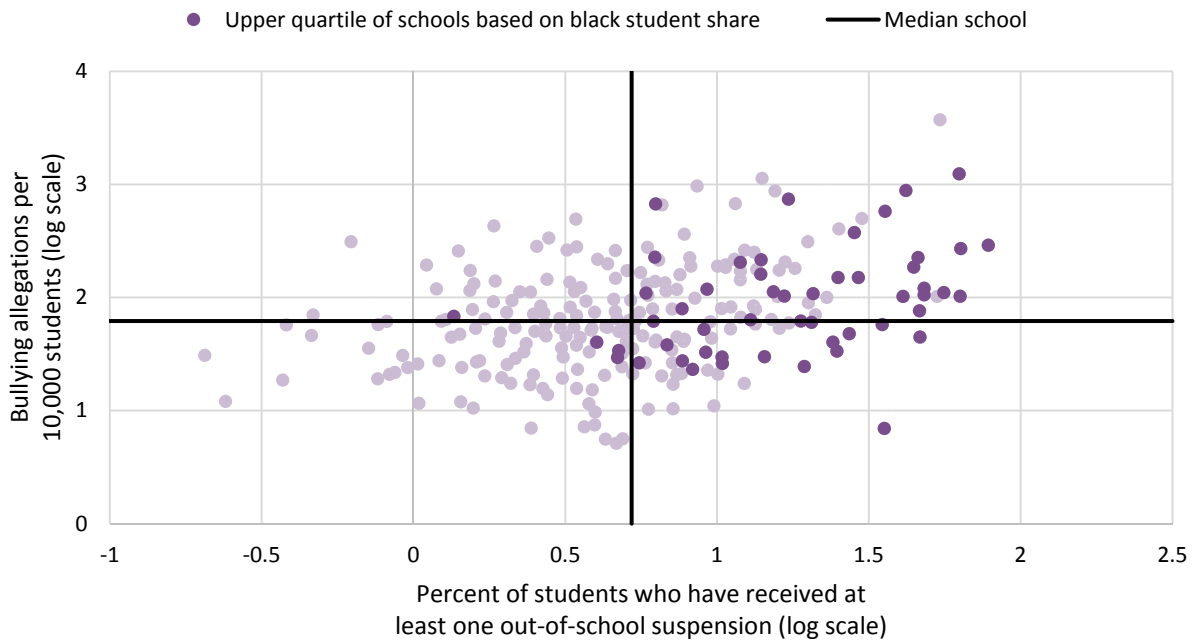
## Segregation and Suspension Rates

Schools use suspensions as a way of dealing with disciplinary issues. Schools with more allegations of bullying or harrasment tend to have larger suspension rates. However, even when controlling for these disciplinary issues, students who attend predominantly black schools in St. Louis are still significantly more likely to be suspended than students at other schools. Controlling for instances of bullying and harrasment, suspension rates in schools with the highest percentages of black students are over twice as high as they are in schools with smaller black student shares.

Figure 6 compares rates of bullying and out-of-school suspension for schools in the St. Louis MSA. Similar to Figure 5 (page 9), the purple points in this figure represent schools in the region, and the dark purple points represent schools with the largest percentages of black students. The black solid lines show values for the median school. Among schools with data available for this figure, 51 are in the upper quartile of schools based on black student share. Nearly all (48 schools) have suspension rates that are higher than the median school, and 31 have bullying rates that are higher than the median school.

**Figure 6: Bullying and Out-of-School Suspensions**

Schools in the St. Louis MSA, 2015-2016



Source: U.S. Department of Education, Office of Civil Rights

## Chronic Absenteeism

Chronic absenteeism is a serious concern for many schools. Students who are chronically absent tend to perform worse academically in school, and many eventually dropout altogether. In addition to academics, chronic absenteeism is also associated with a number of behavioral and health related issues, such as substance abuse, teen pregnancy, anxiety, depression, and higher rates of suicide (Kearney, 2008).

As stated in a 2004 paper in the *School Community Journal*, “leaving school is merely the culminating act of a long withdrawal process from school, forecast by absenteeism in the early grades” (Sheldon and Epstein, 2004).

Research suggests that schools can take steps to reduce chronic absenteeism, but schools “cannot solve attendance problems alone” (Sheldon and Epstein, 2004). Many factors contributing to student absences take place outside of schools. Chronic absenteeism tends to be higher among students who are homeless, live in unsafe neighborhoods, and come from stressed households (Kearney, 2008, p. 260).

Table 22 displays chronic absenteeism among the peer regions, measured as the percentage of students who have missed 15 days of school or more in 2015-2016. In St. Louis, 13.7 percent of all students were chronically absent from school in 2015-2016. This rate of chronic absenteeism is in the middle of the peer regions and sits below the peer region average (15.8 percent of students).

**Table 22**  
**Chronic Absenteeism**

Students who have missed 15 days of school or more as a percent of all students, 2015-2016

1	Washington, D.C.	25.6
2	Seattle	24.9
3	Portland	24.0
4	Buffalo	22.7
5	Milwaukee	21.5
6	Las Vegas	21.1
7	Louisville	20.9
8	Baltimore	20.9
9	Denver	20.6
10	Cleveland	20.6
11	Detroit	20.4
12	Jacksonville	19.8
13	Tampa	19.8
14	Orlando	19.8
15	Columbus	19.2
16	New York	18.9
17	Providence	18.7
18	Philadelphia	17.8
19	Pittsburgh	17.1
20	Phoenix	16.8
21	Chicago	16.4
22	New Orleans	16.4
23	Cincinnati	15.9
<b>Peer Average</b>		<b>15.8</b>
24	Miami	15.2
25	Salt Lake City	15.0
26	Virginia Beach	14.9
27	Birmingham	14.1
28	Sacramento	14.1
29	Nashville	14.1
30	St. Louis	13.7
31	Minneapolis	13.4
32	Riverside	13.1
33	Boston	13.0
34	Austin	12.9
35	Atlanta	12.7
36	Hartford	12.6
37	San Antonio	12.6
38	Kansas City	12.3
39	Oklahoma City	12.1
40	Indianapolis	11.9
41	Raleigh	11.8
42	Charlotte	11.8
43	San Francisco	11.7
44	Los Angeles	11.5
45	Dallas	11.4
46	San Diego	11.3
47	Houston	10.9
48	San Jose	10.2
49	Memphis	9.6
50	Richmond	9.6

Source: U.S. Department of Education,  
Office of Civil Rights



Tables 23 to Table 25 examine disparities in chronic absenteeism between white and black students. In St. Louis, 11.3 percent of white students are chronically absent from school, compared with 19.7 percent of black students. Both rates of chronic absenteeism rank below their respective peer region averages, but the disparity between black and white students is relatively high. Based on this disparity, black students are about 75 percent more likely to be chronically absent from school than white students.

**Table 23  
Chronic Absenteeism  
White Students**

White student who have missed 15 days of school or more as a percent of all white students, 2015-2016

1	Seattle	24.0
2	Portland	23.5
3	Jacksonville	20.2
4	Louisville	19.0
5	Tampa	18.8
6	Las Vegas	18.4
7	Orlando	17.7
8	Columbus	17.3
9	Buffalo	17.3
10	Baltimore	16.6
11	Denver	15.5
12	Phoenix	15.3
13	Providence	14.9
14	Pittsburgh	14.5
15	Washington, D.C.	14.4
16	Cincinnati	14.3
17	Birmingham	14.1
18	Cleveland	13.5
19	Virginia Beach	13.5
20	Miami	13.4
21	Memphis	13.4
22	Detroit	13.3
	<b>Peer Average</b>	<b>13.3</b>
23	Riverside	13.2
24	Salt Lake City	13.0
25	New York	12.9
26	Philadelphia	12.9
27	New Orleans	12.7
28	Nashville	12.5
29	Chicago	12.4
30	Sacramento	12.0
31	Atlanta	11.5
32	Charlotte	11.5
33	<b>St. Louis</b>	<b>11.3</b>
34	Dallas	11.2
35	Minneapolis	11.1
36	Milwaukee	11.0
37	Los Angeles	10.8
38	Austin	10.8
39	Boston	10.5
40	Indianapolis	10.4
41	Houston	10.3
42	Oklahoma City	10.1
43	Kansas City	9.9
44	San Francisco	9.8
45	Raleigh	9.6
46	San Antonio	9.6
47	San Diego	9.4
48	San Jose	9.4
49	Hartford	8.7
50	Richmond	7.0

Source: U.S. Department of Education, Office of Civil Rights

**Table 24  
Chronic Absenteeism  
Black Students**

Black students who have missed 15 days of school or more as a percent of all black students, 2015-2016

1	Milwaukee	42.9
2	Washington, D.C.	40.5
3	Detroit	35.9
4	Buffalo	34.8
5	Cleveland	34.6
6	Portland	32.1
7	Pittsburgh	31.6
8	Seattle	30.8
9	Las Vegas	28.4
10	Baltimore	27.8
11	Louisville	27.3
12	New York	26.6
13	Philadelphia	25.8
14	Columbus	25.2
15	Denver	25.1
16	Sacramento	24.6
17	Chicago	23.2
18	San Francisco	23.2
19	Cincinnati	22.8
20	Tampa	22.2
21	Providence	22.1
	<b>Peer Average</b>	<b>21.9</b>
22	Minneapolis	20.8
23	Los Angeles	19.8
24	<b>St. Louis</b>	<b>19.7</b>
25	Jacksonville	19.7
26	Kansas City	19.2
27	New Orleans	19.0
28	Nashville	19.0
29	Salt Lake City	18.8
30	Orlando	18.7
31	Boston	18.2
32	Phoenix	18.0
33	Riverside	16.9
34	Virginia Beach	16.8
35	Austin	16.8
36	San Jose	16.6
37	Indianapolis	16.5
38	Birmingham	16.3
39	Oklahoma City	16.1
40	Raleigh	16.1
41	Hartford	15.8
42	Miami	15.1
43	Atlanta	14.6
44	Dallas	13.6
45	San Diego	13.5
46	Houston	13.4
47	Richmond	13.3
48	San Antonio	12.9
49	Charlotte	12.6
50	Memphis	8.3

Source: U.S. Department of Education, Office of Civil Rights

**Table 25  
Racial Disparity in  
Chronic Absenteeism**

Ratio of black to white students, 2015-2016

1	Milwaukee	3.89
2	Washington, D.C.	2.82
3	Detroit	2.71
4	Cleveland	2.56
5	San Francisco	2.36
6	Pittsburgh	2.18
7	New York	2.05
8	Sacramento	2.05
9	Buffalo	2.01
10	Philadelphia	2.00
11	Kansas City	1.94
12	Richmond	1.90
13	Chicago	1.88
14	Minneapolis	1.87
15	Hartford	1.83
16	Los Angeles	1.82
17	San Jose	1.77
18	<b>St. Louis</b>	<b>1.75</b>
19	Boston	1.74
20	Baltimore	1.67
21	Raleigh	1.67
	<b>Peer Average</b>	<b>1.65</b>
22	Denver	1.62
23	Oklahoma City	1.60
24	Cincinnati	1.60
25	Indianapolis	1.58
26	Austin	1.55
27	Las Vegas	1.55
28	Nashville	1.51
29	New Orleans	1.50
30	Providence	1.49
31	Columbus	1.45
32	Salt Lake City	1.45
33	San Diego	1.44
34	Louisville	1.43
35	Portland	1.37
36	San Antonio	1.34
37	Houston	1.30
38	Seattle	1.29
39	Riverside	1.28
40	Atlanta	1.26
41	Virginia Beach	1.25
42	Dallas	1.21
43	Tampa	1.18
44	Phoenix	1.18
45	Birmingham	1.16
46	Miami	1.12
47	Charlotte	1.09
48	Orlando	1.06
49	Jacksonville	0.97
50	Memphis	0.62

Source: U.S. Department of Education, Office of Civil Rights

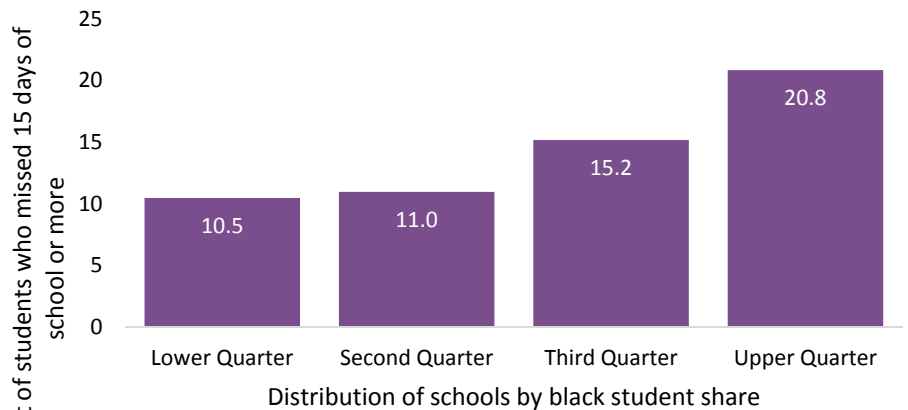
Students who attend schools that are predominantly black are more likely to be chronically absent than students in other schools. As shown in Figure 7, among schools with the highest percentages of black students, over one-fifth of all students missed three weeks of school or more.

Poverty rates are also significantly correlated with chronic absenteeism. Poverty rates closely reflect many of the contextual (out-of-school) issues discussed on page 16. Figure 8 compares poverty rates with rates of chronic absenteeism for school districts in the St. Louis MSA.

Most of the data presented in this paper is school-level data. However, data on poverty rates is only available at the district-level from the American Community Survey. In order to pair poverty rates data with rates of chronic absenteeism, school-level data from the Department of Education is aggregated to the district-level. This pairing is displayed in Figure 8.

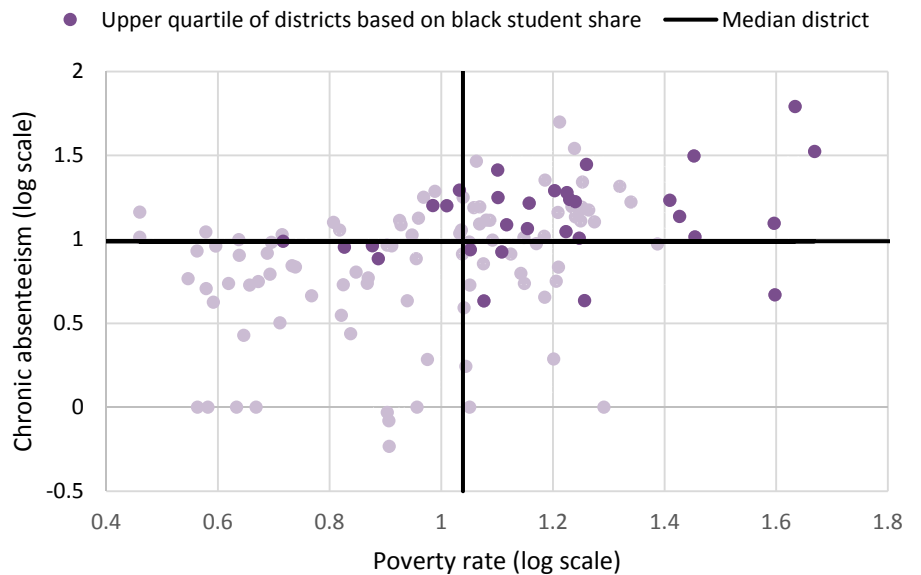
Figure 8 shows that chronic absenteeism tends to be higher in districts with higher levels of poverty. However, even after controlling for poverty, students who attend predominantly black districts are still more likely to be chronically absent than students attending less predominantly black districts (see note on page 22 regarding the distribution of districts based on black student share).

**Figure 7: Black Students and Chronic Absenteeism**  
Schools in the St. Louis MSA, 2015-2016



Source: U.S. Department of Education, Office of Civil Rights

**Figure 8: Poverty and Chronic Absenteeism**  
Districts in the St. Louis MSA, 2015-2016



Source: U.S. Department of Education, Office of Civil Rights; U.S. Census Bureau, American Community Survey 5-Year Estimates 2012-2016 (B17001)

By the time students reach their senior year of high school, many are unprepared for college. Research finds that “half of all undergraduates will take one or more remedial courses while enrolled; among those who take any the average is 2.6 remedial courses” (Scott-Clayton, Crosta, and Belfield, 2014). Specifically, many high school seniors are unprepared for college-level coursework in math, science, and reading. Data from the National Assessment of Educational Progress indicates that only 25 percent of U.S. high school seniors are proficient in math, 22 percent are proficient in science, and 37 percent are proficient in reading (NAEP, 2018).

However, studies have found that high school students who enroll in more academically rigorous courses, such as Advanced Placement courses or the International Baccalaureate Diploma Program, tend to score better on standardized tests and have greater academic success in college (Mayer, 2008; Scott, Tolson, and Less, 2010).

Many high schools throughout the country offer Advanced Placement (AP) courses. AP is a program that is coordinated through The College Board, although AP course curriculum can vary by teacher. According to The College Board, AP courses enable students “to pursue college-level studies while still in high school.” At the end of their course, students take an AP exam, and with a qualifying score, students can earn college credit or skip certain courses in college (The College Board, 2018). As shown in Table 26, nearly 60 percent of high schools in the St. Louis MSA offer AP courses.

Although less common, some U.S. high schools also offer the International Baccalaureate (IB) Diploma Program. The IB Diploma Program is a two-year program for students aged 16-19 that focuses on six subject areas. Students are assessed in each of the six subject areas, and those who receive a qualifying score receive a diploma (IB, 2018). In St. Louis, only 1.2 percent of high schools offer the IB diploma program.

**Table 26  
Advanced Placement**

Percent of high schools with students enrolled in advanced placement courses, 2015-2016

1	Charlotte	79.5
2	Virginia Beach	77.5
3	Boston	75.3
4	Atlanta	74.1
5	Chicago	73.7
6	Washington, D.C.	73.5
7	Richmond	73.4
8	Pittsburgh	73.3
9	Birmingham	72.8
10	Milwaukee	72.8
11	Philadelphia	71.5
12	Buffalo	69.7
13	New Orleans	68.3
14	Cincinnati	68.1
15	Houston	67.2
16	Las Vegas	66.7
17	Baltimore	66.2
18	Providence	63.1
19	Indianapolis	62.5
20	Oklahoma City	62.2
21	Salt Lake City	61.3
22	Miami	61.0
23	Raleigh	60.3
24	Dallas	60.2
25	New York	60.1
26	Los Angeles	60.1
<b>Peer Average</b>		<b>59.0</b>
27	St. Louis	58.3
28	Nashville	57.0
29	San Jose	57.0
30	Jacksonville	55.6
30	Louisville	55.6
32	Denver	55.3
33	San Antonio	54.8
34	San Diego	54.8
35	Columbus	54.7
36	San Francisco	54.0
37	Memphis	52.6
38	Orlando	52.4
39	Austin	50.8
40	Riverside	50.4
41	Hartford	49.6
42	Tampa	49.6
43	Seattle	47.9
44	Portland	47.6
45	Detroit	47.3
46	Kansas City	47.0
47	Sacramento	46.6
48	Cleveland	43.2
49	Phoenix	42.9
50	Minneapolis	30.0

Source: U.S. Department of Education, Office of Civil Rights

**Table 27  
International Baccalaureate Diploma Program**

Percent of high schools with international baccalaureate diploma programs, 2015-2016

1	Washington, D.C.	15.9
2	Virginia Beach	14.1
3	Richmond	12.5
4	Jacksonville	11.1
5	Charlotte	9.8
6	Atlanta	9.8
7	Denver	9.0
8	Baltimore	7.7
9	Indianapolis	7.7
9	Portland	7.7
11	Orlando	7.6
12	Tampa	7.5
13	Raleigh	7.4
14	Miami	7.3
15	Chicago	7.2
16	Los Angeles	6.7
17	Seattle	6.7
18	Kansas City	6.0
19	Dallas	5.8
20	Nashville	5.6
21	Riverside	5.5
22	Salt Lake City	5.4
<b>Peer Average</b>		<b>5.2</b>
23	San Jose	5.1
24	New Orleans	5.0
25	Phoenix	5.0
26	Sacramento	4.8
27	Detroit	4.6
28	Louisville	4.4
29	Minneapolis	4.4
30	Columbus	4.4
31	Las Vegas	4.2
31	San Diego	4.2
33	Buffalo	3.9
34	Austin	3.9
35	Milwaukee	3.9
36	Birmingham	3.7
37	Philadelphia	3.5
38	Pittsburgh	3.3
39	Memphis	3.2
40	Cincinnati	2.9
41	Hartford	2.9
42	Cleveland	2.7
43	New York	2.7
44	Houston	2.6
45	San Francisco	2.5
46	Boston	2.3
47	San Antonio	1.8
48	St. Louis	1.2
49	Oklahoma City	1.0
50	Providence	1.0

Source: U.S. Department of Education, Office of Civil Rights

High schools in the St. Louis area also offer fewer AP courses on average than many of the peer regions. In St. Louis, the average high school has nearly seven different AP courses available, compared to nearly eight courses for the peer region average.

As shown on Table 29, a relatively small share of high school students are enrolled in AP courses in St. Louis—16.0 percent. This percentage ranks 40th among the peer regions and is about four percentage points lower than the peer region average.

White students in the St. Louis region are twice as likely as black students to enroll in AP courses. In the 2015-2016 school year, 8.9 percent of black high school students were enrolled in AP courses, compared with 18.0 percent of white high school students.

**Table 28  
Advanced Placement Courses**

Average number of advanced placement courses available per high-school student, 2015-2016

1	Baltimore	13.4
2	Virginia Beach	12.5
3	Washington, D.C.	11.1
4	Boston	11.1
5	Milwaukee	11.0
6	Hartford	10.8
7	Richmond	10.5
8	Oklahoma City	10.0
9	Charlotte	9.8
10	Raleigh	9.6
11	Pittsburgh	9.5
12	San Jose	9.3
13	Louisville	9.0
14	Atlanta	8.9
15	Providence	8.9
16	Dallas	8.9
17	Austin	8.9
18	Philadelphia	8.8
19	Birmingham	8.6
20	San Antonio	8.6
21	Tampa	8.5
22	Orlando	8.4
23	New York	8.3
	<b>Peer Average</b>	<b>8.2</b>
24	San Diego	8.2
25	Houston	8.1
26	San Francisco	8.1
27	Chicago	8.1
28	Miami	8.0
29	Buffalo	7.9
30	Detroit	7.8
31	Indianapolis	7.6
32	Los Angeles	7.6
33	Seattle	7.4
34	Cincinnati	7.4
35	<b>St. Louis</b>	<b>7.2</b>
36	Jacksonville	7.2
37	New Orleans	7.1
38	Minneapolis	6.9
39	Las Vegas	6.9
40	Sacramento	6.7
41	Nashville	6.6
42	Portland	6.6
43	Kansas City	6.6
44	Cleveland	6.6
45	Denver	6.5
46	Riverside	6.1
47	Columbus	5.8
48	Phoenix	5.7
49	Memphis	5.5
50	Salt Lake City	5.2

Source: U.S. Department of Education, Office of Civil Rights

**Table 29  
Advanced Placement Enrollment**

Percent of high-school students enrolled in advanced placement courses, 2015-2016

1	Orlando	31.4
2	San Jose	29.6
3	Washington, D.C.	28.3
4	San Diego	27.0
5	Austin	26.8
6	Baltimore	25.7
7	Atlanta	25.5
8	Dallas	25.5
9	Tampa	25.5
10	San Francisco	25.0
11	Houston	24.7
12	Milwaukee	24.5
13	Virginia Beach	23.7
14	Los Angeles	23.6
15	Louisville	23.6
16	Chicago	23.2
17	Miami	22.9
18	Jacksonville	22.5
19	San Antonio	22.0
20	Raleigh	21.7
21	Seattle	21.1
22	Richmond	20.5
	<b>Peer Average</b>	<b>20.4</b>
23	Minneapolis	19.8
24	Sacramento	19.7
25	Riverside	19.2
26	Denver	19.1
27	Portland	18.3
28	Oklahoma City	18.3
29	Las Vegas	17.4
30	Boston	17.3
31	Indianapolis	17.1
32	Charlotte	17.0
33	Birmingham	16.9
34	Nashville	16.8
35	Cincinnati	16.5
36	Detroit	16.4
37	Buffalo	16.1
38	Kansas City	16.1
39	Hartford	16.0
40	<b>St. Louis</b>	<b>16.0</b>
41	New York	15.8
42	Pittsburgh	15.4
43	Philadelphia	14.9
44	Salt Lake City	14.2
45	Phoenix	13.7
46	New Orleans	13.5
47	Providence	13.2
48	Columbus	12.9
49	Cleveland	11.6
50	Memphis	7.8

Source: U.S. Department of Education, Office of Civil Rights

**Table 30  
Racial Disparity in Advanced Placement Enrollment**

Ratio of white to black students, 2015-2016

1	Cleveland	4.63
2	Milwaukee	3.35
3	Memphis	3.23
4	Detroit	3.10
5	Buffalo	2.93
6	Baltimore	2.85
7	Miami	2.77
8	New York	2.75
9	Raleigh	2.73
10	Philadelphia	2.65
11	Chicago	2.58
12	Hartford	2.57
13	Cincinnati	2.55
14	Columbus	2.49
15	Kansas City	2.43
16	San Francisco	2.42
17	Richmond	2.36
18	Pittsburgh	2.31
19	Charlotte	2.30
20	Las Vegas	2.27
21	Virginia Beach	2.16
22	Louisville	2.15
23	Minneapolis	2.13
24	San Diego	2.06
25	Washington, D.C.	2.02
26	Indianapolis	2.02
	<b>Peer Average</b>	<b>2.01</b>
27	<b>St. Louis</b>	<b>2.00</b>
28	Orlando	1.95
29	Tampa	1.94
30	Jacksonville	1.92
31	Austin	1.88
32	Nashville	1.87
33	Phoenix	1.83
34	Sacramento	1.83
35	Los Angeles	1.81
36	Atlanta	1.79
37	Riverside	1.67
38	San Antonio	1.66
39	Boston	1.66
40	San Jose	1.62
41	Houston	1.61
42	Dallas	1.61
43	Portland	1.60
44	Providence	1.59
45	Oklahoma City	1.59
46	Salt Lake City	1.51
47	Denver	1.50
48	Birmingham	1.44
49	Seattle	1.35
50	New Orleans	1.29

Source: U.S. Department of Education, Office of Civil Rights

Although the St. Louis region has relatively low AP enrollment rates, the percentage of students who pass AP exams is high. Among students who take AP exams, over two-thirds receive a passing score on at least one test. This passage rate ranks 8th among the peer regions and is over seven percentage points higher than the peer average. White students who take AP exams are about 60 percent more likely to pass at least one exam compared with black students taking AP exams. Nearly 73 percent of white students taking AP exams receive a passing score on at least one test, compared with 45.6 percent of black students.

While this gap is high on its own, it is actually lower than most of the peer regions. In the average peer region, passage rates are more than twice as high for white students as they are for black students. The St. Louis region’s disparity in this measure ranks 46th among the peer regions.

**Table 31  
Advanced Placement Exams**

Students receiving a passing grade on one or more advanced placement exams as a percent of all students taking advanced placement exams, 2015-2016

1	Buffalo	73.7
2	Hartford	71.4
3	San Jose	71.2
4	Boston	71.1
5	San Francisco	70.7
6	Richmond	68.0
7	Cleveland	67.1
8	St. Louis	66.7
9	Minneapolis	66.2
10	Columbus	66.2
11	Philadelphia	65.6
12	Pittsburgh	65.5
13	San Diego	65.0
14	Raleigh	64.8
15	Detroit	64.8
16	Milwaukee	64.6
17	Washington, D.C.	64.5
18	Austin	64.0
19	New York	63.6
20	Portland	63.0
21	Chicago	62.8
22	Baltimore	62.4
23	Cincinnati	62.0
24	Salt Lake City	61.7
25	Sacramento	61.3
26	Nashville	61.0
27	Kansas City	60.9
28	Denver	60.9
29	Los Angeles	60.2
30	Seattle	60.1
31	Phoenix	60.0
	Peer Average	59.7
32	Indianapolis	59.6
33	Atlanta	59.5
34	Miami	57.6
35	Virginia Beach	56.6
36	Charlotte	54.7
37	Providence	54.5
38	Dallas	51.9
39	Las Vegas	51.8
40	Houston	51.0
41	Riverside	50.7
42	Tampa	50.7
43	Jacksonville	49.8
44	Oklahoma City	49.6
45	Memphis	47.9
46	Orlando	46.9
47	Louisville	46.6
48	Birmingham	45.3
49	New Orleans	32.9
50	San Antonio	29.7

Source: U.S. Department of Education, Office of Civil Rights

**Table 32  
Racial Disparity in Advanced Placement Exams**

Ratio of white to black students receiving a qualifying score on at least one AP exam, 2015-2016

1	Salt Lake City	7.26
2	Pittsburgh	5.57
3	Milwaukee	4.79
4	Seattle	4.06
5	New Orleans	3.88
6	Kansas City	3.50
7	San Francisco	3.27
8	Providence	3.16
9	Philadelphia	3.05
10	Chicago	2.89
11	San Jose	2.68
12	Cincinnati	2.64
13	Cleveland	2.52
14	Dallas	2.52
15	Virginia Beach	2.51
16	Boston	2.51
17	San Antonio	2.45
18	Portland	2.44
19	Los Angeles	2.41
20	Charlotte	2.37
21	Jacksonville	2.35
22	Birmingham	2.30
23	Houston	2.29
24	Sacramento	2.28
	Peer Average	2.26
25	Louisville	2.25
26	Columbus	2.24
27	Denver	2.23
28	New York	2.22
29	Memphis	2.20
30	Washington, D.C.	2.15
31	Atlanta	2.14
32	Phoenix	2.11
33	Austin	2.08
34	Nashville	2.07
35	Oklahoma City	2.06
36	Las Vegas	2.04
37	Orlando	2.04
38	Indianapolis	2.01
39	Baltimore	1.98
40	Tampa	1.98
41	Miami	1.95
42	Minneapolis	1.94
43	Raleigh	1.93
44	Detroit	1.84
45	Hartford	1.62
46	St. Louis	1.60
47	Riverside	1.53
48	San Diego	1.49
49	Richmond	1.43
50	Buffalo	1.00

Source: U.S. Department of Education, Office of Civil Rights

**Distribution of schools based on black student share:**

There are 833 schools in the St. Louis MSA according to this dataset. Each quartile described in this paper has approximately 208 schools. Among schools in the lowest quartile, the percent of students that are black ranges from 0 to 2.3 percent. In the second quartile, the black student share ranges from 2.3 to 10.9 percent, and the third quartile ranges from 10.9 to 52.6 percent. Schools in the upper quartile have black student shares over 52.6 percent.

**Distribution of districts based on black student share:**

Within the St. Louis MSA, there are 123 districts with data on poverty rates and race. As a result each quartile has at least 30 school districts. For the 2015-2016 school year, the upper quartile of this distribution is defined as having a black student share of 18.2 percent or higher.

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