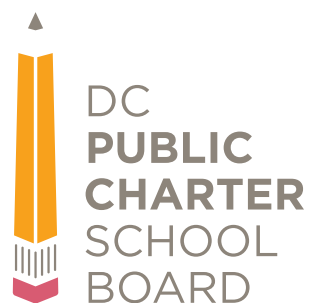


Diversity in DC Public Charter Schools



November 2015
DC Public Charter School Board



There is considerable discussion about the benefits to students from all races attending diverse schools. The benefits cited by advocates that support diverse schools include “fostering tolerant adults and good citizens”¹. These advocates cite national studies that have found that diverse schools improve academic results for students from all socio-economic and demographic backgrounds².

DC has been widely recognized for its strong public charter schools. The purpose of this study was not to determine whether diverse or non-diverse school are better. It is clear that the district has outstanding diverse and non-diverse charter schools. Indeed, of the 22 Tier One schools in 2014, eight were diverse and 14 were non-diverse, as defined in this study. What this study sought to determine was whether any statistical conclusions could be drawn from DC’s charters about diverse and non-diverse schools.

DC PCSB looked at the results of DC’s public charter schools to determine the impact in DC of diverse schools in three areas:

- student proficiency,
- year to year academic growth of individual students (measured by median growth percentile – or MGP³), and
- the likelihood of being suspended from school.

It is important to note that our analysis did not attempt to assess many of the less-measurable benefits that are posited for diverse schools, such as greater tolerance and a better ability for students to live, study, and work with others from different backgrounds.

It is also important to note that our sample sizes are relatively small, and that school performance varies from year to year. National studies on the impact of diverse schools, because they draw on a larger sample, are likely more reliable in describing the broader impacts of diverse schools.

In our study, we conducted two separate analyses. The first compares diverse versus non-diverse schools. The second study looks at results within diverse schools and seeks to determine whether the percentage of whites in a diverse school changes outcomes for students of different races.

1. Study of Diverse vs. Non-Diverse School

In the first analysis, we asked whether African American, Hispanic, White and “at risk”⁴ students have different outcomes at “diverse” school as opposed to “non-diverse” schools.

In this first analysis “diverse schools” are those which are less than 80% African American. (African American’s make up 83% of all DC public charter school students.) Of the 112 public charter schools in 2014-15, 35 are “diverse” under this classification. However the study only included schools where more than 25 students took the DC CAS standardized test in the 2011 - 14 academic years. Thus the number of schools studied was 87, 60 (69%) of which were categorized as non-diverse and 27 (31%) were categorized as diverse.

1 For an excellent review of the benefits of diverse schools, see Kahlenberg and Potter: “Diverse Charter Schools”, May 2012, published by the Century Foundation and the Poverty and Race Research Action Council.

2 See e.g., Mark Berends and Roberto V. Penaloza, “Increasing Racial Isolation and Test Score Gaps in Mathematics: A 30-Year Perspective,” Teachers College Record 112, no. 4 (2010): 978-1007. See also the “Research Briefs” series published by the National Coalition on School Diversity, www.school-diversity.org.

3 Median growth percentile determines the median growth rate from year to year of a school’s students, with each student’s growth compared to a cohort of students with the same test results in the previous year. The average MGP result for DC schools is 50. Scores higher than 50 indicate that students, on the whole, made more year to year academic gains than at the typical school.

4 DC defines an “at risk” student as one who is homeless or in the foster care system, whose family receives food stamps (SNAP or welfare (TANF) payments, or who is a year or more behind in high school.

In this first analysis we found the following:

African American Students

- African American students **showed statistically significantly higher proficiency rates in both reading and math** at diverse schools than at non-diverse schools.
- There was no statistically significant difference in African American students' year to year academic growth between diverse and non-diverse schools.
- African American students were **significantly less likely to be suspended** at diverse schools than at non-diverse schools.

Hispanic Students

- There was no statistically significant impact between diverse and non-diverse schools in student proficiency rates, student growth⁵, or student suspension rates.

White Students

- Due to the absence of sufficient White students at non-diverse schools we were unable to determine whether there was a difference in impacts on White students.

At-Risk Students

- At-risk students **showed statistically significantly higher proficiency rates** in reading at diverse schools than at non-diverse schools. There was not a statistically significant difference in math results.
- There was no statistically significant difference in at-risk students' year to year academic growth between diverse and non-diverse schools.
- At-risk students were **significantly less likely to be suspended** at diverse schools than at non-diverse schools.

Study of Outcomes Within Diverse Schools

Our second analysis looked at outcomes within diverse schools. Some diverse schools we studied are exclusively or almost exclusively African American and Hispanic, while others have White student populations ranging up to 43% of the student body. We have previously observed that the percent of White students attending a school is correlated with the size of the school's waitlist.

We asked the question of whether the percent of White students in the school impacts observable student outcomes in diverse schools.

We found the following in our second analysis:

African American Students

- African American students' proficiency rates did not change significantly based on the percentage of White students in diverse schools.
- There was a **negative and statistically significant decline in African American students' year to year academic growth** in reading (but not in math) as the percentage of White students increased in the diverse schools.
- There was no statistically significant difference in African American students' likelihood of being suspended as the percentage of White students increased in the diverse schools.

5 There were not sufficient Hispanic students in non-diverse schools to determine reading growth.

Hispanic Students

- Hispanic students showed **statistically significantly higher proficiency rates in both reading and math** as the percentage of White students increased in the diverse schools.
- There was no statistically significant difference in Hispanic students' year to year academic growth in math as the percentage of White students increased in the diverse schools.
- There was no statistically significant difference in Hispanic students' likelihood of being suspended as the percentage of White students increased in the diverse schools.

White Students

- Due to the absence of sufficient White students at non-diverse schools we were unable to determine whether a difference impacts White students.

At Risk Students

- At Risk students' proficiency rates did not change significantly as the percentage of White students increased in the diverse schools.
- There was a **negative and statistically significant decline in At Risk students' year to year academic growth** in both math and reading as the percentage of White students increased in the diverse schools.
- There was no statistically significant difference in At Risk students' likelihood of being suspended as diverse schools had higher percentages of white students.



Appendix

Diversity Analysis

Criteria for Inclusion:

- Three years worth of academic data (2011-14) and two years worth of attendance and discipline data (2012-14)
- Diverse school: one in which less than 80% of the school is of the majority population
- Performance measures: median growth percentile (MGP; reading & math); percent proficient or advanced (reading & math); and lost instruction rate (LIR) due to out of school suspension
- Sample size: : n > 25 students in the school who took the DC CAS
- A total of 87 schools (60 non-diverse schools, 27 diverse schools)



Analysis 1: Do Students in Diverse Schools Perform Better?

Statistically significant differences are indicated by red and green bold values.

All Students

	diverse	n	<i>Md</i>	<i>Mean</i>	<i>SD</i>
Math percent proficient/advanced	no	56	48.0¹	51.6	19.5
	yes	25	62.2	61.5	11.5
Reading percent proficient/advanced	no	56	46.1²	46.8	14.1
	yes	25	59.1	62.4	12.4
Math MGP	no	40	51.1	52.4	12.2
	yes	13	49.0	48.4	11.0
Reading MGP	no	39	51.7	51.8	8.3
	yes	13	50.0	50.2	7.0
In-seat attendance	no	52	89.9	88.2	6.2
	yes	25	92.2	90.4	5.4
Lost instruction rate	no	52	0.4³	0.5	0.5
	yes	25	0.1	0.2	0.2

African American

	diverse	<i>n</i>	<i>Md</i>	<i>Mean</i>	<i>SD</i>
Math percent proficient/advanced	no	45	47.8 ¹	50.2	18.8
	yes	17	59.7	59.0	9.0
Reading percent proficient/advanced	no	47	45.8 ²	47.3	15.7
	yes	19	57.9	59.3	9.5
Lost instruction rate	no	50	0.4 ³	0.5	0.5
	yes	21	0.1	0.3	0.3
Math MGP	no	40	50.5	51.8	12.4
	yes	18	53.3	52.7	8.9
Reading MGP	no	40	49.5	50.6	8.3
	yes	18	53.3	52.3	8.9

1. $p = .04$ (African American students in diverse schools have a higher math proficient/advanced rate than Black students in non-diverse schools.)

2. $p = .001$ (African American students in diverse schools have a higher reading proficient/advanced rate than Black students in non-diverse schools.)

3. $p = .008$ (African American students in diverse schools have a lower lost instruction due to suspension rate than Black students in non-diverse schools.)



Hispanics

	diverse	<i>n</i>	<i>Md</i>	<i>Mean</i>	<i>SD</i>
Math percent proficient/advanced	no	20	58.9	58.4	27.2
	yes	19	57.7	60.4	15.7
Reading percent proficient/advanced	no	18	52.7	52.4	23.4
	yes	6	54.2	59.1	15.4
Lost instruction rate	no	33	0.1	0.4	0.5
	yes	21	0.1	0.1	0.1
Math MGP	no	18	53.4	54.3	14.0
	yes	17	48.1	50.3	11.7
Reading MGP*					

*There were no Hispanic students in non-diverse schools that had 3-year MGP reported

Whites

	diverse	<i>n</i>	<i>Md</i>	<i>Mean</i>	<i>SD</i>
Math percent proficient/advanced*	no	1	—	—	—
	yes	11	93.3	93.3	5.1
Reading percent proficient/advanced	no	3	88.9	63.0	54.8
	yes	11	94.3	94.8	3.8
Lost instruction rate	no	14	0.0	0.1	0.3
	yes	19	0.0	0.4	0.2
Math MGP	no	2	59.6	29.6	17.1
	yes	11	56.0	56.1	13.5
Reading MGP	no	2	48.7	48.7	34.3
	yes	11	65.0	64.4	7.4

* There was only one non-diverse school that had enough White students to be included in the math percent proficient/advanced category. As a result, there are no descriptive statistics for White students in this category.

At-Risk Students

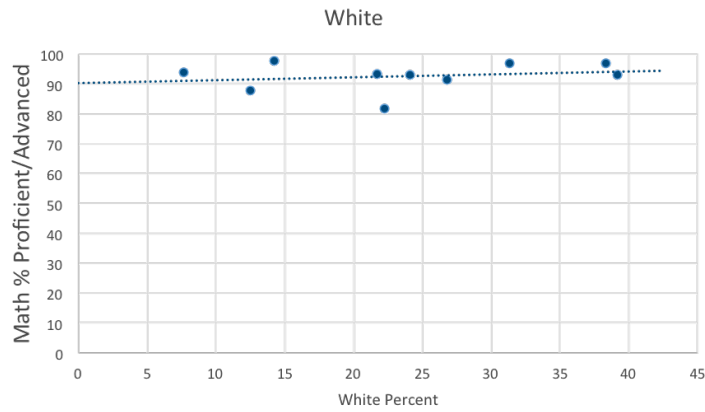
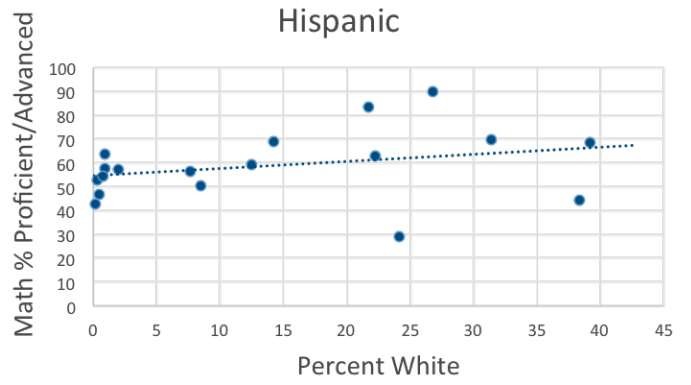
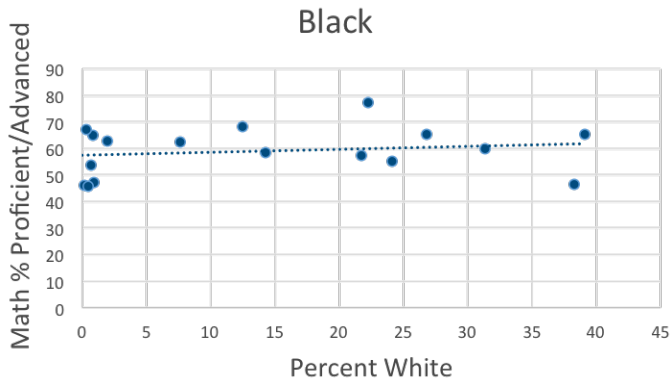
	Diverse	<i>n</i>	<i>Md</i>	<i>Mean</i>	<i>SD</i>
Math percent proficient/advanced	no	60	45.9	48.1	20.3
	yes	27	47.1	46.2	15.1
Reading percent proficient/advanced	no	60	39.7 ¹	42.8	15.3
	yes	27	49.4	49.6	13.9
Lost instruction rate	no	49	0.6 ²	0.7	0.6
	yes	22	0.1	0.3	0.3
Math MGP	no	36	51.6	53.6	12.1
	yes	14	49.1	48.6	6.1
Reading MGP	no	35	49.0	51.0	8.6
	yes	15	47.9	49.7	6.6

Study Two: What is the Impact on Student Outcomes in Diverse Schools as the Percent of White Students Grows

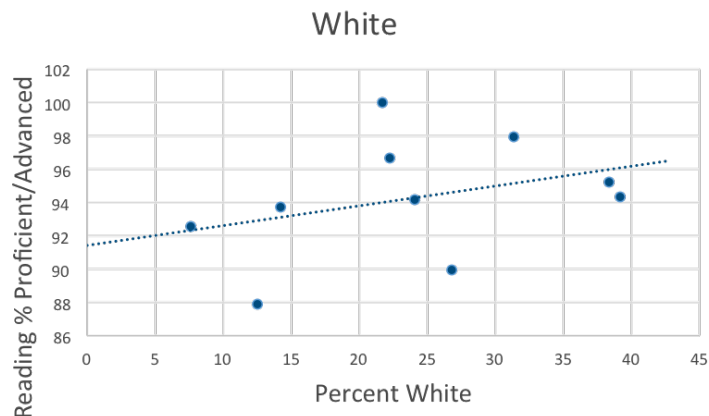
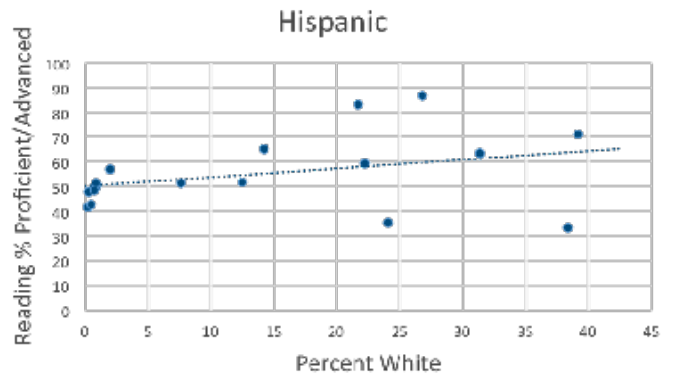
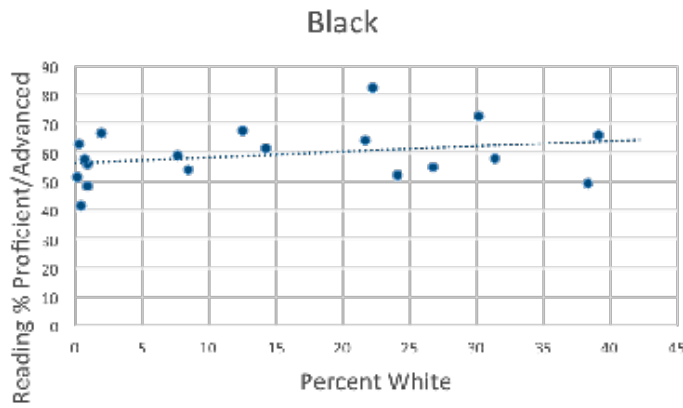
Looking at races separately, a significant relationship was found between the following races. It should be noted the relationship for African Americans was negative while the relationship for Hispanics was positive.

- African American: Reading MGP ($p = .045$)
- Hispanic: %proficient/advanced in math ($p = .045$)
- Hispanic: %proficient/advanced in reading ($p = .01$)
- At-Risk Math MGP ($p = .04$)
- At-Risk Reading MGP ($p = .04$)

Math Percent Proficient/Advanced

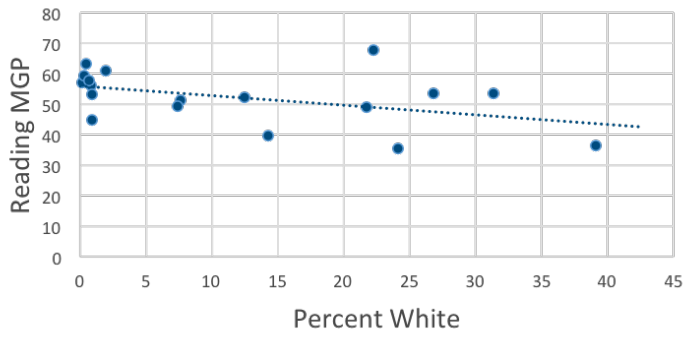


Reading Percent Proficient/Advanced

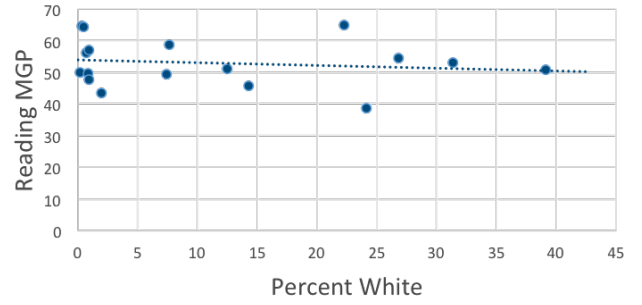


Reading MGP

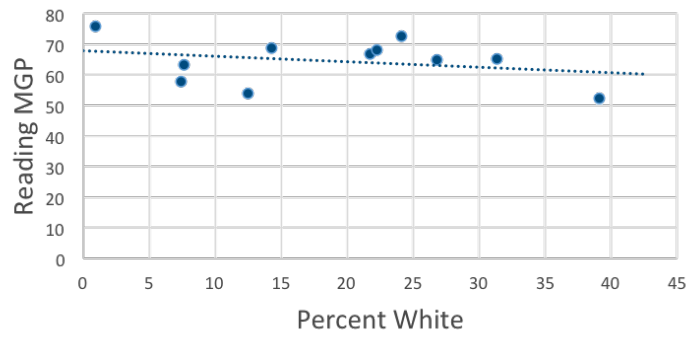
Black



Hispanic

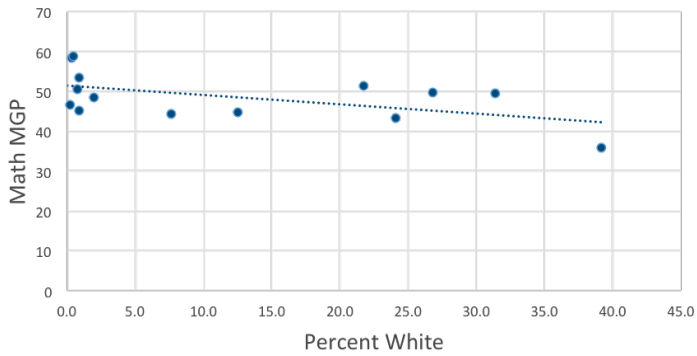


White

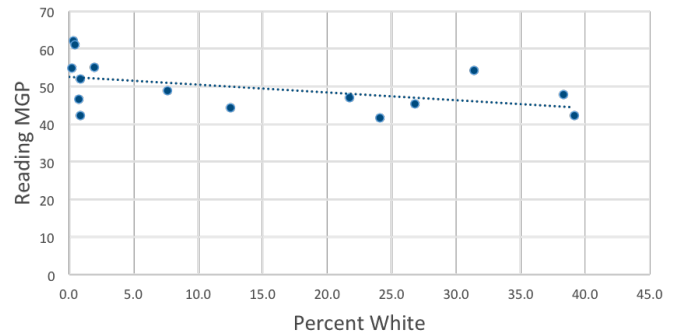


At-Risk, Diverse Only: Math and Reading MGP

At-Risk



At-Risk



Non-Diverse Schools

Academy of Hope Adult PCS
 Achievement Preparatory
 Academy PCS - Elementary
 Achievement Preparatory
 Academy PCS - Middle
 AppleTree Early Learning PCS -
 Oklahoma Ave
 AppleTree Early Learning PCS -
 Southeast
 AppleTree Early Learning PCS -
 Southwest
 Arts and Technology Academy
 PCS*
 Booker T. Washington PCS*
 Cedar Tree Academy PCS
 Center City PCS - Capitol Hill
 Center City PCS - Congress
 Heights
 Center City PCS - Trinidad
 Cesar Chavez PCS for Public
 Policy - Capitol Hill
 Cesar Chavez PCS for Public
 Policy - Parkside Middle School
 Cesar Chavez PCS for Public
 Policy - Parkside High School
 Community Academy PCS - Amos
 3*
 DC Bilingual PCS
 DC Prep PCS - Benning
 Elementary
 DC Prep PCS - Benning Middle
 DC Prep PCS - Edgewood
 Elementary
 DC Prep PCS - Edgewood Middle
 DC Scholars PCS
 Eagle Academy PCS - Capitol
 Riverfront
 Eagle Academy PCS -
 Congress Heights
 Early Childhood Academy PCS

Excel Academy PCS
 Friendship PCS - Blow-Pierce
 Friendship PCS - Chamberlain
 Friendship PCS - Collegiate
 Academy
 Friendship PCS - Technology
 Preparatory Academy
 Friendship PCS - Southeast
 Elementary Academy
 Friendship PCS - Woodridge
 Harmony DC PCS
 Hope Community PCS -
 Lamond
 Hope Community PCS - Tolson
 Hospitality High PCS*
 Howard Road Academy - MLK
 Middle*
 Howard University Math & Science
 PCS
 IDEA PCS
 Ideal Academy PCS
 Ingenuity Prep PCS
 Imagine Southeast*
 KIPP DC - AIM Academy PCS
 KIPP DC - Arts & Tech
 KIPP DC - Connect
 KIPP DC -College Prep PCS
 KIPP DC - Discover Academy
 KIPP DC - Grow Academy
 KIPP DC - Heights Academy
 KIPP DC - KEY Academy PCS
 KIPP DC - Lead Academy
 KIPP DC - LEAP Academy
 KIPP DC - Northeast Academy
 KIPP DC - Promise Academy
 KIPP DC - Quest Academy
 KIPP DC - WILL Academy PCS
 Mary McLeod Bethune Day
 Academy PCS
 Maya Angelou PCS- Evans High

School
 Maya Angelou PCS - Evans
 Middle School
 National Collegiate Preparatory
 PCHS
 Options PCS*
 Paul International PCS - Middle
 School
 Paul International PCS - High
 School
 Perry Street Preparatory PCS
 Potomac Lighthouse/Preparatory
 PCS
 Richard Wright PCS for
 Journalism and Media Arts
 Roots PCS
 SEED PCS of Washington, DC
 Sela PCS
 Somerset Preparatory
 Academy PCS
 Septima Clark PCS*
 St. Coletta Special Education PCS
 Thurgood Marshall Academy PCS
 Tree of Life PCS*
 Washington Mathematics
 Science Technology PCHS
 William E. Doar, Jr. PCS for the
 Performing Arts

*Closed school

Schools in green were not included in the study due to lack of testing data during the study's time period.



Diverse Schools

AppleTree Early Learning PCS - Columbia Heights	Community Academy PCS - Butler Global*	Lee Montessori PCS
AppleTree Early Learning PCS - Lincoln Park	Community Academy - Rand*	Meridian PCS
BASIS DC PCS	Community Academy PCS - CAPCS Online*	Mundo Verde PCS
Bridges PCS	Creative Minds PCS	Shining Stars Montessori Academy PCS
Briya PCS	DC Bilingual PCS	St. Coletta Special Education PCS
Capital City PCS - Middle	DC International PCS	The Next Step/El Proximo Paso PCS
Capital City PCS - Lower	E.L. Haynes PCS - Elementary	Two Rivers PCS
Capital City PCS - High School	E.L. Haynes PCS - Georgia Avenue	Washington Latin PCS - Middle School
Carlos Rosario International PCS	E.L. Haynes PCS - High School	Washington Latin PCS - Upper School
Center City PCS - Brightwood	Elsie Whitlow Stokes	Washington Yu Ying PCS
Center City PCS - Petworth	Community Freedom PCS	YouthBuild PCS
Center City PCS - Shaw	Inspired Teaching	
Cesar Chavez PCS for Public Policy - Chavez Prep	Demonstration PCS	
Community Academy PCS - Amos 1*	Latin American Montessori Bilingual PCS	
	LAYC Career Academy PCS	

*Closed school

Schools in green were not included in the study due to lack of testing data during the study's time period.

Hispanic: Percent Math Proficient/Advanced

	Percent White	Percent Proficient/Advanced
Paul PCS - International High School	0	
Center City PCS - Brightwood	0.3	53.0
Center City PCS - Shaw	0.4	46.9
Center City PCS - Petworth	0.7	54.6
César Chávez PCS for Public Policy - Chávez Prep	0.9	63.9
Meridian PCS	0.9	57.7
Capital City PCS - High School	0.9	
Capital City PCS - Middle School	7.4	
E.L. Haynes PCS - Georgia Avenue	7.6	56.3
E.L. Haynes PCS - Kansas Avenue (High School)	8.5	50.3
Elsie Whitlow Stokes Community Freedom PCS	12.5	59.4
Washington Latin PCS - Upper School	14.2	68.9
E.L. Haynes PCS - Kansas Avenue (Elementary School)	15.4	
Latin American Montessori Bilingual PCS	22.2	62.9
Capital City PCS - Lower School	24.1	29.2
Washington Yu Ying PCS	26.8	90.0
BASIS DC PCS	30.2	
Two Rivers PCS	31.4	69.9
Inspired Teaching Demonstration PCS	38.3	44.5
Washington Latin PCS - Middle School	39.1	68.5
Creative Minds International PCS	42.5	

Hispanic: Percent Reading Proficient/Advanced

	Percent White	Percent Proficient/Advanced
Paul PCS - International High School	0	
Center City PCS - Brightwood	0.3	48.1
Center City PCS - Shaw	0.4	42.6
Center City PCS - Petworth	0.7	48.7
César Chávez PCS for Public Policy - Chávez Prep	0.9	50.0
Meridian PCS	0.9	51.5
Capital City PCS - High School	0.9	
Capital City PCS - Middle School	7.4	
E.L. Haynes PCS - Georgia Avenue	7.6	51.3
E.L. Haynes PCS - Kansas Avenue (High School)	8.5	
Elsie Whitlow Stokes Community Freedom PCS	12.5	51.9
Washington Latin PCS - Upper School	14.2	65.2
E.L. Haynes PCS - Kansas Avenue (Elementary School)	15.4	
Latin American Montessori Bilingual PCS	22.2	59.3
Capital City PCS - Lower School	24.1	35.4
Washington Yu Ying PCS	26.8	86.7
BASIS DC PCS	30.2	
Two Rivers PCS	31.4	63.5
Inspired Teaching Demonstration PCS	38.3	33.3
Washington Latin PCS - Middle School	39.1	71.2
Creative Minds International PCS	42.5	

Black: Reading MGP

	Percent White	Reading MGP
Paul PCS - International High School	0	
Center City PCS – Brightwood	0.3	59.3
Center City PCS – Shaw	0.4	63.4
Center City PCS – Petworth	0.7	57.8
César Chávez PCS for Public Policy – Chávez Prep	0.9	56.0
Meridian PCS	0.9	44.8
Capital City PCS – High School	0.9	53.1
Capital City PCS – Middle School	7.4	49.3
E.L. Haynes PCS – Georgia Avenue	7.6	51.2
E.L. Haynes PCS – Kansas Avenue (High School)	8.5	
Elsie Whittow Stokes Community Freedom PCS	12.5	52.1
Washington Latin PCS – Upper School	14.2	39.7
E.L. Haynes PCS – Kansas Avenue (Elementary School)	15.4	
Latin American Montessori Bilingual PCS	22.2	67.9
Capital City PCS – Lower School	24.1	35.5
Washington Yu Ying PCS	26.8	53.4
BASIS DC PCS	30.2	
Two Rivers PCS	31.4	53.6
Inspired Teaching Demonstration PCS	38.3	
Washington Latin PCS – Middle School	39.1	36.4
Creative Minds International PCS	42.5	

At-Risk Students in Diverse Schools

At-Risk Students in Diverse Schools

	percent white	3 year math MGP	3 year reading MGP
Paul PCS - International High School	0.0		
Center City PCS – Brightwood	0.3	58.4	62.1
Center City PCS – Shaw	0.4	58.8	61.0
Center City PCS – Petworth	0.7	50.6	46.6
César Chávez PCS for Public Policy – Chávez Prep	0.9	53.5	51.9
Meridian PCS	0.9	45.2	42.3
Capital City PCS – High School	0.9		
Capital City PCS – High School	2.5		
Capital City PCS – Middle School	7.4		
E.L. Haynes PCS – Georgia Avenue	7.6	44.3	49.0
E.L. Haynes PCS – Kansas Avenue (High School)	8.5		
Elsie Whittow Stokes Community Freedom PCS	12.5	44.8	44.3
Washington Latin PCS – Upper School	14.2		
E.L. Haynes PCS – Kansas Avenue (Elementary School)	15.4		
Latin American Montessori Bilingual PCS	22.2		
Capital City PCS – Lower School	24.1	43.3	41.7
Washington Yu Ying PCS	26.8	49.6	45.4
BASIS DC PCS	30.2		
Two Rivers PCS	31.4	49.6	54.2
Inspired Teaching Demonstration PCS	38.3		47.9
Washington Latin PCS – Middle School	39.1	35.9	42.3

