District of Columbia
Office of the State Superintendent of Education

## 2018 STAR Analysis:

## Exploring Distributions

## and Correlations

December 18, 2018
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## Introduction

In the development of the School Transparency and Reporting (STAR) Framework, our goal was to design a system that would accurately measure the performance of schools across the city and provide a distribution that reflected meaningful differentiation. It was important that the system be designed in a way that performance on a single metric or from a single student group would not be the sole determinant of a school's accountability rating. Utilizing the flexibilities provided to DC under the federal Every Student Succeeds Act (ESSA), we designed a system using metrics which provide schools multiple pathways to demonstrate their performance and success.

The Office of the State Superintendent of Education (OSSE) published the STAR Framework Brief and appendices to explore outcomes related to the goals outlined above and to provide transparency into the STAR scores and ratings earned by schools in the initial run of the STAR Framework. The STAR Analysis: Exploring Distributions and Correlations report provides additional views and analyses of distributions and correlations including a review of distributions and correlations between frameworks, student group performance, sectors, and metrics. This series of analyses serves as a deep dive accompaniment to schools' performance on the STAR Framework as reported through the DC School Report Card and the associated public data files, including the STAR Framework Brief. These analyses do not provide details or information about specific school performance but do provide an overview of the STAR ratings, scores, and metrics and examine the interrelationships between the STAR ratings, metrics and schools' student group composition across the city. Some of the data displays have been included in previous publications, but this report provides additional information and analysis.

## Distribution of 2018 STAR Ratings

## City-wide STAR Ratings

Of the 203 schools that earned a STAR rating, 8 percent ( 17 schools) earned a five-star rating, 19 percent ( 39 schools) earned a four-star rating, 36 percent ( 73 schools) earned a three-star rating, 27 percent (55 schools) earned a two-star rating, and 9 percent ( 19 schools) earned a one-star rating. Figure 1 shows the distribution of STAR ratings across the city among all DC public schools and public charter schools. The number inside each bar represents the total number of schools who earned the corresponding STAR rating. Figure 2 shows the proportion of all public schools receiving each STAR rating, one through five.

Figure 1


Figure 2


## STAR Ratings by Sector

The distribution of STAR scores for each public school by sector is displayed in Figure 3. Public charter sector (PCS) schools and District of Columbia Public Schools (DCPS) schools show a range in STAR scores with PCS schools having a higher median score ( $\mathrm{M}=50.93$ ) than DCPS schools ( $\mathrm{M}=45.37$ ). ${ }^{1}$

DCPS schools tend to earn a higher proportion of both one- and five-star ratings while PCS schools earned a higher proportion of two-, three-, and four-star ratings. This finding is further emphasized in Figure 4 in which the distributions of both PCS and DCPS are placed on the same axis.

[^0]Figure 3


Figure 4


Figure 5 shows the proportion of schools earning each STAR rating, by sector. Each segment represents the proportion of schools earning each STAR rating and the number inside each segment is the total number of schools with the corresponding STAR rating.

Figure 5


While a similar proportion of PCS and DCPS schools earned either a four- or five-star rating, DCPS schools earned a higher proportion of five-star ratings. Among the remaining one-, two- and three-star ratings, DCPS schools also earned a higher proportion of one-star ratings while PCS schools earned a higher proportion of three-star ratings. Both sectors had a similar proportion of schools with a two-star rating. Table 1 below shows the percentage of schools in each sector that earned each STAR rating.

## Table 1

| STAR Rating | Charter (\%) | DCPS (\%) |
| :--- | ---: | ---: |
| 1 | 5.26 | 12.96 |
| 2 | 27.37 | 26.85 |
| 3 | 40.00 | 32.41 |
| 4 | 23.16 | 15.74 |
| 5 | 4.21 | 12.04 |
| STAR Ratings by Ward |  |  |

Figure 6 shows the proportion of schools receiving each STAR rating, by ward.

Figure 6


Table 2 provides the percentage of schools receiving each STAR rating for each ward and the number of schools in each ward eligible to earn a STAR rating.

Table 2

| STAR | Ward 1 | Ward 2 | Ward 3 | Ward 4 | Ward 5 | Ward 6 | Ward 7 | Ward 8 |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| Rating | $n=14$ | $n=9$ | $n=10$ | $n=34$ | $n=40$ | $n=30$ | $n=31$ | $n=35$ |
| 1 | $7.14 \%$ | $0.00 \%$ | $0.00 \%$ | $8.82 \%$ | $5.00 \%$ | $3.33 \%$ | $9.68 \%$ | $25.71 \%$ |
| 2 | $14.29 \%$ | $0.00 \%$ | $0.00 \%$ | $11.76 \%$ | $27.50 \%$ | $26.67 \%$ | $51.61 \%$ | $40.00 \%$ |
| 3 | $42.86 \%$ | $33.33 \%$ | $0.00 \%$ | $47.06 \%$ | $42.50 \%$ | $46.67 \%$ | $25.81 \%$ | $25.71 \%$ |
| 4 | $21.43 \%$ | $22.22 \%$ | $50.00 \%$ | $29.41 \%$ | $17.50 \%$ | $16.67 \%$ | $12.90 \%$ | $8.57 \%$ |
| 5 | $14.29 \%$ | $44.44 \%$ | $50.00 \%$ | $2.94 \%$ | $7.50 \%$ | $6.67 \%$ | $0.00 \%$ | $0.00 \%$ |

## STAR Framework Scores by Student Group

STAR ratings are determined by the STAR scores that each school earns on the elementary, middle, high and alternative school frameworks. Most schools ( 78 percent) have traditional grade configurations (e.g., K-5, 6-8 or 9-12) and therefore have STAR ratings based on the performance on one school framework. In total, 45 schools earned a STAR rating for more than one framework, with 39 schools having both an elementary and middle school framework rating, and 6 schools having both a middle and high school framework rating.

Figure 7 shows the proportion of student group framework scores within the elementary, middle, and high school frameworks across the District by student group for all students, students who are at-risk, English learners, and students with disabilities. Each segment for a specific student group shows the
number of frameworks within the corresponding framework score range: 0-19 points, 20-39 points, 4059 points, 60-79 points and 80-100 points. In total, there were 248 student group frameworks calculated for the all students group, including 134 elementary school frameworks, 72 middle school frameworks, 35 high school frameworks and 7 alternative school frameworks. There were 231 frameworks for the at-risk student group ( 93.15 percent of total frameworks) ${ }^{[2]}, 78$ frameworks for the English learners student group ( 31.45 percent) and 197 frameworks for the students with disabilities student group (79.43 percent).

Figure 7


Figure 8 shows the proportion of student group framework scores within the elementary, middle, and high school frameworks by student group for all racial/ethnic student groups. There were 11 frameworks for the Asian student group ( 4.44 percent of total frameworks), 240 frameworks for the Black/African-American student group ( 96.77 percent), 95 frameworks for the Hispanic/Latino of any race student group ( 38.31 percent), 14 frameworks for the Two or more races student group ( 5.65 percent) and 45 frameworks for the White student group ( 18.15 percent). There were not a sufficient number of American Indian/Alaskan Native students or Native Hawaiian/Other Pacific Islander students within any school framework to calculate student group framework scores for these student groups.

Figure 8

[^1]

## Framework Rating Distributions

Elementary School Framework Distributions

Figure 9 shows the distribution of framework ratings across all public schools with an elementary school framework (with and without pre-kindergarten). Similar to the statewide distribution of STAR ratings, the elementary school framework shows a normal distribution across framework ratings, with a 3-star rating the most common rating and an equal number of schools receiving two- and four-star ratings.

Figure 9


Figure 10 shows the distribution of framework scores in the elementary school framework. Each bar represents the elementary framework score for an individual school. The color of each bar corresponds to each framework rating, one through five, with the dotted lines representing the framework score cut points for each STAR rating.

Figure 10


Middle School Framework Distributions
Similar to the figures presented for the elementary school framework, Figure 11 and Figure 12 show the distribution of framework ratings and framework scores for all schools with a middle school framework, respectively. The proportion of schools across framework ratings was similar for elementary and middle schools with a slightly higher proportion of schools in the middle school framework earning a five-star framework rating ( 11 percent versus 6 percent) and a slightly lower proportion earning a four-star rating (19 percent versus 24 percent) compared to the elementary school framework.

Figure 11


Figure 12


High School Framework Distributions
Figure 13 and Figure 14 show the distribution of framework ratings and framework scores for the high school framework, respectively. Among schools with a high school framework, a larger proportion earned both one-star and five-star ratings, with a lower proportion earning four-star ratings.

Figure 13


Figure 14


Alternative School Framework Distributions
Figure 15 shows the distribution of framework ratings for the alternative school framework. Most schools with an alternative framework earned a two-star rating, with one school earning a 3 -star rating.

Figure 15: Alternative School Framework STAR Rating Distribution


Framework Rating $\square 2 \square 3$

Figure 16 shows the distribution of framework scores for the alternative school framework. All seven schools with an alternative framework earned a framework score between 20 and 60.

Figure 16


Further Distributions by sector, ward, framework, and student group
The following section provides additional detail on distributions of STAR ratings by sector, ward, framework, and student group. Four types of visualizations are provided: STAR rating distributions, STAR
score distributions, STAR score distribution overlays, and STAR rating proportions. In figures showing STAR rating distributions, each bar represents the number of schools receiving each STAR rating. In figures showing STAR score distributions and STAR score distribution overlays, each bar represents either a STAR score or a framework score. In figures showing STAR rating proportions, each segment represents the proportion of schools receiving each STAR rating; the number inside each segment is the total number of schools with the corresponding STAR rating. When a proportion is at the framework or student group level each segment and number inside each segment represents the proportion of frameworks, or student groups within a framework respectively.

## Sector by Framework

The figures in this section show the distributions of framework scores by sector. The elementary, middle and high school frameworks across each sector show similar patterns to the overall STAR Framework scores above. PCS schools tend to be concentrated in the framework ratings of two-, three-, and fourstar rating. DCPS schools are more spread out and have a higher proportion of schools that have a framework rating of either one or five.

Figure 17


Figure 18

Elementary School - Sector Distribution


Figure 19


Figure 20
Middle School - Sector


Figure 21


Figure 22


Figure 23
High School - Sector


Figure 24
High School - Sector Distribution


Figure 25
High School Sector Distribution


Figure 26
Alternative Framework - Sector


Sector by Ward
Figure 27


Sector by Student Group
Figure 28


Figure 29


Ward by Framework
Figure 30
Elementary School - Ward Distribution


Figure 31
Middle School - Ward Distribution


Figure 32
High School - Ward Distribution


Figure 33
Alternative Framework - Ward Distribution


Framework by Student Group
Figure 34


Figure 35


Figure 36


Figure 37


Figure 38


Figure 39


## Metric Distributions

The following section provides the distribution of metric scores for each metric in the STAR Framework by framework. The figure for each metric provides the distribution of metric scores by framework along with the corresponding floors and targets. Schools with metric scores below the floor earn no points for that metric in the STAR Framework; schools with metrics scores above the target earn all of the points possible for that metric in the STAR Framework. For more information on floors and targets, and how metric scores are translated into points, please refer to the STAR Framework Technical Guide.

Metric Distributions: Elementary, Middle and High School Framework Metrics

Figure 40
PARCC $3+$ MSAA $3+$ ELA


Figure 41
PARCC 4+ MSAA 3+ ELA


Figure 42


Figure 43


Figure 44


Figure 45


Figure 46


Figure 47



## Metric Distributions: Elementary School-only Framework Metrics

Figure 48
CLASS - Classroom Organization


Figure 49
CLASS - Instructional Support


Figure 50
CLASS - Emotional Support


Figure 51
Median Growth Percentile ELA


Figure 52


Figure 53
Growth to Proficiency - ELA


Figure 54
Growth to Proficiency - Math


Figure 55


Figure 56
Extended Years Graduation Rate


Figure 57
SAT College and Career Ready Benchmark


- Floor
.... Target

Figure 58


Figure 59
AP IB Participation


- Floor
.... Target

Figure 60


Alternative Framework
Figure 61


Figure 62
Weighted Index - ELA


Figure 63


Figure 64
8th to 9th Grade Promotion


Figure 65
Five-Year Graduation Rate


Figure 66

## Secondary Completion



Figure 67


Figure 68
Median Growth Percentile Math


Figure 69
90 Percent Attendance


Figure 70


Figure 71


Figure 72
PARCC 4+ MSAA 3+ Math


## Distribution of Metric Scores by STAR Rating

This section provides metric distributions with an indication of the schools earning either a one- or fivestar rating within each framework; schools earning one- and five-star ratings are highlighted. For the PARCC/MSAA achievement metrics, schools with 1-star ratings tend to be clustered at the lower end of the distribution while schools with five-star ratings tend to have higher metric scores. Though the highest and lowest-rated schools are generally found at the highest and lowest levels of PARCC/MSAA performance, respectively, there are two, three, and four-star schools also found at the highest and lowest levels of performance, demonstrating that very high or very low performance on academic achievement metrics may be tempered by performance on other metrics in calculating the final STAR ratings for schools.

Other metrics exhibit greater variability in the distribution of metric scores by STAR rating. Figure 77, Figure 80, and Figure 86 show the performance of schools on $90 \%$ Attendance, Re-Enrollment, and Growth to Proficiency metrics, respectively. Performance on these metrics demonstrate that schools earning one-star ratings are not uniformly low performing and schools earning five-star ratings are not uniformly high performing. Similarly, schools receiving two-, three-, or four-star ratings may demonstrate both high and low performance on these metrics.

## Elementary, Middle and High School Framework Metrics

Figure 73
PARCC 4+ MSAA 3+ ELA




Figure 74

## PARCC 4+ MSAA 3+ Math





Figure 75
PARCC 3+ MSAA 3+ ELA



Figure 76
PARCC $3+$ MSAA $3+$ Math



Figure 77


Figure 78


Figure 79


Figure 80


Figure 81


Elementary School-Only Framework Metrics
Figure 82


## Elementary School and Middle School Framework Metrics

Figure 83


Figure 84


Figure 85


Figure 86


High School-Only Framework Metrics
Figure 87


Figure 88


Figure 89


Figure 90


Figure 91


Figure 92


Scatter Plots and Linear Prediction of STAR Scores by Achievement Metric Scores, by

## Framework and Student Group

The figures in this section show the relationship between schools' performance on the ELA PARCC 4+/ MSAA 3+ metric and STAR score, by framework and student group (student groups are listed in the bottom-right corner of each figure). Each plot point represents an individual school with a fitted line showing the general relationship between metric score and STAR score. These analyses demonstrate a positive association between ELA metric scores and STAR scores for all schools in each framework, with a greater level of variation in STAR scores observed in the elementary school and middle school frameworks at similar levels of performance on PARCC 4+/MSAA 3+. For the all students student group, this effect is more pronounced at lower levels of performance. School-level PARCC 4+/MSAA 3+ performance among students who are at-risk, students with disabilities, and English learners exhibit much greater variation in STAR scores across levels of performance compared to the all students group.

Figure 93


Figure 94

PARCC 4+ MSAA 3+ ELA
Elementary School


Figure 95


Figure 96


Figure 97


Figure 98

PARCC 4+ MSAA 3+ Math
Elementary School


Figure 99


Figure 100


Figure 101


Figure 102
PARCC 4+ MSAA 3+ ELA


Figure 103
PARCC 4+ MSAA 3+ ELA


Figure 104


Figure 105


Figure 106

PARCC 4+ MSAA 3+ Math


Figure 107
PARCC 4+ MSAA 3+ Math


Figure 108


Figure 109


Figure 110


Figure 111


Figure 112


Figure 113


Figure 114


Figure 115


Figure 116
PARCC 4+ MSAA 3+ Math
High School


## Scatter Plots and Linear Prediction of STAR Scores by Growth Metric Scores, by

## Framework and Student Group

This section of figures shows the relationship between schools' performance on the Growth to Proficiency and Median Growth Percentile metrics and STAR score, by student group and framework (student groups are listed in the bottom-right corner of each figure). These analyses demonstrate a positive association between growth metric scores and STAR scores for all schools in each framework. Students who are at-risk, students with disabilities, and English learners student group scores on the growth metrics are much less related to schools' STAR score than the corresponding relationship between the all students group and schools' STAR score. The residual error tends to be much larger and the linear prediction has a less steep slope in the figures showing the relationship between metric score and STAR score for students who are at-risk, students with disabilities, and English learners.

Figure 117


Figure 118


Figure 119


Figure 120


Figure 121


Figure 122


Figure 123


Figure 124


Figure 125


Figure 126


Figure 127


Figure 128


Figure 129


Figure 130


Figure 131


Figure 132


Figure 133


Figure 134


Figure 135


Figure 136


Figure 137


Figure 138


Figure 139


Figure 140


Figure 141


Figure 142


Figure 143


Figure 144


Figure 145


Figure 146


Figure 147


Figure 148


## Relationship between Achievement and Academic Growth

This section explores the relationship between performance on growth metrics and academic achievement and a schools' STAR rating. Each plot point represents a school's growth metric score compared against the school's score on the PARCC 4+/MSAA 3+ metric, with each plot point colored by the school's framework STAR score.

Overall, there is a weak relationship between Growth to Proficiency and PARCC 4+/MSAA 3+ in the elementary school framework. While the vertical distribution of STAR ratings shows a relationship between STAR scores and performance on PARCC 4+/MSAA 3+, the relationship between STAR scores and Growth to Proficiency is weaker, particularly for one-, two-, and three-star ratings meaning that there is large range in the STAR scores earned by schools with similar levels of growth.

In the middle school framework, a weak but generally positive relationship between Growth to Proficiency and PARCC 4+/MSAA 3+ is observed. In contrast to the elementary school framework, the STAR ratings for the middle school framework more closely align to overall performance on the Growth to Proficiency and PARCC 4+/MSAA 3+ metrics.

Similar patterns are observed for Median Growth Percentile. The relationship between MGP scores and PARCC 4+/MSAA 3+ scores is more pronounced in ELA than in math. However, STAR ratings appear more closely related to performance on MGP than what is observed for Growth to Proficiency across subject and student group.

Figure 149


Figure 150


Figure 151


Figure 152


Figure 153


Figure 154


Figure 155


Figure 156


Figure 157


Figure 158


Figure 159


Figure 160


Figure 161


Figure 162


Figure 163


Figure 164


Figure 165


Figure 166


Figure 167


Figure 168


Figure 169


Figure 170


Figure 171


Figure 172


Figure 173


Figure 174


Figure 175


Figure 176


Figure 177


Figure 178


Figure 179


Figure 180


## Relationship between 90\% Attendance and Attendance Growth

Figure 181 through Figure 192 show the school-level relationship between Attendance Growth and 90\% Attendance, the two measures that comprise the "Addressing Chronic Absenteeism" metric. Addressing Chronic Absenteeism utilizes the "best of" metric score in the STAR calculation between $90 \%$ Attendance and Attendance Growth, rewarding schools who have consistently high attendance, as well as those schools who have made strides in improving their attendance. In the following charts, if a school is above the diagonal line, the school earned a greater percentage of points on 90\% Attendance, while those below the line earned a greater share of points on Attendance Growth. Figures are shown for the following student groups: all students, students who are at-risk, students with disabilities, and English learners.

Figure 181 illustrates a distinct pattern in STAR ratings between elementary schools earning a greater share of points from Attendance Growth or 90\% Attendance, but demonstrates no clear relationship between the performances of schools on the two measures. Whereas nearly all four and five-star schools earn a greater share of points in $90 \%$ Attendance, the majority of one, two, and three-star schools earn more points in Attendance Growth. A number of one and two-star schools with 0 points earned on $90 \%$ attendance are able to earn points on Attendance Growth.

Similar to elementary schools, Figure 185 exhibits no clear relationship between Attendance Growth and $90 \%$ Attendance in middle schools. However, there appears to be a more even distribution of STAR ratings between the metrics in which schools are earning a greater proportion of points.

Figure 189 shows that the two attendance metrics are more related in high schools compared to middle and elementary schools. Unlike lower grade bands, high schools with lower performance on Attendance Growth also tend to have lower performance on 90\% Attendance.

Figure 181


Figure 182


Figure 183


Figure 184


Figure 185


Figure 186


Figure 187


Figure 188


Figure 189


Figure 190


Figure 191


Figure 192


Relationships between Student Groups, STAR Metrics, and STAR Scores
Relationship between Students who are At-Risk and STAR Score
OSSE believes deeply in the potential of all DC students to learn and achieve at high levels. While we know that all students can achieve excellence, we also know that currently not all students are being supported and served to perform at the same level, both nationwide and in DC. The STAR Framework
provides an opportunity to both provide transparency into the performance of all student groups across the city and to encourage excellence for all student groups.

The STAR Framework was designed to measure the performance of students who are at-risk, students with disabilities, English learners and all racial/ethnic student groups, in addition to the all students group (which in many states is the only group used in accountability calculations). The STAR Framework includes and weights student group performance as part of the calculation of an overall school rating. For example, 5 points of a school's score is based on the relative performance of students who are atrisk and 10 points of a school's score is based on the relative performance of students with disabilities. A school's STAR score increases when a given student group's performance is high based on the metric targets set from relative performance of other schools. The inclusion of student group scores in the STAR Framework provides transparency about student group performance and informs efforts to ensure equitable outcomes for students.

Given the deliberate focus and weight, as well as the recognized historical performance gaps between student groups, it is important to further explore the relationship between the percentage of schools' population of students in these identified groups and schools' STAR scores. The following analyses (Table B.3-Table B.4) examine the association between English learners, students with disabilities, and the factors that identify students as at-risk and schools' STAR scores and school framework scores. In DC, at-risk is defined as a student who possesses one of the following characteristics at any point during the given school year: Temporary Assistance for Needy Families (TANF) enrollment, Supplemental Nutrition Assistance Program (SNAP) enrollment, identification as homeless by the student's school or other community partners, under the care of the Child and Family Services Agency (CFSA, also known as foster care), and/or over age (high school only: a high school student is over age if he or she is at least one year older than the expected age for their grade).

These student population characteristics explained approximately 57 percent ( $\mathrm{R}^{2}=.569$ ) of the differences in schools' STAR scores in the citywide model. At the framework level, these student population characteristics accounted for the most differences in High School Framework scores (79 percent, $R^{2}=.788$ ), followed by Middle School Framework scores ( $53 \%, R^{2}=.528$ ), and then Elementary School framework scores ( 58 percent, $R^{2}=.579$ ). Of the at-risk components, the percentage of students that receive TANF/SNAP benefits was the only statistically significant characteristic across all frameworks. While these findings indicate a relationship between the student group populations in a school and STAR Framework scores, these statistics do not indicate that school composition predicts a school's STAR score; analysis with metric scores and student groups find that even though there is an association here between scores and student groups, it is metric performance that is driving the STAR scores.

One statistic that is a focus throughout these analyses is the adjusted $-R^{2}\left(R^{2}\right)$. The $R^{2}$ indicates how much variance is explained by the variables in a regression model. With the $R^{2}$ statistic, we can observe how much variance is explained by student groups and metrics alone or together. There are several statistics listed in the following analysis, but caution should be used in judging $R^{2}$ statistics against one another; the $R^{2}$ can only explain how much variance is in each single model, it cannot ascertain between variables
in a model, which is the driving factor. Nor should the $R^{2}$ be viewed as solely causal; having a high $R^{2}$ in a model does not necessarily mean those variables cause an outcome they may only be associated with a particular outcome and can be spuriously correlated with other factors.

Table B.3: OLS Regression Analysis for Student Group Variables (including components of at-risk) Predicting STAR Score

| Variables | (1) |  |
| :--- | :---: | :---: |
|  | STAR Score |  |
|  | B | SE |
| English Learners | -0.00857 | $(0.0715)$ |
| Students with | $-0.673^{* * *}$ | $(0.170)$ |
| Disabilities |  |  |
| CFSA | -0.399 | $(2.056)$ |
| Homeless | 0.114 | $(0.196)$ |
| TANF/SNAP | $-0.623^{* * *}$ | $(0.0662)$ |
| Constant | $88.61^{* * *}$ | $(3.039)$ |
| Observations | 203 |  |
| Adjusted $R^{2}$ | 0.569 |  |

Robust standard errors are shown in parentheses
Linear regression of student group characteristics on school STAR score controlling for percent of population of student groups
Note: Overage status is only applicable to high school students; it is not included in Table B. 3 which examines relationships across all frameworks.
${ }^{*} p<0.05,{ }^{* *} p<0.01,{ }^{* * *} p<0.001$

Table B.4: OLS Regression Analysis for Student Group Variables (including components of at-risk) Predicting STAR Score by Framework

| Variables | (1) |  | (2) |  | (3) |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Elementary School |  | Middle School |  | High School |  |
|  | B | SE | B | SE | $\beta$ | SE |
| English Learners | $0.127^{*}$ | (0.063) | -0.103 | (0.103) | -0.299 | (0.296) |
| Students with Disabilities | -0.588* | (0.284) | -0.704** | (0.214) | -0.570 | (0.399) |
| CFSA | 3.010 | (2.491) | -4.948* | (2.062) | -5.877 | (4.318) |
| Homeless | -0.0878 | (0.216) | 0.598 | (0.519) | -0.681 | (1.154) |
| TANF/SNAP | $-0.560^{* * *}$ | (0.080) | $-0.801^{* * *}$ | (0.104) | -0.567* | (0.237) |
| Overage |  |  |  |  | -0.791 | (0.521) |
| Constant | 81.59** | (4.239) | $102.1^{* * *}$ | (5.648) | $110.6{ }^{* * *}$ | (4.184) |
| Observations | 134 |  | 72 |  | 35 |  |
| Adjusted $R^{2}$ | 0.528 |  | 0.579 |  | 0.788 |  |

Robust standard errors are shown in parentheses
Linear regression of percent of population on school STAR score controlling for the percent of population of student groups
Note: Observations is the number of schools in the framework specified.
${ }^{*} p<0.05,{ }^{* *} p<0.01,{ }^{* * *} p<0.001$

## Appendix A: What is the School Transparency and Reporting (STAR)

## Framework?

The School Transparency and Reporting (STAR) Framework is the accountability framework for public schools in the District of Columbia, using common measures of performance across schools and is comprised of multiple data points from multiple data sources. Schools earn a STAR Rating (ranging from 1 to 5 stars, with 5 being the highest).

The STAR Framework gives OSSE, educators, policymakers, families, and the community the opportunity to broaden understanding of school performance and growth and to share common data about schools that can be used to inform decision-making by parents and educators. STAR Framework ratings are designed to help celebrate successes, focus discussions, identify areas for support, and inform strategic planning.

## What is a Metric?

Metrics are measurements of performance or growth as compared to similar students and schools in the District. The metrics in the STAR Framework are designed to share information about student success and progress using different data elements that have been shown to be associated with positive student outcomes. The STAR Framework is comprised of a set of domains with metrics specific to the grades served or type of school designation; the overall 1 to 5 star rating is based on a school's cumulative score as aggregated based on the calculated points for student group performance in each applicable metric.

In the STAR Framework, each metric is assigned a specific number of possible points that a school can earn; this is termed Metric Points Possible. In total, the STAR Framework includes twenty-one different metrics, although not all metrics apply to all schools. For example, every school is measured on attendance but not every school is measured on graduation rate.

## What is a Domain?

To align with the requirements of ESSA, metrics are organized into domains. As with metrics, not all domains apply to all schools. The domains in the STAR Framework are:

## Academic Achievement

The Academic Achievement domain includes measures of performance on statewide assessments Partnership for Assessment of Readiness for College and Careers (PARCC) and the Multi-State Alternate Assessment (MSAA). For high school, it also includes two measures of performance on the SAT for the High School framework.

Academic Growth (Elementary, Middle, and Alternative School frameworks only)
The Academic Growth domain includes measures of academic progress on statewide assessments.

## School Environment

The School Environment domain includes measures of chronic absenteeism, improvement in addressing chronic absenteeism, daily attendance, and the school's re-enrollment of eligible students from one year
to the next. For high schools, it also includes an extended years graduation rate and measures student participation and performance on Advanced Placement (AP) and International Baccalaureate (IB) exams. For schools with Pre-K, it includes measures of the quality of teacher-child interactions in Pre-K classrooms. These metrics are intended to provide additional measures of school quality and student success.

## English Language Proficiency

The English Language Proficiency domain includes measures of progress in achieving English language proficiency.

## Graduation Rate (High School and Alternative School Frameworks Only)

The Graduation Rate domain measures schools' adjusted cohort graduate rate.

## Educational Progress (Alternative School Framework Only)

The Educational Progress domain, which applies only to the Alternative School Framework, includes measures of academic progress other than performance on PARCC, such as Secondary Completion and $8^{\text {th }}$ to $9^{\text {th }}$ grade promotion.

## Appendix B: Data Sources for DC School Report Card elements <br> ACCESS

Student assessment scores on ACCESS for English Language Learners 2.0 are provided to OSSE from WIDA. These data include relevant scale score, proficiency level, and attemptedness information.

## Adjusted Cohort

Students' first ninth grade year (cohort year), cohort responsible school and outcomes are reviewed, finalized and certified by each LEA in the summer and fall of each year via the Adjusted Cohort Graduation Rate (ACGR) validation process.

## Advanced Placement (AP)

The College Board sends OSSE a summative annual examination file with individual scores for each AP test.

## Alt ACCESS

Student assessment scores on Alt ACCESS are provided to OSSE from WIDA. These data include relevant scale score, proficiency level, and attemptedness information.

## Attendance

Attendance is submitted to OSSE on a daily basis. These data are reviewed, finalized and certified by each LEA at the close of each school year.

## Certified Graduates List

Credential data are submitted to OSSE once per year in September by the Public Charter School Board (PCSB) and the District of Columbia Public Schools (DCPS).

## CLASS Data

Teachstone provides classroom-level ratings for the Emotional Support, Classroom Organization, and Instructional Support domains for each classroom that was observed according to the CLASS observation protocol.

## Civil Rights Data Collection (CRDC)

The U.S. Department of Education collects data from a nationally-representative sample from almost every school system in the country on key education and civil rights in public schools. The DC School Report Card uses this data to inform measures of student discipline.

## College Board

The College Board administers the SAT and AP exams and provides performance and participation data for each.

## College Ready Benchmarks

The College Board publishes SAT College and Career Readiness Benchmarks. These fixed scores are identified by the College Board for each subject area of the test. These benchmarks are determined at the discretion of the College Board.

## DC Science Assessment

The District of Columbia's annual assessment of science.

## Demographic Data

Demographic data are submitted to OSSE on a daily basis. These data are reviewed, finalized and certified by each LEA at the close of each school year via the Data Validation process.

## Discipline Data Collection

OSSE collection of student discipline data.

## Enrollment

Enrollment data is submitted to OSSE on a daily basis. These data are reviewed, finalized and certified by each LEA at the close of each school year via the Data Validation process. Enrollment data is used in determining students' enrollment to a school and to determine a students' grade. The DC School Report Card reports validated enrollment data for the accountability year and represents ever-enrolled students for each reporting entity.

## GED ${ }^{\circledR}$

Pearson sends OSSE on a daily basis comprehensive data for each student who has taken the online version of the GED at any testing site including scores on each subject test and an indication of whether the student has passed the GED.

Healthy Schools Act (HSA) School Health Profiles
Act Submitted annually by every public and public charter school within the District of Columbia as a requirement of the DC Healthy Schools Act of 2010. The data for Physical Activity minutes per week and Health Staff Information are collected through these profile data.

## IEP Certificate of Completion List

IEP Certificate of Completion data are submitted to OSSE once per year in September by the DC Pubic Charter School Board (DC PCSB) and the District of Columbia Public School (DCPS).

## International Baccalaureate (IB)

International Baccalaureate sends OSSE a summative annual examination file with individual scores for each IB test.

## Medical Exemptions

LEAs are responsible for submitting documentation for a valid Medical Exemption from the PARCC or MSAA assessments to OSSE. OSSE approved medical exemptions are used for determining eligibility for the PARCC/MSAA performance metrics.

## MSAA

Student assessment scores on MSAA are provided to OSSE from Measured Progress. These data include relevant scale score, performance level, and attemptedness information.

## National Assessment of Educational Progress (NAEP)

Commonly known as the Nation's Report Card, NAEP is the largest continuing and nationally representative assessment of what U.S. students know and can do in various subjects. The Report Card
uses NAEP data to report SEA-level performance in $4^{\text {th }}$ grade math, $4^{\text {th }}$ grade ELA, $8^{\text {th }}$ grade math, and $8^{\text {th }}$ grade ELA.

## National External Diploma Program (NEDP)

Comprehensive Adult Student Assessment Systems (CASAS) provides OSSE access to an online portal which contains credential information for all students participating in NEDP programming through a DC public or public charter school.

## PARCC

Student assessment scores on PARCC are provided to OSSE from Pearson. These data include relevant scale score, performance level, and attemptedness information.

## SAT

The College Board sends OSSE both individual score files for each SAT day administration and a cumulative summative file each year containing the SAT scores for students who participated in the SAT at any DC public or public charter school.

## Student Characteristics

Students' English Learner (EL) status and homeless status is submitted to OSSE on a daily basis from LEAs. Data for students with disabilities are submitted to OSSE via the Special Education Data System (SEDS); SEDS is the authoritative data source used to determine students' students with disabilities status. Students' receipt of SNAP and TANF benefits is submitted to OSSE on a monthly basis from the Department of Human Services (DHS). Students' involvement in the foster care system is submitted to OSSE on a daily basis from the Child and Family Services Agency (CFSA). Student characteristic data are reviewed, finalized and certified by each LEA at the close of each school year via the Data Validation process.

## Teacher Data Collection

Faculty and staff data collection.


[^0]:    ${ }^{1}$ Median values are truncated at two decimals.

[^1]:    ${ }^{[2]}$ Student group frameworks scores are calculated for all student groups that meet the minimum $n$-size for a sufficient number of metrics that allow for the calculation of a framework score. Please see the DC School Report Card and STAR Framework Technical Guide (pp. 56-62) for more detail.

