MARYLAND STATE DEPARTMENT OF EDUCATION
EQUITY AND EXCELLENCE

Karen B. Salmon, Ph.D.
State Superintendent of Schools

TO: Members of the State Board of Education

FROM: Karen B. Salmon, Ph.D.

DATE: January 28, 2020

SUBJECT: Maryland Report Card Analysis

PURPOSE:

To provide the State Board of Education with additional analyses of the 2019 results of the Maryland accountability system.

EXECUTIVE SUMMARY:

Information presented will include:

1. 2019 results: Indicators and measures
    - Indicator and measure results, by star rating
    - Relationship between academic and school quality/student success indicators
2. 2019 results: Student groups
    - Summary of equity results
    - Relationship between overall performance and school demographics
    - Relationship between indicators/measures and economic disadvantage
3. Comparison of 2018 and 2019 results
    - Change in star rating, all schools and by school grade span
    - Change in percent of points earned, overall and by indicator/measure
    - Analysis of 2019 implementation of accountability system (school survey and science)

Additional information is included in the attached supplemental document:

- Correlations among indicators, by school grade span (2019)
- Correlations among measures, by school grade span (2019)
- Correlations between 2018 and 2019 measures, by school grade span

ACTION:

No action is necessary; for discussion only.

2019 Analysis: Maryland Accountability System Results

MARYLAND STATE DEPARTMENT OF EDUCATION

EQUITY AND EXCELLENCE

State Board Meeting

January 28, 2020

Maryland Accountability System Results

1. 2019 results: Indicators and measures

- Indicator and measure results, by star rating
- Relationship between academic and school quality/student success indicators

2. 2019 results: Student groups

- Summary of equity results
- Relationship between overall performance and school demographics
- Relationship between indicators/measures and economic disadvantage

3. Comparison of 2018 and 2019 results

- Change in star rating, all schools and by school grade span
- Change in percent of points earned, overall and by indicator/measure
- Analysis of 2019 implementation of accountability system (school survey and science)

Maryland Accountability System

MARYLAND STATE DEPARTMENT OF EDUCATION
EQUITY AND EXCELLENCE

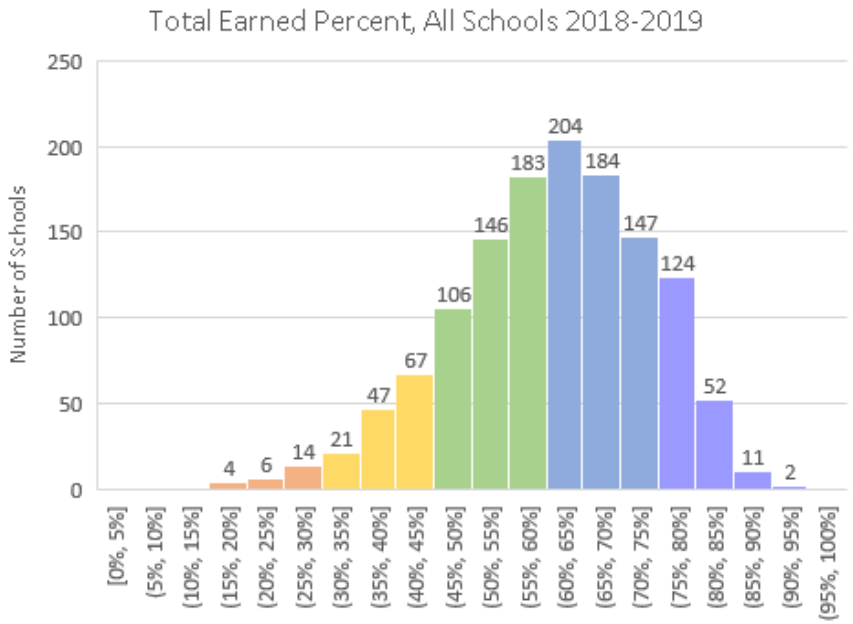
INDICATOR	ELEMENTARY MEASURE AND WEIGHT	
ACADEMIC ACHIEVEMENT (20)	Percent proficient, ELA	5
	Average performance level, ELA	5
	Percent proficient, math	5
	Average performance level, math	5
ACADEMIC PROGRESS (35)	Median SGP, ELA	12.5
	Median SGP, math	12.5
	Percent proficient, science ("Credit for a well-rounded curriculum")	5
	Percent of 5th graders earning credit in social studies, fine parts, PE, health ("Credit for a well-rounded curriculum")	5
ELP (10)	Percent of EL students on-track to English language proficiency	10
SCHOOL QUALITY AND STUDENT SUCCESS (35)	Percent of students not chronically absent	15
	School survey	10
	Percent of 5th graders enrolled in science, social studies, fine arts, PE, and health ("Access to a well-rounded curriculum")	10

INDICATOR	MIDDLE MEASURE AND WEIGHT	
ACADEMIC ACHIEVEMENT (20)	Percent proficient, ELA	5
	Average performance level, ELA	5
	Percent proficient, math	5
	Average performance level, math	5
ACADEMIC PROGRESS (35)	Median SGP, ELA	12.5
	Median SGP, math	12.5
	Percent proficient, science ("Credit for a well-rounded curriculum")	3.5
	Percent proficient, social studies ("Credit for a well-rounded curriculum")	3.5
	Percent of 8th graders earning credit in ELA, math, social studies, science ("Credit for a well-rounded curriculum")	3
ELP (10)	Percent of EL students on-track to English language proficiency	10
SCHOOL QUALITY AND STUDENT SUCCESS (35)	Percent of students not chronically absent	15
	School survey	10
	Percent of students enrolled in fine arts, PE, health, and computational learning ("Access to a well-rounded curriculum")	10

Maryland Accountability System

INDICATOR	HIGH MEASURE AND WEIGHT	
ACADEMIC ACHIEVEMENT (30)	Percent proficient, ELA	7.5
	Average performance level, ELA	7.5
	Percent proficient, math	7.5
	Average performance level, math	7.5
GRADUATION RATE (15)	Four-year adjusted cohort graduation rate	10
	Five-year adjusted cohort graduation rate	5
ELP (10)	Percent of EL students on-track to English language proficiency	10
READINESS FOR POSTSECONDARY SUCCESS (10)	Percent of 9th grade students "on track" to graduate (four credits in core coursework)	5
	Percent of high school completers earning credit on at least one academic benchmark (AP, IB, SAT, ACT, CTE, etc.) ("Credit for a well-rounded curriculum")	5
SCHOOL QUALITY AND STUDENT SUCCESS (35)	Percent of students not chronically absent	15
	School survey	10
	Percent of high school completers who enrolled in opportunity beyond core coursework (AP, IB, dual enrollment, CTE, etc.) ("Access to a well-rounded curriculum")	10

2019 Total Earned Percent and Stars (Previously Presented)



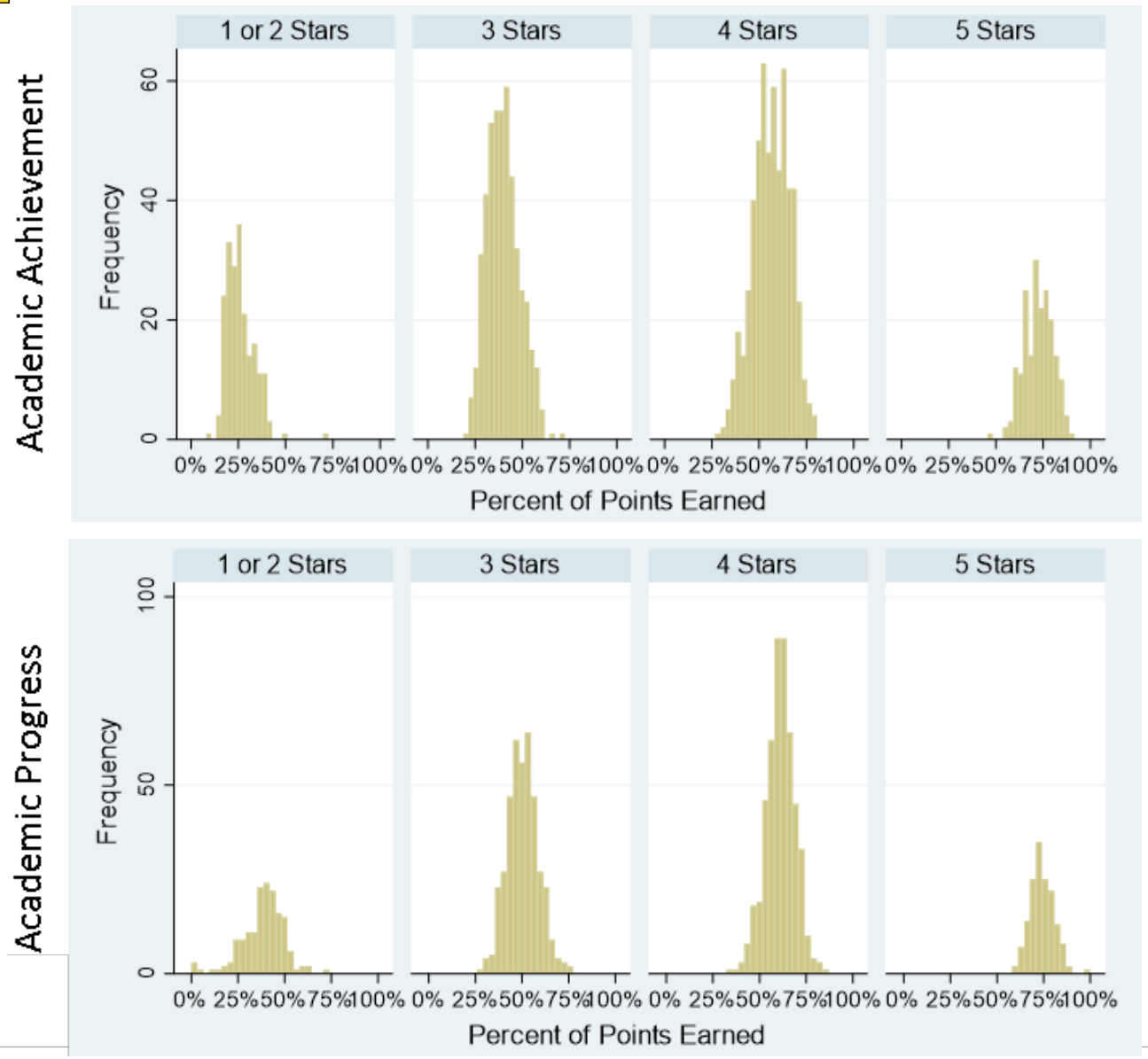
Total Earned Percent	Awarded Stars	ALL SCHOOLS	ELEMENTARY	MIDDLE	HIGH	COMBINED
Total Earned Percent	**Awarded Stars**	**N (%)**	**N (%)**	**N (%)**	**N (%)**	**N (%)**
Less than 30%	★	24 (2%)	2 (0.3%)	2 (1%)	9 (4%)	11 (8%)
30% or greater and less than 45%	★★	135 (10%)	33 (4%)	32 (15%)	26 (13%)	44 (34%)
45% or greater and less than 60%	★★★	435 (33%)	240 (31%)	97 (45%)	61 (30%)	37 (28%)
60% or greater and less than 75%	★★★★	535 (41%)	359 (47%)	73 (34%)	69 (34%)	34 (26%)
75% or greater	★★★★★	189 (14%)	133 (17%)	12 (6%)	39 (19%)	5 (4%)
School has fewer than 45 possible points	(data are available but school is unrated)	84	25	4	12	43

Indicator Results, by Star Rating (2019)

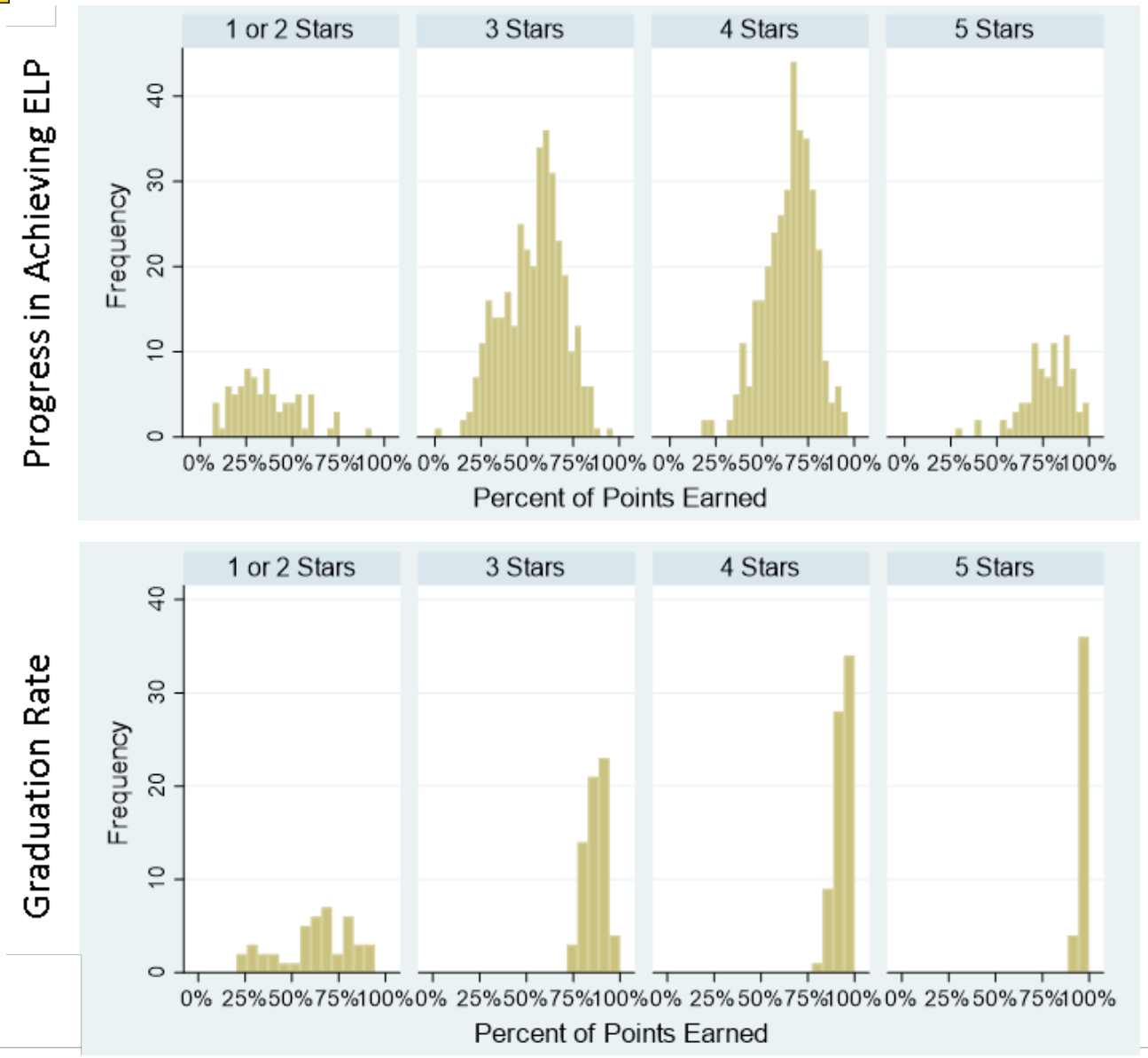
Average Percent of Points Earned on Indicators, by Star Rating

Indicator	1/2 Stars	3 Stars	4 Stars	5 Stars
Academic Achievement	26.1	39.9	56.5	72.5
Academic Progress	38.4	50.4	61.2	74.1
Progress in English Language Proficiency	36.1	53.5	64.9	77.8
Graduation Rate	62.3	86.9	93.0	97.3
Readiness for Postsecondary Success	52.7	69.2	81.1	92.7
School Quality and Student Success	39.3	61.3	76.5	85.3

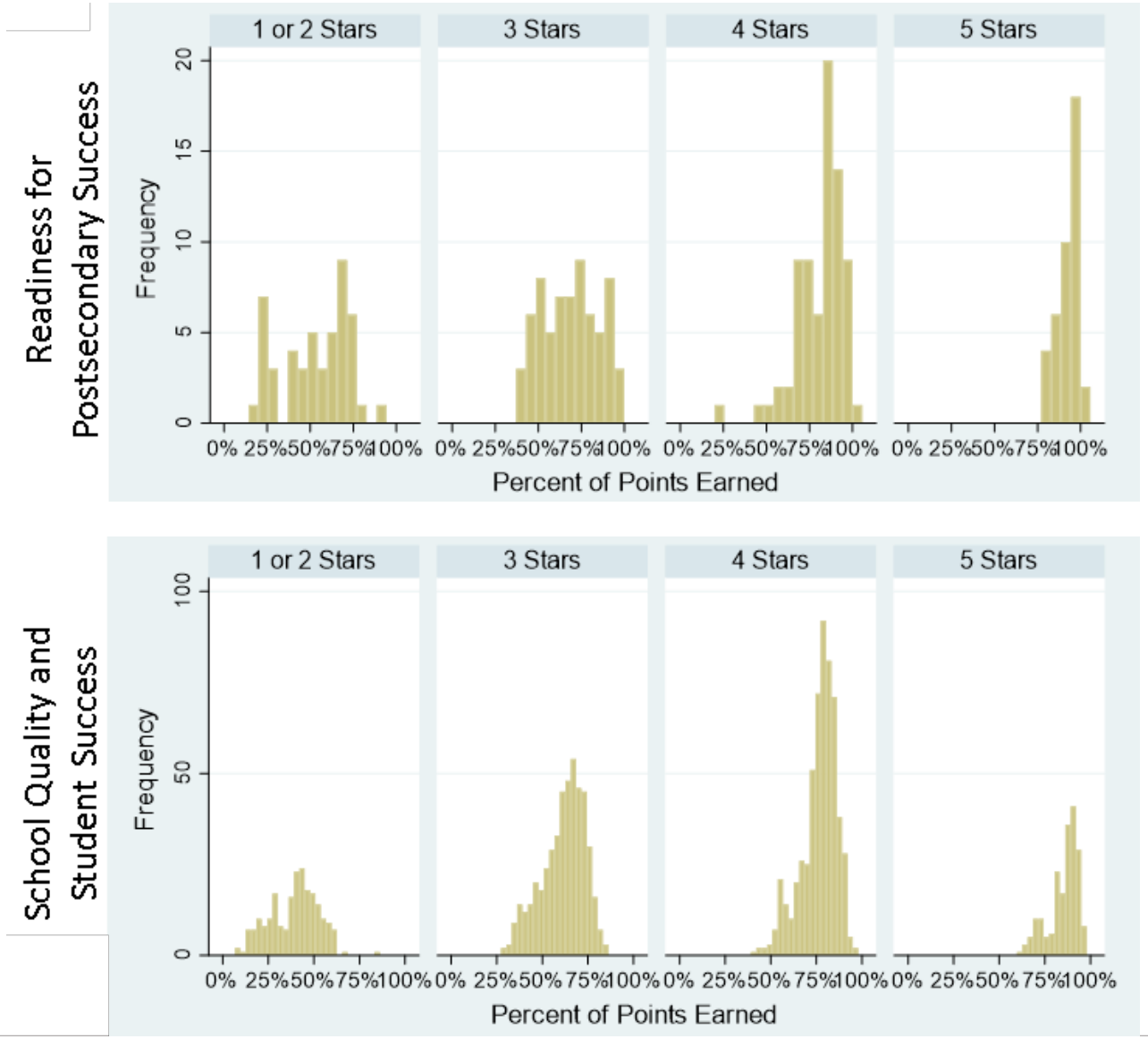
Indicator Results, by Star Rating (2019)



Indicator Results, by Star Rating (2019)



Indicator Results, by Star Rating (2019)

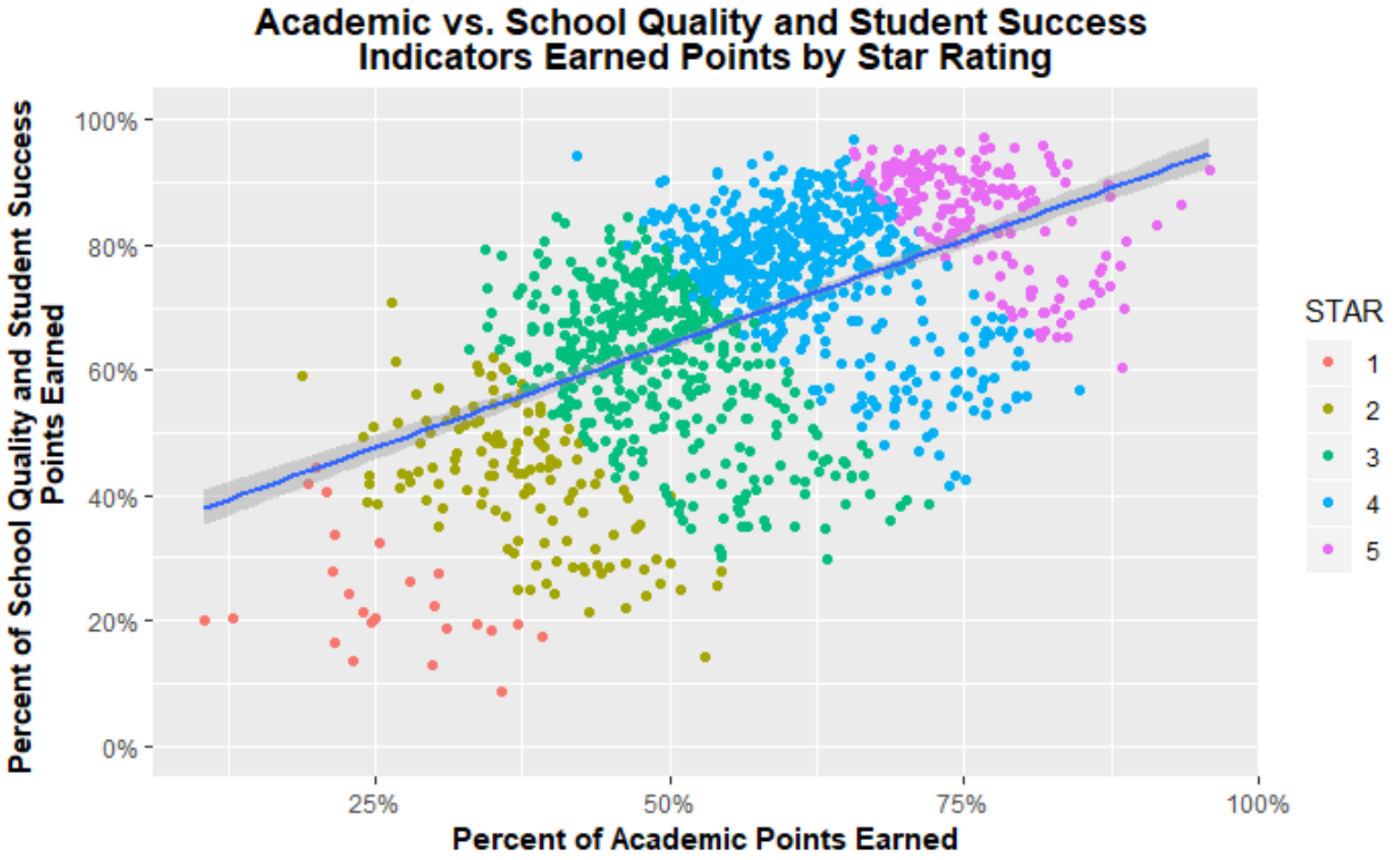


Measure Results, by Star Rating (2019)

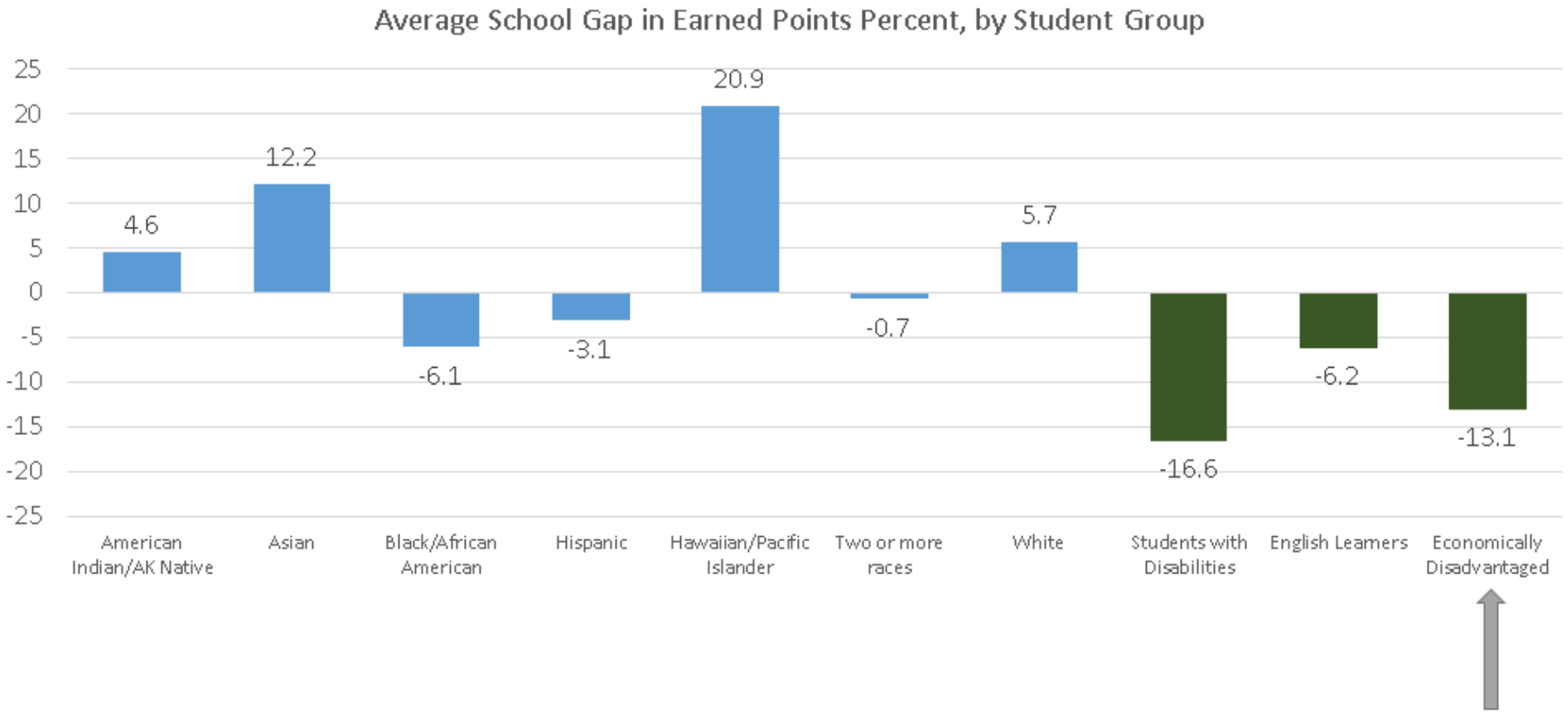
Average Percent of Points Earned on Measures, by Star Rating

Indicator	Measure	1/2 Stars	3 Stars	4 Stars	5 Stars
Academic Achievement	Percent Proficient, Math	9.1	23.1	45.1	67.7
	Average Performance Level, Math	39.0	50.0	62.3	72.5
	Percent Proficient, ELA	14.4	31.9	52.6	73.2
	Average Performance Level, ELA	42.0	54.7	66.1	76.4
Academic Progress (E/M)	Median SGP, Math	38.4	48.5	59.0	73.1
	Median SGP, ELA	40.3	49.8	59.6	72.3
	Percent Proficient, Science	6.8	17.6	36.0	56.8
	Credit for Completion of a Well-Rounded Curriculum (E/M)	72.5	91.0	97.2	99.0
ELP	Progress in Achieving English Language Proficiency	36.1	53.5	64.9	77.7
Graduation Rate (H)	Four-Year Adjusted Cohort Graduation Rate	59.2	86.1	92.6	97.0
	Five-Year Adjusted Cohort Graduation Rate	66.9	88.6	93.9	97.7
Readiness for Postsecondary Success (H)	On-Track in Ninth Grade	51.1	76.4	86.7	94.2
	Credit for Completion of a Well-Rounded Curriculum (H)	58.7	61.9	76.2	91.0
School Quality and Student Success	Chronic Absenteeism	19.5	51.2	75.3	87.4
	School Survey (Student)	36.9	44.7	56.7	68.5
	School Survey (Educator)	51.4	56.0	66.3	74.9
	Access to a Well-Rounded Curriculum	71.2	89.6	95.2	97.0

Relationship Between Academic And School Quality and Student Success Indicators (2019)

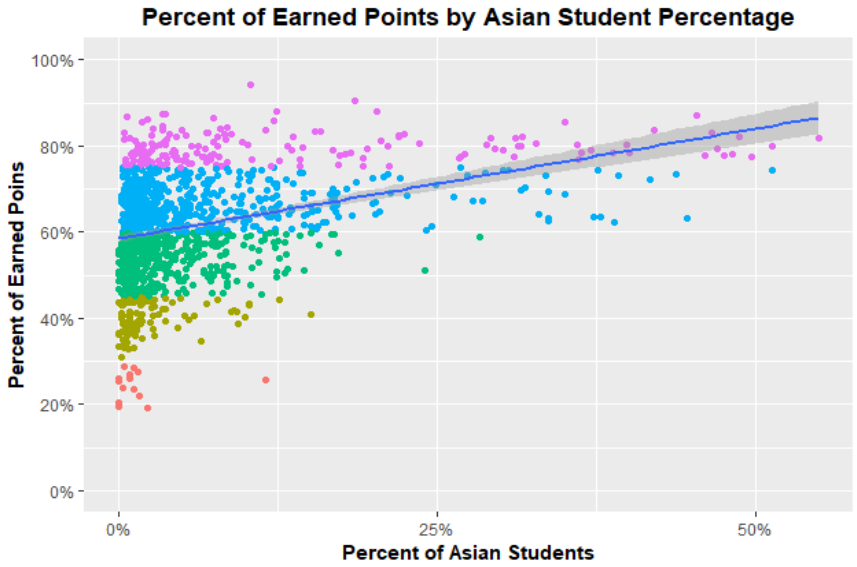


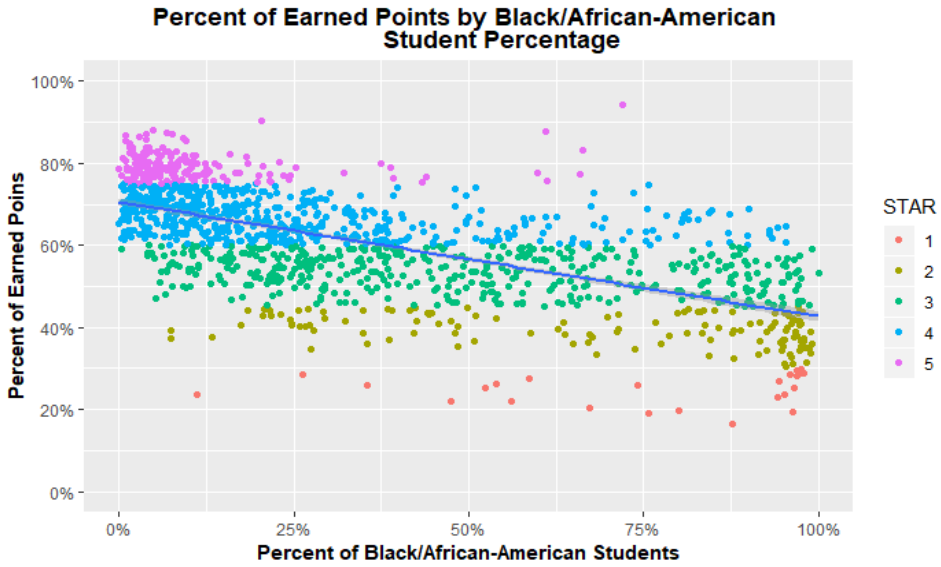
Summary of Equity Results (2019)

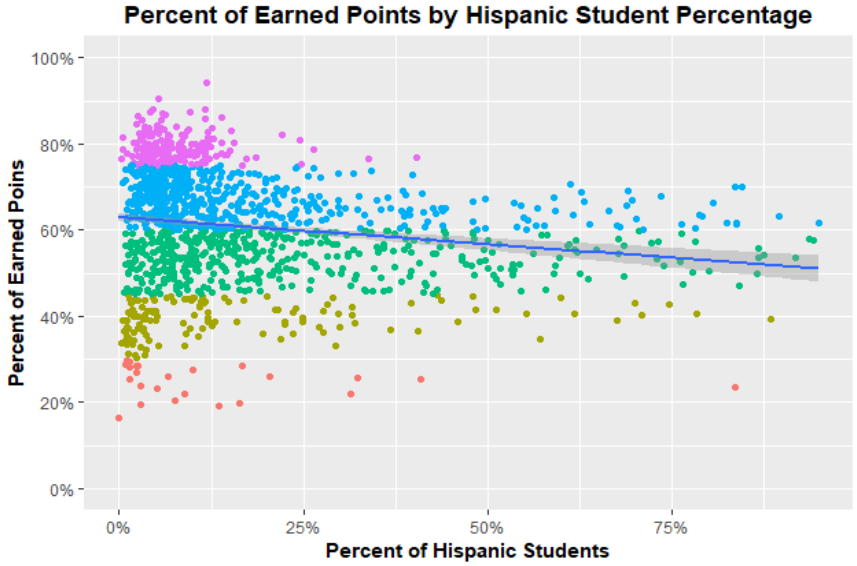


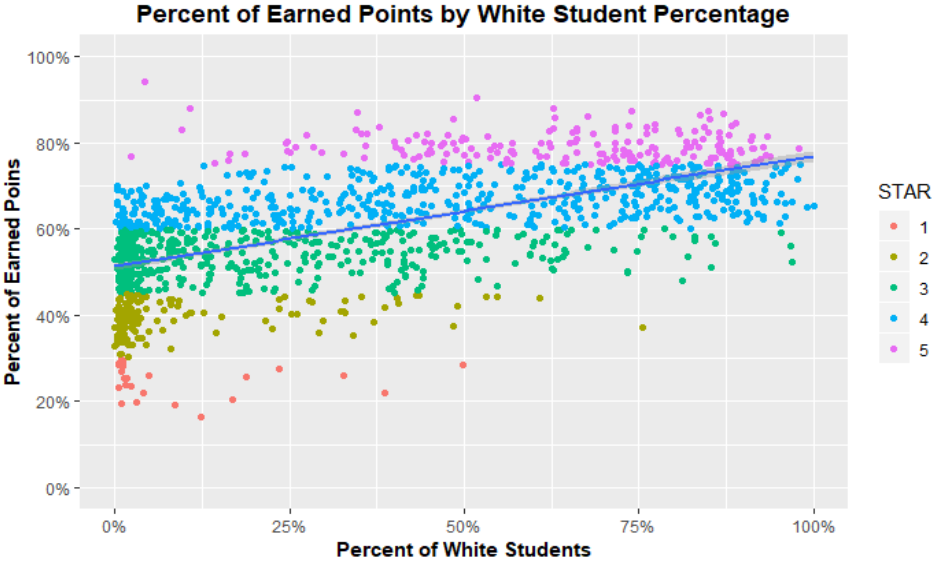
For example, the average difference in percent of points earned between economically disadvantaged and not economically disadvantaged students at the same school is -13.1 percentage points.

Relationship Between Overall Performance and School Demographics, Race/Ethnicity (2019)

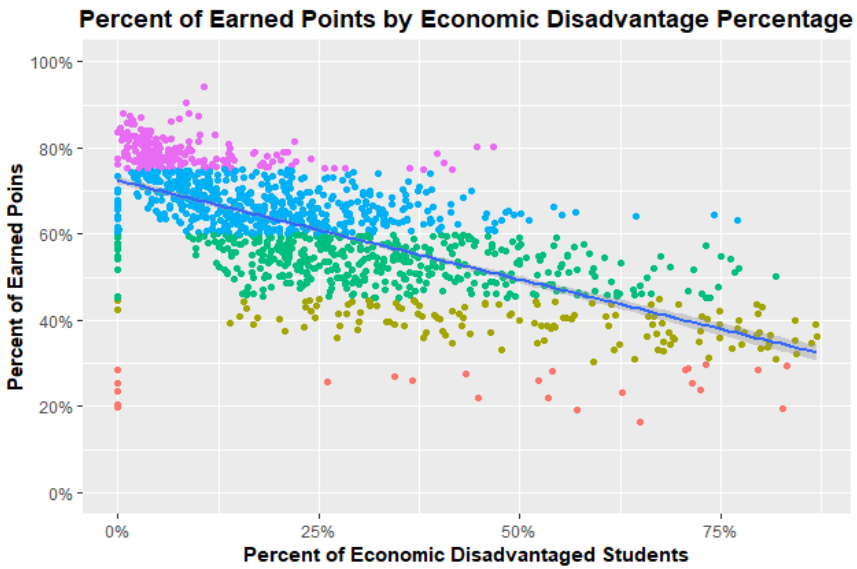


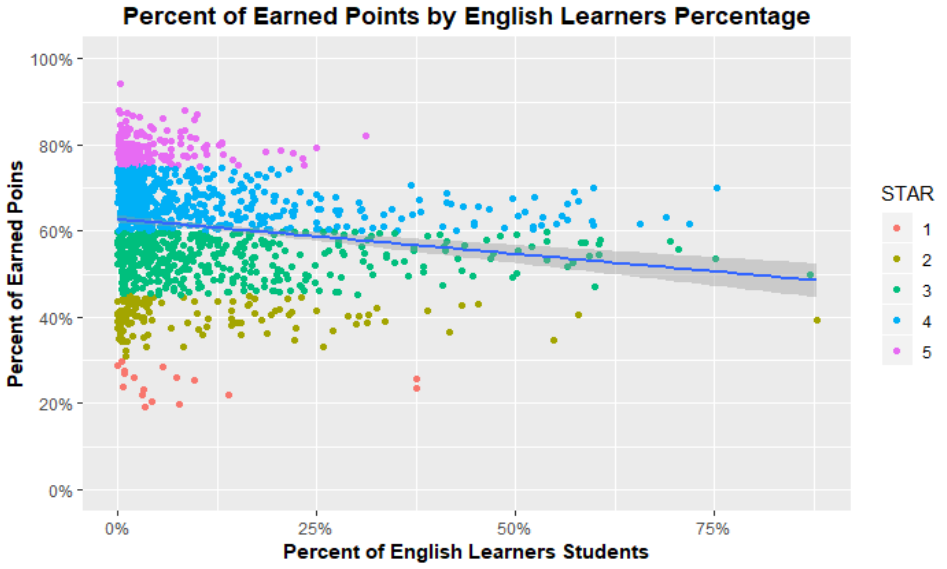






Relationship Between Overall Performance and School Demographics, Service Groups (2019)





Relationship Between Indicators/Measures and Economic Disadvantage (2019)

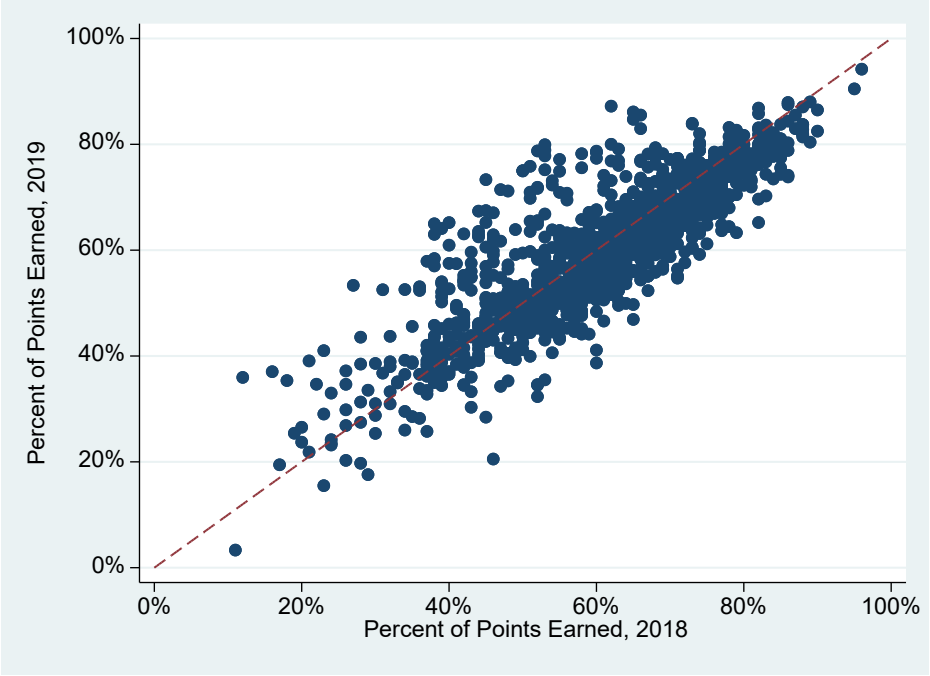
	No significant relationship between % Economic Disadvantage and score	Weak negative relationship between % Economic Disadvantage and score	Moderate negative relationship between % Economic Disadvantage and score	Strong negative relationship between % Economic Disadvantage and score
INDICATORS		Readiness for Postsecondary Success (- 0.21) Academic Progress (- 0.48) Graduation Rate (- 0.49) Progress in Achieving English Language Proficiency (- 0.19)	School Quality/Student Success (- 0.51)	Academic Achievement (- 0.74)
MEASURES	Access to a Well Rounded Curriculum (- 0.04)	Progress in Achieving English Language Proficiency (- 0.19) Median Student Growth Percentile, ELA (- 0.31) Median Student Growth Percentile, Math (- 0.31) School Survey, Educator (- 0.21) School Survey, Student (- 0.22) Credit for Completion of a Well Rounded Curriculum (- 0.11) Five-Year Graduation Rate (- 0.49)	Chronic Absenteeism (- 0.67) Avg. Performance Level, Math (- 0.69) Percent Proficient, Math (- 0.69) Four-Year Graduation Rate (- 0.52)	Avg. Performance Level, ELA (- 0.77) On Track in 9th Grade (- 0.70) Percent Proficient, ELA (- 0.74) Percent Proficient, Science (- 0.73)

Change in Star Ratings by Grade Span, 2018 to 2019

		ALL SCHOOLS		Elementary		Middle		High		Combined	
		2018	2019	2018	2019	2018	2019	2018	2019	2018	2019
Total Earned Percent	**Stars**	**N (%)**	**N (%)**	**N (%)**	**N (%)**	**N (%)**	**N (%)**	**N (%)**	**N (%)**	**N (%)**	**N (%)**
< 30%	★	34 (3%)	24 (2%)	6 (1%)	2 (0%)	1 (0%)	2 (0%)	8 (1%)	9 (1%)	19 (14%)	11 (8%)
[30%, 45%)	★★	142 (11%)	135 (10%)	59 (8%)	33 (4%)	16 (7%)	32 (15%)	27 (13%)	26 (13%)	40 (29%)	44 (34%)
[45%, 60%)	★★★	360 (27%)	435 (33%)	177 (23%)	240 (31%)	92 (43%)	97 (45%)	50 (25%)	61 (30%)	41 (29%)	37 (28%)
[60%, 75%)	★★★★	563 (43%)	535 (41%)	377 (49%)	359 (47%)	80 (37%)	73 (34%)	75 (37%)	69 (34%)	31 (22%)	34 (26%)
<= 75%	★★★★★	220 (17%)	189 (14%)	144 (19%)	133 (17%)	25 (12%)	12 (6%)	42 (21%)	39 (19%)	9 (6%)	5 (4%)

Change from 2018	ALL SCHOOLS	Elementary	Middle	High	Combined
Up two stars	21	21	0	0	0
Up one star	160	118	13	10	19
No change	853	458	141	170	84
Down one star	271	165	61	22	23
Down two stars	4	2	1	0	1

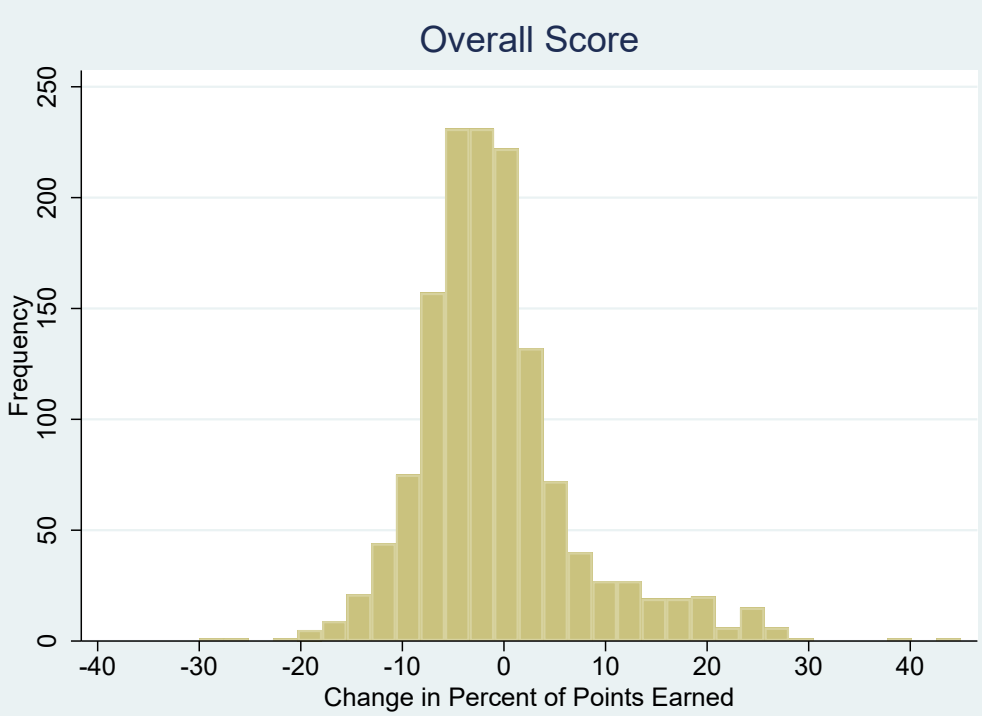
Correlation between 2018 and 2019 Percent of Points Earned, Overall and by Indicator

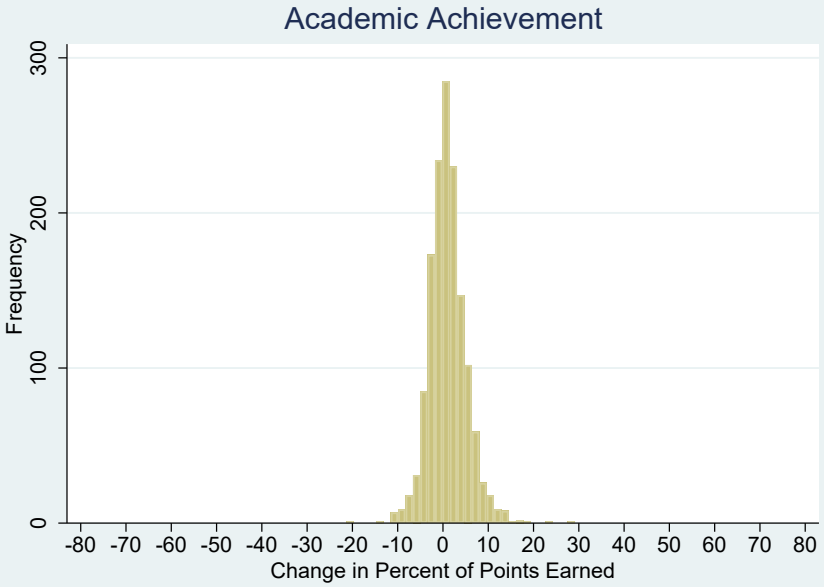


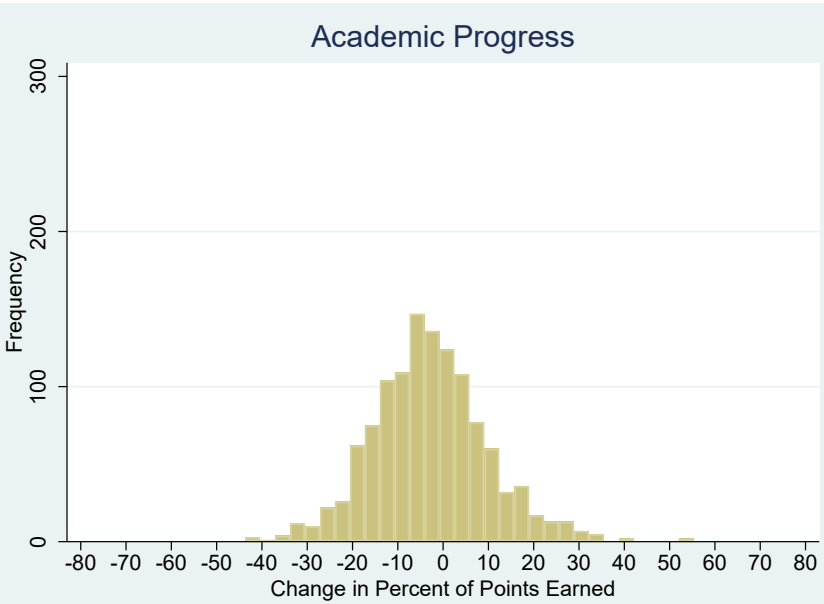
	Correlation between 2018 and 2019
Academic Achievement	0.97
Academic Progress (E/M)	0.60
Graduation Rate (H)	0.96
Progress in Achieving English Language Proficiency	0.67
Readiness for Postsecondary Success (H)	0.93
School Quality and Student Success	0.83
OVERALL	0.87

For correlations among measures, see handout (Tables 4-6)

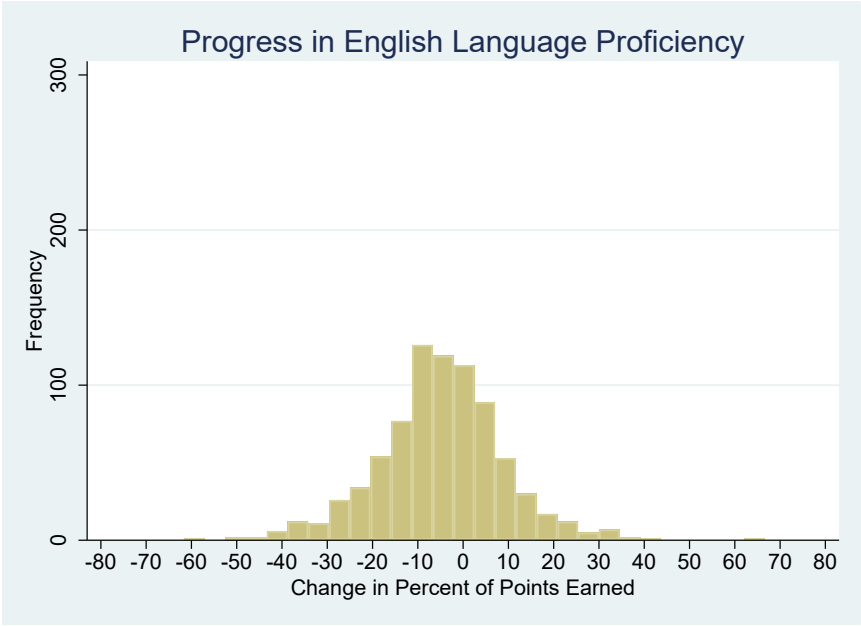
Change in Percent of Points Earned by Indicator, 2018 to 2019

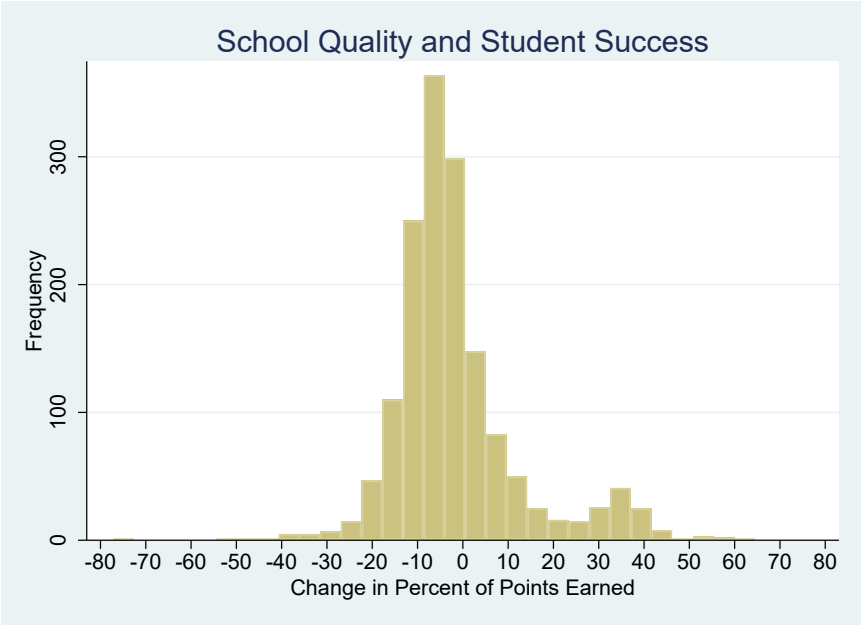


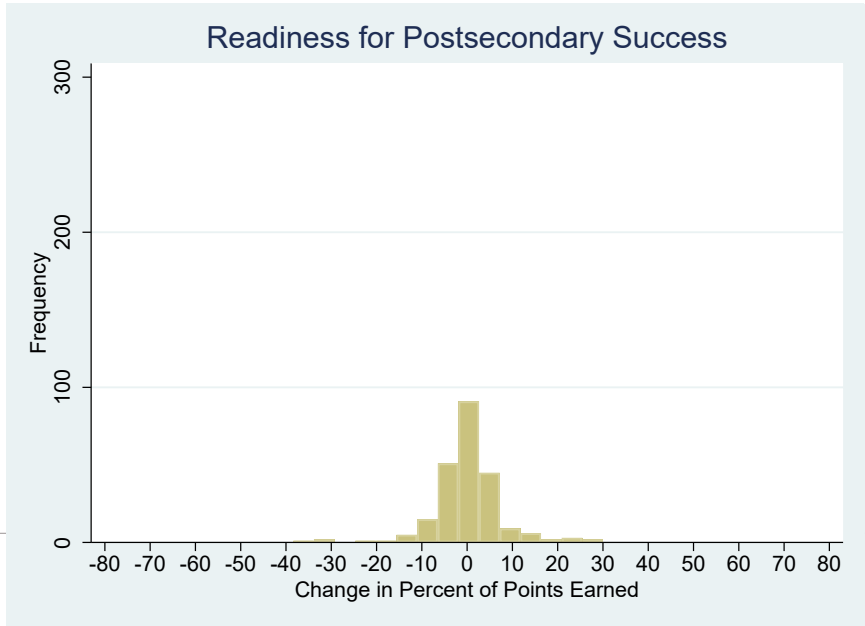


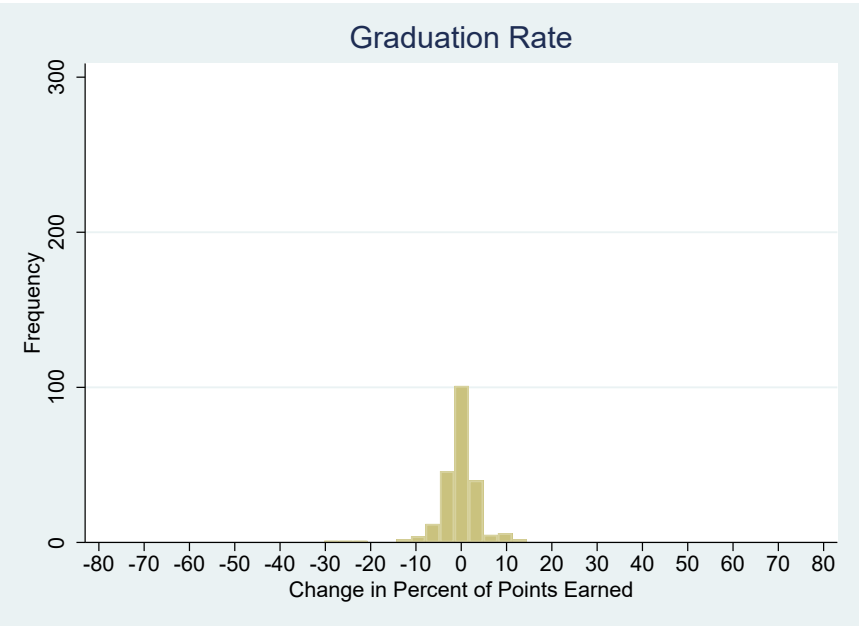


Change in Percent of Points Earned by Indicator, 2018 to 2019





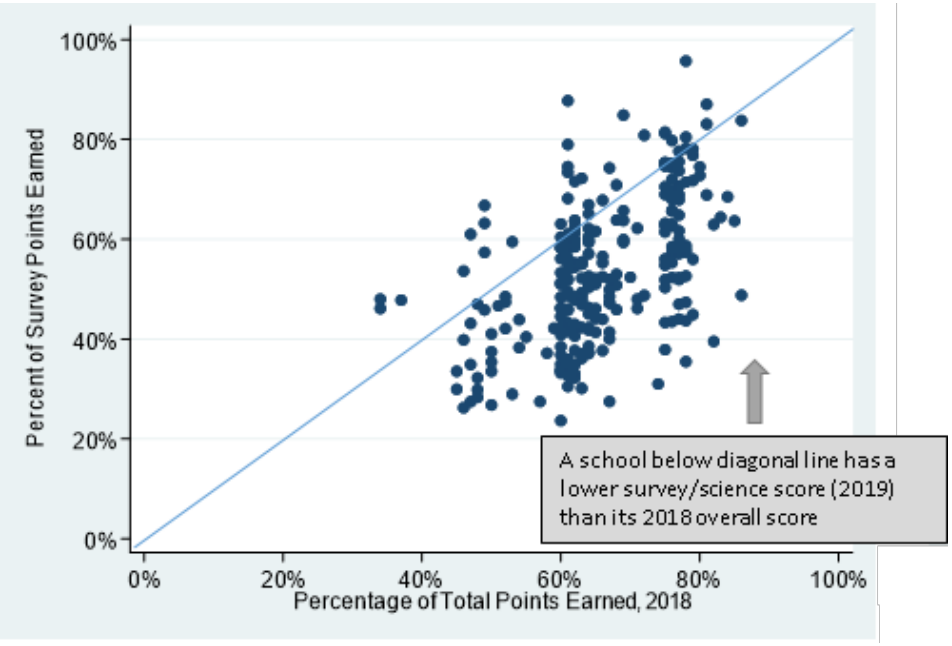


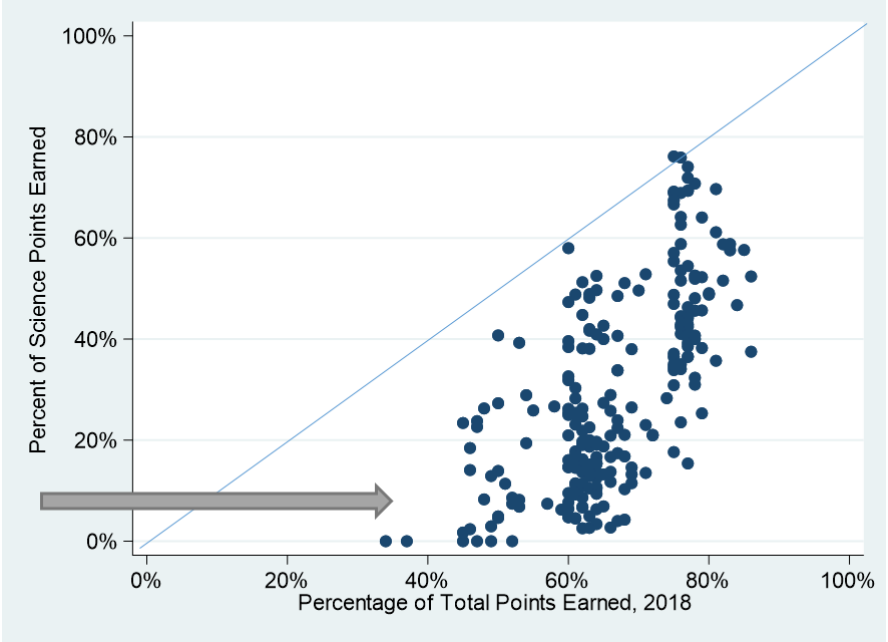


Average Change in Percent of Points Earned by Indicator and Rating Change, 2018 to 2019

Indicator	ALL SCHOOLS	Increased Star Rating	No Change	Decreased Star Rating
Academic Achievement	1.0	2.5	1.4	-1.1
Academic Progress	-2.8	13.8	-3.2	-13.0
Progress in English Language Proficiency	-5.0	-0.0	-4.3	-10.2
Graduation Rate	-0.5	-1.0	-0.3	-1.8
Readiness for Postsecondary Success	0.0	7.5	0.0	-1.4
School Quality and Student Success	-2.2	16.8	-4.4	-10.1
OVERALL	-1.7	12.1	-1.1	-7.4

Analysis of 2019 Implementation of Accountability System





Change from 2018	With science and survey (actual)	Without survey	Without science	Without science and survey
Up two stars	21	19	28	26
Up one star	160	190	196	220
No change	853	863	879	881
Down one star	271	232	202	178
Down two stars	4	5	4	4

Karen B. Salmon, Ph.D.
State Superintendent of Schools

SUPPLEMENTAL INFORMATION: Maryland Report Card Analysis

PRESENTED TO THE STATE BOARD OF EDUCATION: January 28, 2020

Tables 1-3: Correlation of Indicators (Elementary, Middle, and High School Grade Spans)

Tables 4-6: Correlation of Measures (Elementary, Middle, and High School Grade Spans)

Tables 7-9: Correlation of 2018 and 2019 Measures (Elementary, Middle, and High School Grade Spans)

Table 1: Correlations of Indicators in Elementary Grade Spans

Indicator	OVERALL	Academic Achievement	Academic Progress	Progress in Achieving ELP	SQSS
OVERALL	-	-	-	-	-
Academic Achievement	0.91*	-	-	-	-
Academic Progress	0.83*	0.68*	-	-	-
Progress in Achieving English Language Proficiency	0.54*	0.46*	0.29*	-	-
School Quality and Student Success	0.90*	0.81*	0.61*	0.38*	-

Table 2: Correlations of Indicators in Middle Grade Spans

Indicator	OVERALL	Academic Achievement	Academic Progress	Progress in Achieving ELP	SQSS
OVERALL	-	-	-	-	-
Academic Achievement	0.90*	-	-	-	-
Academic Progress	0.87*	0.74*	-	-	-
Progress in Achieving English Language Proficiency	0.67*	0.65*	0.54*	-	-
School Quality and Student Success	0.90*	0.74*	0.67*	0.31*	-

Table 3: Correlations of Indicators in High Grade Spans

Indicator	OVERALL	Academic Achievement	Graduation Rate	Progress in Achieving ELP	Readiness for Postsec.	SQSS
OVERALL	-	-	-	-	-	-
Academic Achievement	0.95*	-	-	-	-	-
Graduation Rate	0.84*	0.72*	-	-	-	-
Progress in Achieving English Language Proficiency	0.54*	0.41*	0.46*	-	-	-
Readiness for Postsecondary Success	0.72*	0.58*	0.65*	0.27*	-	-
School Quality and Student Success	0.93*	0.87*	0.71*	0.46*	0.54*	-

***p<0.05**

NOTE: Indicators are included in the OVERALL score and therefore correlations should be considered with care

Table 4: Correlation of Measures in Elementary Grade Spans

Measure	Overall	Percent Proficient, Math	Average Performance Level, Math	Percent Proficient, ELA	Average Performance Level, ELA	Median SGP, Math	Median SGP, ELA	Percent Proficient, Science	Credit for Completion of a Well-Rounded Curriculum	Progress in Achieving English Language Proficiency	Chronic Absenteeism	School Survey (Student)	School Survey (Educator)
Overall	-	-	-	-	-	-	-	-	-	-	-	-	-
Percent Proficient, Math	0.85*	-	-	-	-	-	-	-	-	-	-	-	-
Average Performance Level, Math	0.89*	0.98*	-	-	-	-	-	-	-	-	-	-	-
Percent Proficient, ELA	0.90*	0.94*	0.94*	-	-	-	-	-	-	-	-	-	-
Average Performance Level, ELA	0.92*	0.93*	0.95*	0.98*	-	-	-	-	-	-	-	-	-
Median SGP, Math	0.60*	0.46*	0.48*	0.40*	0.41*	-	-	-	-	-	-	-	-
Median SGP, ELA	0.61*	0.41*	0.42*	0.50*	0.51*	0.53*	-	-	-	-	-	-	-
Percent Proficient, Science	0.84*	0.90*	0.88*	0.91*	0.88*	0.39*	0.41*	-	-	-	-	-	-
Credit for Completion of a Well-Rounded Curriculum	0.39*	0.22*	0.27*	0.27*	0.31*	0.12*	0.16*	0.24*	-	-	-	-	-
Progress in Achieving English Language Proficiency	0.53*	0.44*	0.46*	0.45*	0.48*	0.19*	0.18*	0.40*	0.11*	-	-	-	-
Chronic Absenteeism	0.84*	0.70*	0.74*	0.77*	0.79*	0.28*	0.33*	0.71*	0.29*	0.35*	-	-	-
School Survey (Student)	0.69*	0.63*	0.64*	0.64*	0.63*	0.40*	0.41*	0.63*	0.18*	0.32*	0.49*	-	-
School Survey (Educator)	0.52*	0.46*	0.48*	0.48*	0.49*	0.30*	0.34*	0.45*	0.10*	0.25*	0.33*	0.59*	-
Access to a Well-Rounded Curriculum	0.23*	0.09*	0.12*	0.13*	0.14*	0.04	0.06	0.10*	0.81*	0.07	0.08*	0.08*	0.04

*p<0.05

Table 5: Correlation of Measures in Middle Grade Spans

Measure	Overall	Percent Proficient, Math	Average Performance Level, Math	Percent Proficient, ELA	Average Performance Level, ELA	Median SGP, Math	Median SGP, ELA	Percent Proficient, Science	Credit for Completion of a Well-Rounded Curriculum	Progress in Achieving English Language Proficiency	Chronic Absenteeism	School Survey (Student)	School Survey (Educator)
Overall	-	-	-	-	-	-	-	-	-	-	-	-	-
Percent Proficient, Math	0.80*	-	-	-	-	-	-	-	-	-	-	-	-
Average Performance Level, Math	0.89*	0.98*	-	-	-	-	-	-	-	-	-	-	-
Percent Proficient, ELA	0.91*	0.90*	0.95*	-	-	-	-	-	-	-	-	-	-
Average Performance Level, ELA	0.92*	0.90*	0.95*	0.98*	-	-	-	-	-	-	-	-	-
Median SGP, Math	0.75*	0.63*	0.64*	0.61*	0.61*	-	-	-	-	-	-	-	-
Median SGP, ELA	0.64*	0.39*	0.41*	0.55*	0.57*	0.57*	-	-	-	-	-	-	-
Percent Proficient, Science	0.83*	0.94*	0.94*	0.92*	0.90*	0.52*	0.32*	-	-	-	-	-	-
Credit for Completion of a Well-Rounded Curriculum	0.49*	0.39*	0.51*	0.49*	0.52*	0.28*	0.20*	0.50*	-	-	-	-	-
Progress in Achieving English Language Proficiency	0.68*	0.63*	0.63*	0.65*	0.63*	0.47*	0.34*	0.62*	0.25*	-	-	-	-
Chronic Absenteeism	0.83*	0.65*	0.76*	0.78*	0.81*	0.50*	0.38*	0.71*	0.44*	0.47*	-	-	-
School Survey (Student)	0.55*	0.52*	0.51*	0.53*	0.53*	0.49*	0.45*	0.43*	0.24*	0.31*	0.41*	-	-
School Survey (Educator)	0.40*	0.33*	0.35*	0.31*	0.37*	0.37*	0.43*	0.26*	0.26*	0.26*	0.21*	0.69*	-
Access to a Well-Rounded Curriculum	0.16*	0.05	0.04	0.11*	0.09	0.08	0.12*	0.07	0.21*	-0.26*	0.04	-0.11*	-0.02

*p<0.05

Table 6: Correlation of Measures in High Grade Spans

Measure	Overall	Percent Proficient, Math	Average Performance Level, Math	Percent Proficient, ELA	Average Performance Level, ELA	Progress in Achieving English Language Proficiency	Four-Year Graduation Rate	Five-Year Graduation Rate	On-Track in Ninth Grade	Credit for Completion of a Well-Rounded Curriculum	Chronic Absenteeism	School Survey (Student)	School Survey (Educator)
Overall	-	-	-	-	-	-	-	-	-	-	-	-	-
Percent Proficient, Math	0.91*	-	-	-	-	-	-	-	-	-	-	-	-
Average Performance Level, Math	0.86*	0.88*	-	-	-	-	-	-	-	-	-	-	-
Percent Proficient, ELA	0.93*	0.92*	0.85*	-	-	-	-	-	-	-	-	-	-
Average Performance Level, ELA	0.91*	0.89*	0.82*	0.98*	-	-	-	-	-	-	-	-	-
Progress in Achieving English Language Proficiency	0.54*	0.37*	0.33*	0.44*	0.45*	-	-	-	-	-	-	-	-
Four-Year Graduation Rate	0.83*	0.66*	0.62*	0.74*	0.78*	0.46*	-	-	-	-	-	-	-
Five-Year Graduation Rate	0.81*	0.65*	0.61*	0.72*	0.76*	0.46*	0.98	-	-	-	-	-	-
On-Track in Ninth Grade	0.81*	0.69*	0.66*	0.76*	0.78*	0.35*	0.84*	0.84*	-	-	-	-	-
Credit for Completion of a Well-Rounded Curriculum	0.42*	0.29*	0.25*	0.23*	0.18*	0.11*	0.33*	0.28*	0.17	-	-	-	-
Chronic Absenteeism	0.87*	0.84*	0.80*	0.83*	0.79*	0.39*	0.65*	0.62*	0.70*	0.24*	-	-	-
School Survey (Student)	0.19*	0.23*	0.20*	0.14*	0.19*	0.22*	-0.02	0.01	0.18*	-0.04	0.23*	-	-
School Survey (Educator)	0.34*	0.34*	0.41*	0.31*	0.31*	0.34*	0.29*	0.30*	0.35*	0.22*	0.32*	0.60*	-
Access to a Well-Rounded Curriculum	0.81*	0.71	0.65*	0.72*	0.71*	0.41*	0.69*	0.65*	0.54*	0.36*	0.58*	0.14*	0.31*

*p<0.05

Table 7: Correlation of 2018 and 2019 Elementary School Measures

Indicator	Measure	Correlation
Academic Achievement	Percent Proficient, Math	0.96*
	Average Performance Level, Math	0.97*
	Percent Proficient, ELA	0.96*
	Average Performance Level, ELA	0.97*
Academic Progress	Median SGP, Math	0.53*
	Median SGP, ELA	0.44*
	Percent Proficient, Science	†
	Credit for Completion of a Well-Rounded Curriculum	0.20*
ELP	Progress in Achieving English Language Proficiency	0.45*
School Quality and Student Success	Chronic Absenteeism	0.94*
	School Survey (Student)	†
	School Survey (Educator)	†
	Access to a Well-Rounded Curriculum	0.11*

*p<0.05; † Measure only included in 2019 report card

Table 8: Correlation of 2018 and 2019 Middle School Measures

Indicator	**Measure**	**Correlation**
Academic Achievement	Percent Proficient, Math	0.97*
	Average Performance Level, Math	0.98*
	Percent Proficient, ELA	0.97*
	Average Performance Level, ELA	0.97*
Academic Progress	Median SGP, Math	0.69*
	Median SGP, ELA	0.59*
	Percent Proficient, Science	†
	Credit for Completion of a Well-Rounded Curriculum	0.65*
ELP	Progress in Achieving English Language Proficiency	0.51*
School Quality and Student Success	Chronic Absenteeism	0.91*
	School Survey (Student)	†
	School Survey (Educator)	†
	Access to a Well-Rounded Curriculum	0.37*

*p<0.05; † Measure only included in 2019 report card

Table 9: Correlation of 2018 and 2019 High School Measures

Indicator	Measure	Correlation
Academic Achievement	Percent Proficient, Math	0.97*
	Average Performance Level, Math	0.92*
	Percent Proficient, ELA	0.91*
	Average Performance Level, ELA	0.92*
ELP	Progress in Achieving English Language Proficiency	0.58*
Graduation Rate	Four-Year Adjusted Cohort Graduation Rate	0.95*
	Five-Year Adjusted Cohort Graduation Rate	0.96*
Readiness for Postsecondary Success	On-Track in Ninth Grade	0.88*
	Credit for Completion of a Well-Rounded Curriculum	0.95*
School Quality and Student Success	Chronic Absenteeism	0.94*
	School Survey (Student)	†
	School Survey (Educator)	†
	Access to a Well-Rounded Curriculum	0.79*

*p<0.05; † Measure only included in 2019 report card