Is Bigger Better? Exploring Large School Districts and Student Achievement

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Is Bigger Better? Exploring Large School Districts and Student Achievement

Across the United States, modern school districts wield tremendous local power, especially within the last two decades. School districts often have a heavy hand in deciding school expenditure patterns, hiring teachers, determining school staffing and supervision, and even making curricular decision. As a result of this largely delocalized structure of education governance, district policies often vary, tailored to the needs of the student body. Though districts of all size merit substantial research and development investment, policy perspectives may focus on large school districts due to their reach. According to the National Center for Education Statistics, although large school districts, defined as having an enrollment of 25,000 or more students, comprise a small proportion of the total school districts in the United States at just 2.1%, these districts service over 17.3 million students, or 35.7% of the school-attending population (Snyder et al., 2019). Still, these districts vary on a myriad of characteristics, potentially requiring targeted policy interventions. Thus, to provide a better view of what some of these schools look like, this report aims answer the following questions: What do the largest 100 school districts look like descriptively? How do students in these districts score on standardized tests? What in-school and contextual factors are related to student achievement?

Using data provided by the Stanford Education Data Archive (SEDA), the report provides an overview of large school districts, as well as the relationship between their descriptive characteristics and test scores. Analysis of this data show that large school districts are spread out over the United States and look substantially different from district to district. Furthermore, examining the districts' descriptive statistics highlight the different roles that in-school and contextual factors play in student achievement on standardized tests, suggesting further research on these factors individually and in tandem.

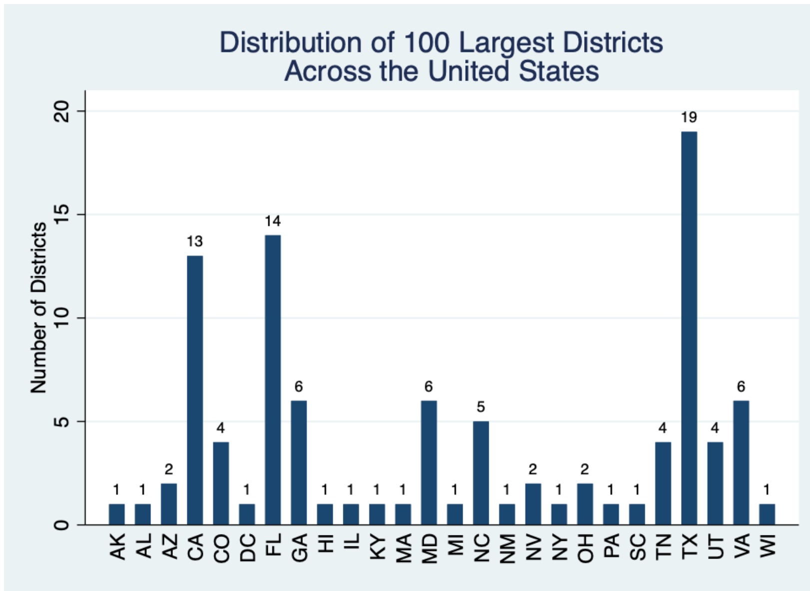
Launched in 2016, the Stanford Education Data Archive (SEDA) provides nationally comparable, publicly available data for public school districts across the nation (Ho, 2020). The database aggregates and scales data that are reported differently across districts and states, presenting a usable dataset that allows for comparisons across contexts. SEDA provides information about school performance measures like average test scores, learning rates, and trends in test scores, but also detailed data about educational contexts and conditions in which outcome measures are situated. The report uses a subset of the SEDA database and enabled the report to provide a descriptive analysis of the largest 100 school districts.

Student and School Characteristics

Aside from their shared high enrollment numbers, large school districts vary on a number of variables, including on the student makeup of the district. These 100 districts are located all over the nation, as depicted in Figure 1, though almost half of the school are concentrated within three states: California, Florida, and Texas. Some of the largest school districts are found within these states as well. Among the top five largest school districts, the Los Angeles Unified School District ranks second with 299,519 students in grades 3–8, while Florida's Miami-Dade School District ranks fourth with 161,502 students in the same grade levels. As for the other three school districts in grades 3–8, New York City Public Schools enrolls the greatest number of students, servicing 421,879 students; Chicago Public Schools is third, enrolling 176,674 students; and Clark County School District, located in Las Vegas, Nevada, provides education to 146,141 students. Together, these five school districts have a collective enrollment of over 1.2 million students in, while the top 100 districts service about 4.9 million students, or 49,060 students per district for students in the third to eighth grade.

Figure 1

Distribution of 100 Largest Districts across the United States, By State



Beyond student enrollment alone, the largest 100 school districts also contain characteristics that vary on the school level. These 4.9 million students are spread out over a total of 16,700 schools, or about 167 schools per district with an average enrollment of 8,176 students per grade, per school. Of these schools, 2,103 are charter schools, thus accounting for about 12.6% of the schools in the district. Regarding urbanicity, 64 of the 100 districts are located in an urban setting, with 78% of all charter schools lying within urban districts.

Test Scores

Beyond demographic differences between the top 100 largest school districts, each district has produced a unique set of outcomes, including academic achievement measures. The SEDA provides two different district-level measures to understand achievement for both math and English language arts (ELA) subjects: standardized test scores scaled to a mean of 0 and standard deviation of 1 (i.e., z-scores relative to a national benchmark cohort, referred to in this report as the scaled test score), and a rescaled "grade level equivalent" measure to indicate the number of grades above or below the current grade level at the district is performing on average (referred to in this report as the grade level equivalent score). Table 1 provides a descriptive overview of these two achievement measures for both subjects, including measures of central tendency and dispersion.

On average, students enrolled in schools within the 100 largest districts are testing 0.163 and 0.217 standard deviations below the national average, though the test scores vary by about 0.896 and 0.953 standard deviations across the district for math and ELA tests, respectively. Translated into grade level equivalents, on average the students in these districts are performing about 0.05 and 0.07 grade levels below their actual grade national average for math and ELA subject assessments, respectively, both of which vary by slightly less than a third of a grade level. The deviation from the mean suggests that there are students who perform better than the national average, but both the average student and the median student perform worse than the national average for both math and ELA.

Table 1

Descriptive Statistics of SEDA Achievement Measures

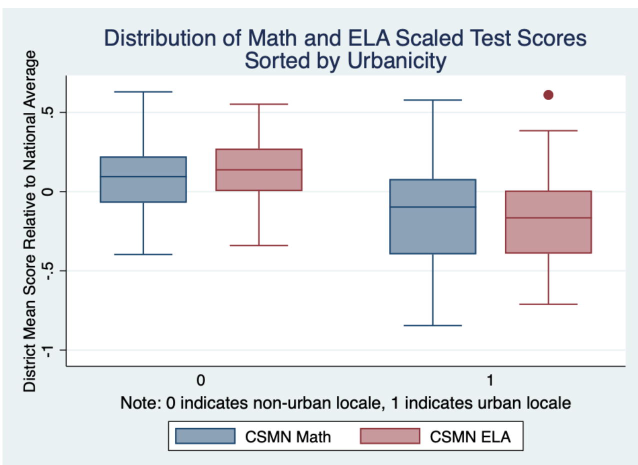
	Scaled Test Scores (csmean)		Grade Level Equivalent (gsmean)	
	Math	ELA	Math	ELA
Mean	–0.163	–0.217	–0.052	–0.071
Standard Deviation	0.896	0.953	0.304	0.303
Median	–0.092	–0.163	–0.028	–0.055
Range	4.328	4.147	1.475	1.321
Skewness	–0.174	–0.144	–0.189	–0.141

Additionally, these scores are roughly normally distributed around their means. Figure A1 provides histograms depicting the distribution of these four test scores variables, superimposed by normal and kernel density functions to visually depict the approximate normality of these distributions in red and blue, respectively (Appendix A). The test score distributions are approximately normally distributed, further reinforced by small magnitudes of the skewness coefficients for each of the four variables provided in Table 1. The highest magnitude is the math grade level equivalent measure, which is already considerably low at a 0.189. Because of both the visual depiction and low skewness coefficients, these variables can be assumed to be normally distributed.

The variables' normality are considerably important, because it enabled further analysis of how these test scores look when disaggregated. For example, accounting for urbanicity reveals visual differences. As seen in Figure 2, regardless of subject, the non-urban districts have a higher mean test score, which are both greater than zero—in other words, non-urban districts in this dataset performed higher than the national average. The length of the boxplots are also shorter for non-urban districts, implying less variance and thus a lower standard deviation. On the other hand, urban districts variation is much higher, and the mean is visually lower. There is also an outlier urban district that performed considerably better than the other urban schools in ELA, as noted by the dot in the boxplot.

Figure 2

Distribution of Math and ELA Scaled Test Scores, Sorted By Urbanicity



These visual disparities are further reinforced by hypothesis significance tests of scaled test scores. These tests were conducted after assuring of the sample sizes satisfied the Central Limit Theorem (n_{urban}=64, $n_{non\text{-}urban}$=36) and after creating histograms to analyze distributions disaggregated by urbanicity. Thus, a two-sample t-test assuming unequal variances and splitting the dataset by urbanicity could be conducted with a null hypothesis of H_0: $\mu_{non\text{-}urban} - \mu_{urban} = 0$ and alternate H_a: $\mu_{non\text{-}urban} - \mu_{urban} < 0$ for both subjects. The two-tailed t-tests produced statistically significant results, with t-test statistics of 3.607 ($p<0.001$) for math and 5.743 ($p<0.001$) for ELA. Additional output data is provided in Table A1 and A2 for math and ELA subjects, respectively (Appendix A). Thus, based on this sample, non-urban districts perform better than urban districts.

These urban districts, especially because they comprise 64% of the top 100 districts, may influence the mean of the test score variables in sum. One-sample t-tests confirmed that the top 100 districts performed worse than the national average for both subjects, which were able to be conducted because the variables were previously shown to be normally distributed, but the population standard deviation remains unknown. With null hypotheses of H_0: $\mu_{\text{scaled math score}} = 0$ and H_a: $\mu_{\text{scaled math score}} < 0$ for math, and H_0: $\mu_{\text{scaled ELA score}} = 0$ and H_a: $\mu_{\text{scaled ELA score}} < 0$, the one-tailed hypothesis tests produced a t-test statistic of –1.708 for math and –2.358 for ELA, and p-values of 0.045 and 0.021 for math and ELA, respectively. At an error rate of $\alpha = 0.05$, both of these tests produced statistically significant results as $p < \alpha$ for both subjects, allowing the null hypothesis to be rejected and concluding that these 100 large school districts did not perform as well as the national average. Tables A3 and A4 provide the table outputs of the math and ELA hypothesis tests, respectively (Appendix A).

Influencing Variables

A number of variables come into play when analyzing the variables that may affect the test scores within the district, including both school and community demographic variables. School variables can be further subdivided into three, more detailed categories.

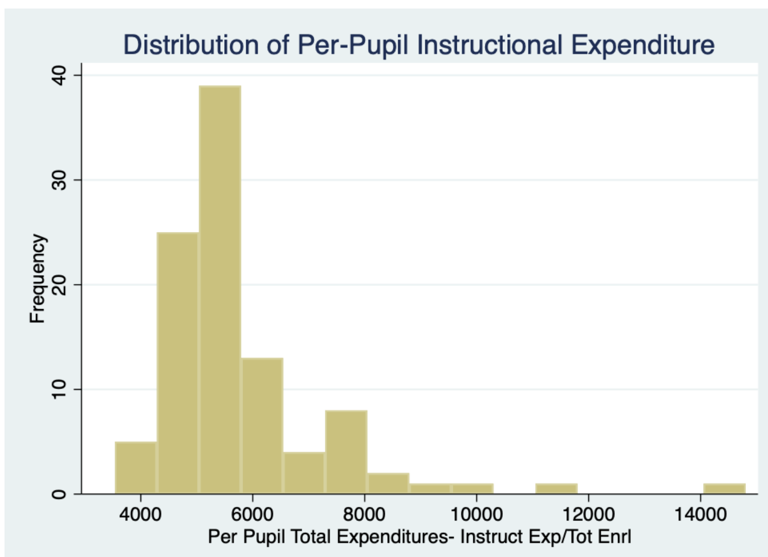
First, school variables can include student demographics, such as by race and ethnicity. On average and at the median, these districts are majority minority districts, with an average of 35% of students being white, compared to the districts' average of 25% Black students, 32% Hispanic students, 7% Asian students, and less than 1% Native American. For some districts, the majority minority is clear, with just 1% white students (Brownsville Independent School District in Texas), while some districts are still majority white, such as the Alpine District in Utah at 88% white. Table A5 depicts full descriptive statistics for race and ethnicity variables (Appendix A).

Second, school variables can also include school-aggregated student characteristics, such as percent of students eligible for free lunch, percent students who are English language learners, and percent of students who are receiving special education. On average, 48% of students in these 100 largest school districts receive free lunch, though the eligibility ranges with a standard deviation of 18% and ranges from 6% eligible to 83% eligible. A lower average number of students are English language learners or receive special education at these districts, at 12% and 11%, respectively. The percentage of these two kinds of students vary less across districts compared to eligibility for free lunch, with lower standard deviations (9% and 4%, respectively) and thus a smaller range (1%–44% and 0%–19%, respectively). For more information, refer to Table A6 for full descriptive statistic (Appendix A).

Third, school-level characteristics across a given district may also influence assessment outcomes. SEDA provides several variables to consider: student-teacher ratio, per-pupil expenditure (total, and on instruction), and percent of charter schools in the district. Here, all four characteristics are rightward skewed, demonstrated statistically by the fact that the mean values are larger than median values, as well as visually. For example, Figure 3 provides the distribution of the per-pupil expenditure on instructional expenditures, which has a high skewness coefficient of 2.634. Here, the skewness implies that while most districts have per-pupil expenditures around the median, some districts are outliers and have substantially higher per-pupil expenditures, not unlike Boston and New York City School Districts, both of which spend over $10,000 per student. Full descriptive statistics for school-level characteristics variables are available in Table A7 (Appendix A).

Figure 3

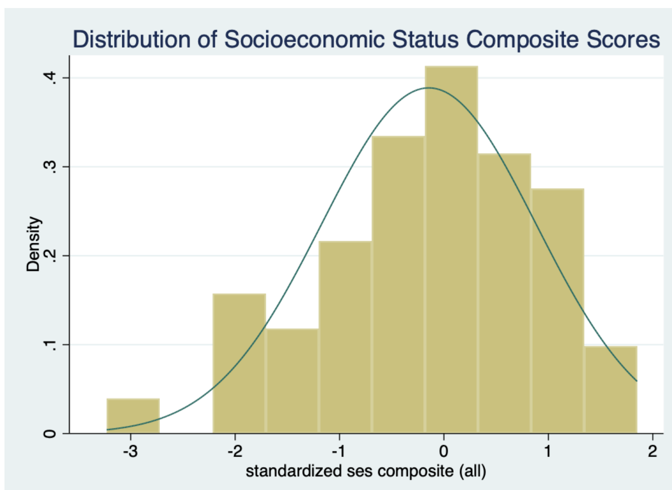
Distribution of Per-Pupil Instructional Expenditure



Finally, SEDA also provides a number of community-based variables that capture the context in which the district is located. Here, student achievement may be affected community education levels (percent of adults with at least a college degree), poverty levels (percent of households with children below the poverty line), median income at the 50th percentile, and socioeconomic status (SES, composite score), whose full descriptive statistics are located in Appendix A, Table A8. Across the largest 100 districts, community education is approximately normally distributed, with means of 33% of the adult population having at least a bachelor's degree. Similarly, the SES composite score—which is comprised of a myriad of factors such as income and unemployment—is normally distributed, as seen in Figure 4 with a normal curve overlayed, for it was scaled to have a mean of about 0 and a standard deviation of 1. Poverty and income levels are rightward skewed, as one may expect, with median values of 16% and $54,562 annually, respectively.

Figure 3

Distribution of Socioeconomic Status Composite Scores



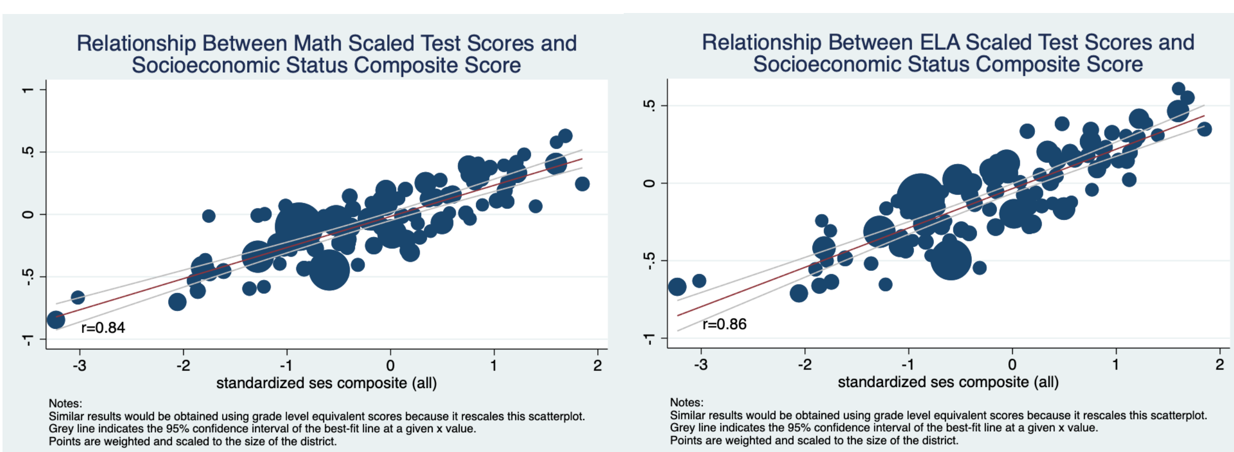
Among the list of potential school and community-based factors that could be related to student achievement, variables vary in their correlations with student achievement (grade level equivalent score). The full table of correlation values between achievement scores and potential influential variables is detailed in Table A9, but a few variables stand out due to their strength and statistical significance. First, all community variables, including community education levels, poverty levels, median income, and socioeconomic status are all statistically significantly and moderately strongly or strongly correlated with both achievement measures ($p<0.000$ for all). On the other hand, school-level characteristics vary in their strength and significance. For example, student-teacher ratio is significantly and negatively but weakly correlated with student outcomes ($r_{ELA}=-0.232$ vs. $r_{math}=-0.197$), as is total per-pupil expenditure ($r_{ELA}=-0.202$ vs. $r_{math}=-0.237$). Per-pupil instructional expenditure, however, is both statistically insignificant and weakly correlated ($r_{ELA}=-0.059$ vs. $r_{math}=-0.090$).

Interestingly, there are differences in strength when examining school- and student-level characteristics between math and ELA. Some variables can be expected; percent of English language learners, for example, is more than twice as strongly correlated to outcomes in ELA than math ($r_{ELA}=-0.427$ vs. $r_{math}=-0.202$). Other variables, however, are not as intuitive. For example percent of students requiring special education, however, differ in both strength and statistical significance (not significant $r_{ELA}=-0.195$, significant $r_{math}=-0.329$). These correlations suggest that math and ELA classroom likely look different and may require different interventions to improve achievement scores, but further research will be required to establish causality out of these correlations and make this recommendation. Furthermore, while most variables make intuitive sense, some variables seem to contradict current research and intuition, such as the negative correlations between per-pupil expenditure and charter schools in light of various policy reforms espousing the benefits of adequate school finance and school choice.

Notwithstanding the differences across the variables, some of these correlation merit further examination. Take, for example, the SES composite score, which was strongly correlated and statistically significant with scaled test score measures of achievement ($r_{math}= 0.840$, $r_{ELA}= 0.859$). Exploring the relationship further, test scores and SES have a strongly linear relationship regardless of subject, as seen in Figure 4. The relationship is consistently strong, though there does not appear to be a relationship with a district's size in this relationship. A bivariate regression for these two relationships provide further insight: Over 70% of the variation in the scaled test scores can be explained by the SES composite score variable, implying the importance of out-of-school factors ($R^2_{math} = 0.707$, $R^2_{ELA} = 0.740$). Furthermore, a one-unit increase in the SES composite score, or a one standard deviation increase in socioeconomic status, predicts a 0.249 (0.254)-point increase in math (ELA) test scores, or about one-fourth of a standard deviation's improvement in test scores. In grade level equivalent terms, this translates to about a 0.733 (0.797) grade level increase for math (ELA) achievement. At the means, or a score of 0 on the SES composite score, the intercepts of –0.16 and –0.034 for math and ELA, respectively, mean that average math (ELA) test score can be expected to be about 0.16 (0.034) standard deviations below the national average for math (ELA) subjects. However, the intercept for the math is not statistically significant, implying that the intercept is not be different from 0—which it should not be as the national average is scaled with a mean of 0. For more information, refer to Table A10 in the Appendix for the regression outputs. Such differences are particularly important as these statistics provide evidence that highlights the role of out-of-school factors.

Figure 4

Relationship Between Scaled Test Scores and Socioeconomic Status Composite Scores



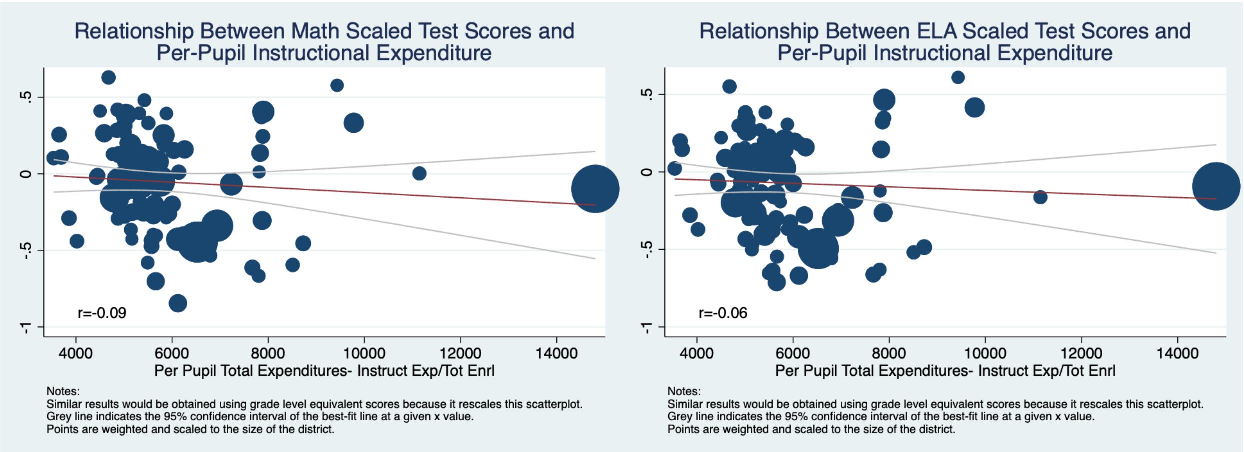
On the other hand, some in-school factors, such as per-pupil instructional expenditure, do not provide as strong of a relationship with student achievement as the SES composite score does, thus suggesting the possibility of policy practical insignificance or the need for compounded in-school reforms. Again, however, this is not clear without further research to describe causality. By examining the relationship of the two variables visually, as seen in Figure 5, there is not a clear linear relationship. Furthermore, the R^2 ($R^2_{math} = 0.008$, $R^2_{ELA} = 0.004$) values are much lower than those of the SES composite score variable, as per-pupil expenditure account for less than 1% of the variation of scaled test scores for either subject. The regression outputs, provided in Appendix Table A11, suggests that a one thousand dollar increase in per-pupil instructional expenditure decreases the math (ELA) test scores by 0.0169 (0.0114) standard deviations relative to the national benchmark, or a 0.051 (0.036) grade level decrease.[1] Here, interpreting the intercept does not make as much practical sense, as no schools spend no money on students, implying that the best estimate of the intercept would just be the mean, or at the national benchmark. As the visual and regression outputs show, per-pupil instructional expenditure does not size up to be a reliable measure to predict test scores. Though not representative of in-school factors, this analysis does warrant further analysis into the efficacy of other in-school factors, including other variables within the SEDA database alone. To be sure, comparing the SES composite score and per-pupil instructional expenditure is not an accurate representation of the efficacy of contextual factors and in-school factors in influencing achievement outcomes for students attending schools in large school districts. Still, it does

[1] A one-unit increase in the explanatory variable in this regression is technically \$1 and not \$1,000, but coefficients were multiplied to be understood in terms relative to the distribution of per-pupil expenditure.

prompt some additional questions on the efficacy of the types of policy reforms, including education policy reforms in isolation.

Figure 5

Relationship Between Scaled Test Scores and Per-Pupil Instructional Expenditure



Taken together, this report has provided a descriptive overview of the largest 100 school districts in the United States. As the above data analysis has shown, these schools vary on numerous accounts, including their physical location in the nation, their demographic makeup, and their urbanicity, to name a few. Some districts were majority-minority districts in urban centers, while others were primarily white in non-urban locales. On average, these large school districts perform worse compared to the national average on math and reading skills, although disaggregating by urbanicity show that non-urban locales perform better than the national average. Finally, a number of school and community variables were strongly correlated with test scores, though not all in the intuitive direction. Exploring some of these variables further, bivariate regression and data visualization comparisons between select in-school and contextual factors revealed a strong relationship between the test scores and contextual factor, but not the in-school factor. Still, the analysis looked into two variables out of copious other variables, and policy reforms rarely operate in isolation. Thus, as more research continues to develop using the

SEDA datasets, this report suggests several avenues to explore in greater depth, such as examining the collective role of in-school variables compared to the collective role of contextual variables, or how these variables when interacting with one another. Additionally, further research could disaggregate the dataset by urbanicity and conduct descriptive analyses or intervention studies to examine the issues unique to urban or non-urban locales. Doing so may guide the development of a package of reforms that may benefit large school districts as a whole, while taking into account several key differing characteristics.

References

Ho, A. D. (2020). What is the Stanford Education Data Archive teaching us about national educational achievement? *AERA Open, 6*(3), 1–4.

Snyder, T. D., De Brey, C., & Dillow, S. A. (2019). Digest of education statistics 2017, NCES 2018-070. *National Center for Education Statistics.*

Appendix A: Figures and Tables

Figure A1

Distributions of Scaled Test Score and Grade Level Equivalent Score Variables

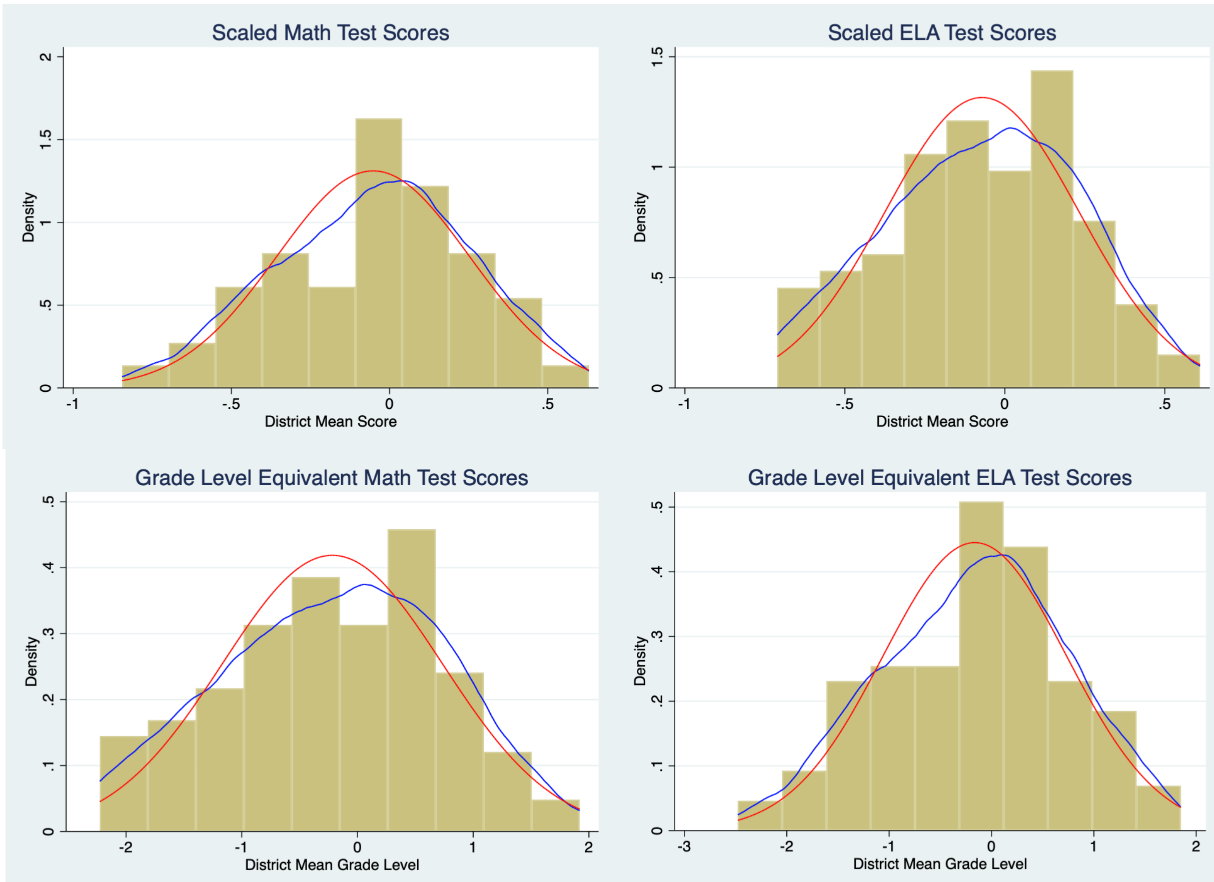


Table A1

Stata Output for Two-sample t-test with Unequal Variances, Math Scaled Test Scores

Group	Obs	Mean	Std. Er.	Std. Dev.	[95% Conf.	Interval]
0 (non-urban)	36	0.0744646	0.037156	0.2229358	–0.000966	0.1498952
1 (urban)	64	–0.123084	0.0402442	0.3219537	–0.203505	–0.042662
combined	100	–0.051966	0.0304327	0.3043269	–0.112351	0.0084187
diff		0.1975484	0.0547737		0.0887889	0.3063079
diff = mean(0) – mean(1)					t=	3.6066
H_0: diff = 0			Satterthwaite's degrees of freedom=			93.67
Ha: diff < 0			Ha: diff != 0		Ha: diff > 0	
Pr(T<t) = 0.9998			Pr(|T|>|t|) = 0.0005		Pr(T > t) = 0.0002	

Table A2

Stata Output for Two-sample t-test with Unequal Variances, ELA Scaled Test Scores

Group	Obs	Mean	Std. Er.	Std. Dev.	[95% Conf.	Interval]
0 (non-urban)	36	0.1175995	0.0357359	0.2144152	0.0450518	0.1901472
1 (urban)	64	–0.177395	0.0368982	0.291857	–0.251130	–0.103660
combined	100	–0.071197	0.0303241	0.3032408	–0.1313665	–0.011027
diff		0.2949944	0.0513666		0.1929696	0.3970192
diff = mean(0) – mean(1)					t=	5.7429
H_0: diff = 0					Satterthwaite’s degrees of freedom=	91.5807
Ha: diff < 0			Ha: diff != 0		Ha: diff > 0	
Pr(T<t) = 1.0000			Pr(|T|>|t|) = 0.0000		Pr(T > t) = 0.0000	

Table A3

Stata Output for One-sample t-test, Math Scaled Test Scores

Variable	Obs	Mean	Std. Er.	Std. Dev.	[95% Conf.	Interval]
csmn_math	100	–0.051966	0.0304327	0.3043269	–0.1123514	0.0084187
mean = mean(csmn_math)					t=	–1.7076
H_0: mean = 0					degrees of freedom=	99
Ha: mean < 0			Ha: mean != 0		Ha: mean > 0	
Pr(T<t) = 0.0454			Pr(|T|>|t|) = 0.0908		Pr(T > t) = 0.9546	

Table A4

Stata Output for One-sample t-test, ELA Scaled Test Scores

Variable	Obs	Mean	Std. Er.	Std. Dev.	[95% Conf.	Interval]
csmn_ela	100	–0.071197	0.0303241	0.3032408	–0.1313665	–0.011027
mean = mean(csmn_ela)					t=	–2.3479
H_0: mean = 0					degrees of freedom=	99
Ha: mean < 0			Ha: mean != 0		Ha: mean > 0	
Pr(T<t) = 0.0104			Pr(|T|>|t|) = 0.0209		Pr(T > t) = 0.9896	

Table A5

Descriptive Statistics for Student Race/Ethnicity Variables

N=100	Percent White	Percent Black	Percent Native American	Percent Asian	Percent Hispanic
Mean	0.3492813	0.2547739	0.006434	0.0724168	0.3170941
Standard Deviation	0.2276122	0.2202266	0.0132812	0.0930032	0.2361275
Minimum	0.0121377	0.001418	0.0002791	0.0018878	0.0192064
25th Percentile	0.1410122	0.0894665	0.0023515	0.0225972	0.1205105
50th Percentile	0.3289049	0.2080974	0.0033196	0.0409365	0.2489937
75th Percentile	0.5211637	0.3735733	0.0052066	0.0813577	0.4613131
Maximum	0.8835436	0.8667049	0.1146601	0.6378781	0.9825735

Table A6

Descriptive Statistics for School-Aggregated Student Characteristics

N=100	Percent Eligible for Free Lunch	Percent English Language Learner	Percent Receiving Special Education
Mean	0.4765003	0.1226155	0.1125324
Standard Deviation	0.1861309	0.0871191	0.0354304
Minimum	0.0565172	0.013294	0
25th Percentile	0.3309499	0.0540952	0.0981111
50th Percentile	0.4699703	0.0994671	0.1128126
75th Percentile	0.6275863	0.175285	0.132108
Maximum	0.828334	0.4352231	0.1941907

Table A7

Descriptive Statistics for School-Level Characteristics

N=100	Student-Teacher Ratio	Per-Pupil Total Expenditure	Per-Pupil Instructional Expenditure	Percent Charter Schools in District
Mean	17.50575	11519.75	5813.721	0.0642095
Standard Deviation	3.144123	3074.6	1583.191	0.0755983
Minimum	12.62254	7025.701	3537.293	0
25th Percentile	15.3998	9816.213	5003.287	0.0151446
50th Percentile	16.65106	10591.09	5374.945	0.0379129
75th Percentile	18.83514	12257.29	6019.08	0.0980241
Maximum	25.66178	23823.46	14804.75	0.3956753

Table A8

Descriptive Statistics for Community-Based Variables

N=100	Percent of Adults with at least a Bachelor's Degree	Percent of Households Living Below Poverty Line	Income at 50th Percentile	Socioeconomic Status Composite Score
Mean	0.3303836	0.17994	58984.22	–0.1448717
Standard Deviation	0.1193915	0.100016	22794.59	1.026188
Minimum	0.088664	0.0253041	24472.79	–3.230419
25th Percentile	0.2434936	0.0951658	41816.35	–-.8110108
50th Percentile	0.319376	0.1590938	54561.95	–0.077015
75th Percentile	0.3961243	0.252	74603.22	0.5828397
Maximum	0.6109953	0.43374	134058.2	1.850778

Table A9

Correlation Values of School or Community Variables and Grade Level Equivalent Scores

School or Community Variable	Pearson's Correlation coefficient (Math)	Pearson's Correlation coefficient (ELA)
Percent White	0.595 ***	0.732 ***
Percent Black	–0.509 ***	–0.394 ***
Percent Native American	–0.027	–0.057
Percent Asian	0.191 *	0.137
Percent Hispanic	–0.173 ***	–0.389 ***
Percent Eligible for Free Lunch	–0.822 ***	–0.844 ***
Percent English Language Learner	–0.202 **	–0.427 ***
Percent Receiving Special Education	–0.329 ***	–0.195 *
Student-Teacher Ratio	–0.197 **	–0.232 **
Per-Pupil Total Expenditure	–0.237 **	–0.202 **
Per-Pupil Instructional Expenditure	–0.090	–0.059
Percent Charter Schools in District	–0.554 ***	–0.523 ***
Percent of Adults with at least a Bachelor's Degree	0.576 ***	0.628 ***
Percent of Households Living Below Poverty Line	–0.766 ***	–0.836 ***
Income at 50th Percentile	0.777 ***	0.820 ***
Socioeconomic Status Composite Score	0.840 ***	0.859 ***

Note:*** $p < 0.01$, ** $p < 0.05$, *$p < 0.10$

Table A10

Regression Outputs: Socioeconomic Composite Score on Scaled Test Scores

	Scaled Test Score Math	Scaled Test Score ELA
Standardized SES Composite (all)	0.249***	0.254***
	(0.0162)	(0.0152)
Constant	-0.0158	-0.0344*
	(0.0167)	(0.0157)
Observations	100	100

Standard errors in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table A11

Regression Outputs: Per-Pupil Instructional Expenditure on Scaled Test Scores

	Scaled Test Score Math	Scaled Test Score ELA
Per-Pupil Instructional Expenditure	-0.0000169	-0.0000114
	(0.0000193)	(0.0000193)
Constant	0.0464	-0.00484
	(0.117)	(0.116)
Observations	100	100

Standard errors in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$