

“Beating the Odds”: A Comparison of the Demographics and Performance of Charter Schools to District Schools in Jersey City

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February 5, 2016

Note: All opinions here are those of the authors and do not reflect those of their employers, the NJEA, Rutgers GSE, or their professors and advisors there.

Executive Summary

On May 13, 2015, the Jersey City Council passed a resolution urging the Governor and State Legislator to provide equitable funding for the charter schools in Jersey City. The council argues that the charters in Jersey City are some of the highest performing schools in the city and also serve demographically-similar students. Both of these assertions are inaccurate. On average, charter schools serve significantly lower percentages of students eligible for Free Lunch, lower percentages of Special Education students, and substantially lower percentages of English Language Learners. With respect to student achievement, charter schools do not outperform district schools in Language Arts or Math once you control for demographics.

In response to the council’s resolution, we propose the following:

1. Recommend to the Jersey City Council that they pass a resolution requiring that charter schools operating in Jersey City hold weighted lotteries that increase the rate of students receiving free lunch, students who receive special education services, and students

classified as Limited English Proficient (based on a recommendation stated in Weber and Rubin, 2015).

2. Recommend that the New Jersey Department of Education develop an enhanced charter funding formula that takes into account the increased cost of educating students across the range of Special Education classifications so that charters receive a reimbursement rate commensurate with type of special education students they serve.
3. Recommend that the New Jersey Department of Education develop an enhanced charter funding formula that reduces the base-funding amounts charter schools receive if they do not accept English Language Learners at a rate consistent with that of the host district.
4. Recommend that policymakers account for demographic differences when comparing school performance within and across sectors- district vs. charter.

Introduction

Goals

In this policy brief we test the assertion that charter schools are “beating the odds” in Jersey City. First, we compare the demographics of charter schools to district schools. We then compare student achievement in the charter sector to the district, adjusting for demographic factors. Finally, we examine individual schools by sector (charter vs. district) to see which schools are truly “beating the odds”.

Framing the Problem

On May 13, 2015, the Jersey City Council passed a resolution (Res. 15.353) urging the governor and state legislature to approve an equitable funding formula for charter schools. In the resolution, the sponsors make the following claim: “Whereas, some of our top-ranking public schools are charter schools that receive less than 40% of total funding and are at risk of closing due to lack of funding. Yet, these schools serve the same demographics and level of special needs children as those educated in the Jersey City Public Schools” (Lavarro & Osborne, 2015). Within this claim, there are two assertions. First, the sponsors suggest that some of the highest-performing schools in Jersey City are charters. Second, the sponsors suggest that charters serve the same student populations as the public schools in Jersey City. In this paper, we propose to test these two assertions. It is our assumption that the public charters in Jersey City serve very different populations of students and that the differences in performance when factoring in demographic differences will be negligible. Further, we will recommend therefore that should charters receive full funding, then they should also be required to educate the same students based on public school demographics. If unable to serve the

same demographic population due to staffing issues or concerns, then the charter operator should therefore receive reduced funding commensurate with the populations they serve.

Literature Review

Based on national demographic data, one could argue that charter schools serve similar populations to those in public schools. The National Council for Educational Statistics report “Characteristics of Public and Private Elementary and Secondary Schools in the United States: Results from the 2011-12 Schools and Staffing Survey. First Look. NCES 2013-312” (Bitterman, Gray, & Goldring, 2013) found that public and charter schools varied in the rate of students approved for free or reduced-price lunches (51.5% charter compared to 47.3% public). The rate of English Language Learners/Limited English Proficient students in charters compared to public was also greater (9.8% charter compared to 9.1% public). This report also found that the percentage of students who had an IEP was greater in public schools compared to charter (11.7% public to 9.9% charter). However, these broad, national surveys don’t tell the full story of the demographic differences between public and charter schools in New Jersey. Like many large, urban school districts, Jersey City has a charter school “problem” in that the public schools wind up serving a population very different from what is served by the public charters, which in turn, can have significant impacts on achievement without controlling for these differences (Di Carlo, 2015; Lubienski & Crane, 2010; Scott, 2012; Weber & Rubin, 2014).

In regards to special education students, the Government Accountability Office found that charters served fewer

students in all 13 disability categories¹ (Scott, 2012). The differences in severe disabilities served by schools can be considerably more expensive when compared to slight disabilities (Chambers, Shkolnik, & Perez, 2003). Public schools in the large, urban districts tend to serve more of these higher-cost students with disabilities (Weber & Rubin, 2014). This same report also finds significant differences in the rate of students who receive free lunch.

Consistent with these more local demographic studies and reports, we'll discuss how Jersey City Public Schools have greater rates of students receiving free lunch, students who receive special education services, and serve far more English Language Learners.

Concerning student achievement, the Center for Research on Education Outcomes (CREDO) at Stanford University conducted a study in 2012 comparing the performance of charter school students to district school students in New Jersey. The study uses student level data and a "Virtual Control Record" method to match students by demographic characteristics. The CREDO study found positive learning gains in both language arts and mathematics for charter schools in Newark. However, for other major cities such as Jersey City, CREDO found no learning gains for mathematics and worse gains than district schools for reading (CREDO, 2012).

Data/Measures

We analyze data from 2009-2015 on demographics by sector and student achievement utilizing school level datasets from the New Jersey Department of Education. Our data comes from three main sources, the New Jersey Department of Education Enrollment files, the New Jersey Department of Education Special Education files, and the New Jersey Department of Education Student Performance files.² As of 2015, Jersey City has 39 district schools and 10 charter schools (for a full list of schools and their demographics please see Appendix A). With respect to demographics, we use averages over 6 years from 2009-2015 when available. To measure poverty, we use the average percentage of students eligible for Free/Reduced Lunch and average percentage of students eligible for Free Lunch.³ Concerning English proficiency, we use 6 year averages of the percentage of students who are English Language Learners. Finally, to measure Special Education rates we take a 3 year average of percentage of students with a disability from 2011-2014 as data was not available for prior years.

To measure student achievement, we use mean scale scores from 2009-2015 from the New Jersey Assessment of Skills and Knowledge (NJ ASK) Grades 5-8 for Language Arts Literacy (LAL) and Math. The scale scores for NJ ASK for both LAL and Math have a range of 100-300. Scores within range of 100-199 are considered "Partially Proficient", 200-249 are "Proficient", and 250-300 are "Advanced Proficient" (NJ Dept. of Education, 2013). Although proficiency rates are comparable

¹ The 13 categories defined by IDEA are: (1) autism, (2) deaf-blindness, (3) developmental delay, (4) emotional disturbance, (5) hearing impairment, (6) intellectual disabilities, (7) multiple disabilities, (8) orthopedic impairment, (9) specific learning disability, (10) speech or language impairment, (11) traumatic brain injury, (12) visual impairment, and (13) other health impairment. Some states do not use all of these disability categories.

² <http://www.nj.gov/education/data/enr/> and <http://www.nj.gov/education/specialed/data/2014.htm> and <http://www.nj.gov/education/schools/achievement/prior.htm>

³ Students eligible for Free Lunch are at 130% of federal poverty threshold or below. Students eligible for Reduced Lunch are between 130% and 185% of federal poverty threshold. For more, please see here: <https://www.gpo.gov/fdsys/pkg/FR-2015-03-31/pdf/2015-07358.pdf>

across grade levels and mean scale scores are not, we opt to use mean scale scores as measures of student achievement because proficiency rates are highly sensitive to where the cut scores are set and do not accurately reflect student performance (Ho, 2008).

We calculated separate averages for each subject by grade level to ensure that all results from district and charter schools were comparable. We also standardized NJ ASK scores for all grades and subjects around the mean to make results comparable across grade levels.

Methods

To compare demographics between charter and district schools, we calculated the means for Free/Reduced Lunch, Free Lunch, ELL, and Special Education. To compare student performance between charter and district schools, we employed a 2 step linear regression. The first step compares standardized mean scale scores for NJ ASK LAL and Math for grades 5-8 without adjusting for demographics. In the second step, we adjust average student performance for average percentage of students eligible for Free Lunch, average Special Education rates, and average ELL rates. Finally, to identify which schools by sector are truly “beating the odds”, we calculate residuals by subtracting the school’s predicted mean scale scores for each subject exam by grade level from the schools’ actual mean scale scores. Schools that “beat the odds” have actual performance that exceeds their predicted performance given their demographics.

Results

Demographics

On average, charter schools serve a significantly lower percentage of students

eligible for Free/Reduced lunch and Free Lunch, a slightly lower percentage of Special Education students, and a substantially lower percentage of Limited English Proficient Students ($p < .05$). This clearly shows that charter schools in Jersey City do not on average serve the same students as the district schools.

The differences in % Free Lunch and % ELL between charter and district schools are especially stark. Dr. Lena Edwards CS, Jersey City Global CS, Learning Community CS, Soaring Heights CS, and the Ethical Community CS all serve less than 40% eligible for Free Lunch. Only BelovEd CS, METS Charter School, and Jersey City Community CS have percentages of students eligible for Free Lunch at or above the district average. With respect to ELL students, only BelovEd Charter School appears to serve a substantial percentage of ELL students with all other charters serving close to 0%.

Average Charter and District School Demographics⁴

Sector	% Free/Reduced Lunch	% Free Lunch	% ELL	% Special Education
Charter	58%	47%	1%	9%
District	74%	65%	8%	12%

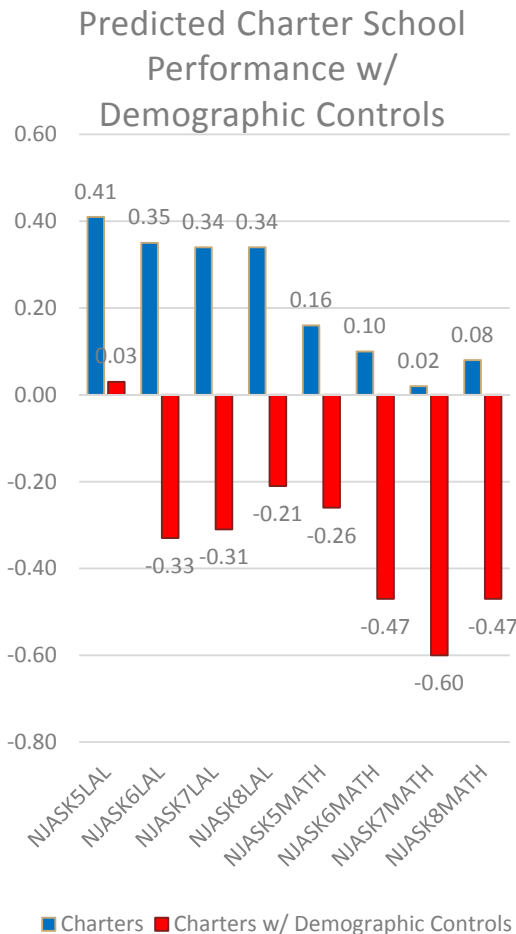
Student Achievement

Initially, on average, charter schools in Jersey have moderately higher mean scale scores than district schools on NJ ASK LAL

⁴ NJ Dept. of Education Enrollment Files and Special Education files; <http://www.nj.gov/education/data/enr/> and <http://www.nj.gov/education/specialed/data/2014.htm>

in all grades 5-8 ($p < 0.05$). However, given that charter schools in Jersey City serve vastly different demographics than district schools, we need to adjust student achievement measures for demographics. After adjusting for poverty, Special Education, and ELL, charter schools no longer outscore district schools on average in LAL. The factors which are most strongly associated with decreased student achievement for all grades are percent Free Lunch and percent Special Education. Surprisingly, percent ELL is positively related to mean scale scores for LAL 5th grade and statistically non-significant for other grades. Please see Tables 2, 3, 4, and 5 for further details.

With respect to NJ ASK Math 5-8, charter schools do on average have higher mean scale schools than district schools. However, this difference is not statistically significant. After adjusting for poverty, Special Education and ELL, charter schools actually score slightly lower than district schools on average for all grades. This difference is not statistically significant for grades 5, 6, and 8 but is statistically significant and substantial for 7th grade. Please see Tables 6, 7, 8, and 9 for further details.



“Beating the Odds” Analysis

We find that on average that charter schools do not have actual performance which exceeds their predicted performance after accounting for demographics. Charters appear to underperform slightly on average in Math and perform to expectations in LAL. One charter school, Dr. Lena Edwards Academic Center, substantially underperforms compared to its’ predicted scores both in LAL and math. Please see the “Beating the Odds” section of the appendix for further details.

Performance appears to vary by grade level as well. Charters on average appear to perform stronger in 5th and 8th grade for both subjects but underperform to a greater extent in 6th and 7th grade for both LAL and math.

Conclusions

Based on the results from this study, two main conclusions can be drawn. First, public schools in Jersey City serve a decidedly different population of students than those in the Jersey City charter schools. Second, when accounting for demographic variables, the performance of charter schools is not universally better than those of the public schools. Unlike the Jersey City Council, we believe no additional funding is needed for the charter schools in Jersey City given that they serve fewer students who receive free lunch, receive special education services, and support far fewer students requiring Limited English Proficient support. The stated fears that charters in Jersey City deserve more money as it is an equity issue is unfounded (Lavarro, et. al, 2015). Because charters leave a higher concentration of students with adverse demographic backgrounds in terms of achievement outcomes in the public schools, state and local funding is commensurate with the students they serve.

Policy Recommendations

Because charter schools serve lower rates of economically disadvantaged, special education, and Limited English Proficient students in Jersey City (as well as in other large urban districts in New Jersey), host districts wind up serving greater concentrations of these students. As such, our primary recommendation is to require charter schools in Jersey City serve students who are demographically similar to those in the host district. To accomplish this, we propose the following:

1. Recommend to the Jersey City Council that they pass a resolution requiring that charter schools operating in Jersey City hold weighted lotteries that increase the rate of students receiving free lunch, students who receive special education services, and students classified as Limited English Proficient (based on a recommendation stated in Weber and Rubin, 2015).
2. Recommend that the New Jersey Department of Education develop an enhanced charter funding formula that takes into account the increased cost of educating students across the range of Special Education classifications so that charters receive a reimbursement rate commensurate with type of special education students they serve.
3. Recommend that the New Jersey Department of Education develop an enhanced charter funding formula that reduces the base-funding amounts charter schools receive if they do not accept Limited English Proficient students at a rate consistent with that of the host district.
4. Recommend that policymakers account for demographic differences when comparing school performance within and across sectors- district vs. charter.

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Appendix A: Jersey City Average School Demographics by School and Governance Structure⁵

School	Governance	Grade Levels	Total Enrollment	% Free/Reduced Lunch	% Free Lunch	%English Language Learners	% Special Education
BelovED Community CS	Charter	K-3	417	77.8%	67.5%	14.8%	-
Dr. Lena Edwards Academic CS	Charter	K-8	367	45.0%	37.7%	0%	5.4%
Jersey City Community CS	Charter	K-8	587	85.1%	75.3%	0%	6.9%
Jersey City Global CS	Charter	K-2	103	20.6%	15.0%	0	-
Jersey City Golden Door CS	Charter	K-8	587	65.4%	51.1%	1.0%	10.1%
Learning Community CS	Charter	PK-8	495	32.8%	24.8%	0%	8.5%
METS CS	Charter	6-11	399	74.5%	66.4%	0.3%	4.7%
Soaring Heights CS	Charter	K-8	220	56.6%	37.4%	0%	7.5%
The Ethical Community CS	Charter	K-3	197	34.4%	29.5%	0%	7.2%
University Academy CS	Charter	9-12	424	68.5%	55.4%	0%	15.8%
Academy I	District	6-8	418	70.7%	58.7%	0.5%	7.5%
Academy of Technology Design	Hudson County	9-12	119	56.1%	39.6%	0%	-
Alexander D. Sullivan School	District	PK-5	822	83.7%	74.3%	17.9%	6.9%
Alfred Zampella School	District	PK-8	1057	77.3%	66.7%	5.0%	7.4%
Anthony J. Infante School	District	PK-2	215	54.6%	45.3%	20.7%	-
Career Academy	Hudson County	9-12	191	74.8%	67.9%	0%	-
Chaplain Charles Watters School	District	K-8	873	81.3%	74.3%	9.1%	11.5%

⁵ NJ Dept. of Education Enrollment Files and Special Education files; <http://www.nj.gov/education/data/enr/> and <http://www.nj.gov/education/specialed/data/2014.htm>

School	Governance	Grade Levels	Total Enrollment	% Free/Reduced Lunch	% Free Lunch	%English Language Learners	% Special Education
Charles E. Trefurt School	District	PK-5	792	83.4%	74.0%	24.0%	10.5%
Christa McAuliffe School	District	PK-8	961	82.2%	72.8%	7.9%	9.7%
Cornelia F. Bradford School	District	PK-5	327	39.8%	33.2%	11.3%	5.0%
County Prep High School	Hudson County	9-12	643	56.1%	39.2%	0%	16.6%
Dr. Charles P. DeFuccio School	District	PK-8	386	86.1%	78.9%	3.4%	17.4%
Dr. Ronald McNair High School	District	9-12	688	47.1%	33.7%	0%	0.2%
Dr. Michael Conti School	District	PK-8	647	73.6%	64.4%	21.1%	13.4%
Explore 2000 Middle School	Hudson County	6-8	50	50.1%	37.4%	0%	4.1%
Ezra L. Nolan School	District	6-8	403	83.0%	75.8%	15.6%	24.9%
Frank R. Conwell School	District	PK-5	618	66.4%	57.6%	11.4%	9.9%
Franklin L. Williams School	District	6-8	793	81.4%	70.5%	14.0%	17.0%
Gladys Nunery School	District	PK-5	470	85.9%	79.2%	2.4%	8.7%
Henry Snyder High School	District	9-12	1024	71.7%	65.6%	0.2%	31.3%
Infinity Institute	District	7-10	160	77.6%	62.7%	1.7%	1.8%
James F. Murray School	District	PK-8	924	72.7%	58.2%	5.9%	8.6%
James J. Ferris High School	District	9-12	1475	63.4%	58.0%	22.3%	13.8%
Joseph H. Brensinger School	District	PK-8	1187	86.1%	78.4%	15.4%	8.8%
Jotham W. Wakeman School	District	PK-5	847	77.1%	66.8%	18.4%	4.5%
Julia A. Barnes ES	District	PK-8	409	84.5%	78.7%	1.7%	13.6%

School	Governance	Grade Levels	Total Enrollment	% Free/Reduced Lunch	% Free Lunch	% English Language Learners	% Special Education
Liberty High School	District	9-12	195	64.4%	54.8%	0.2%	16.0%
Lincoln High School	District	9-12	930	66.6%	62.3%	0.2%	25.2%
Mahatma K. Gandhi School	District	PK-8	1471	80.2%	71.4%	19.4%	7%
Martin Center for the Arts	District	6-8	376	86.9%	81.7%	9.4%	21.6%
Martin Luther King, Jr. School	District	PK-8	796	83.7%	75.0%	17.9%	6.4%
Middle School # 4	District	6-8	828	73.0%	62.4%	0.4%	11.4%
Nicolaus Copernicus School	District	PK-5	811	73.3%	59.1%	13.2%	7.8%
Ollie Culbreth, Jr. School	District	PK-5	443	87.6%	82.9%	8.1%	11.5%
PS # 20	District	PK-5	616	84.2%	73.4%	1.5%	8.3%
PS # 33	District	PK-4	398	80.6%	69.6%	22.4%	7.0%
PS # 34	District	K-8	592	84.3%	75.5%	2.0%	9.9%
Rafael de J. Cordero School	District	PK-8	729	52.7%	42.1%	5.7%	12.7%
Regional Day School ⁶	District	1-12	94	63.3%	50.6%	0	99%*
Rev. Dr. Ercel F. Webb School	District	PK-5	648	83.4%	75.7%	3.3%	14.3%
Whitney M. Young, Jr. School	District	PK-5	711	88.6%	83.3%	1.4%	14.87%
William L Dickinson High School	District	9-12	2330	68.66%	60.4%	15.1%	14.7%

⁶ Specialized School for Special Education Students; students exempt from NJ ASK

*figure not included in calculating average Special Education rate for district

Appendix B: Jersey City Average Scale Scores by School and Governance Structure⁷*NJ ASK LAL, Grades 5-8*

School	Governance	NJ ASK 5 LAL	NJ ASK 6 LAL	NJ ASK 7 LAL	NJ ASK 8 LAL
Dr. Lena Edwards Academic CS	Charter	185.4	187.6	190.4	203.9
Jersey City Community CS	Charter	187.3	193.9	189.1	201.9
Jersey City Golden Door CS	Charter	198.4	199.2	201.2	212.1
Learning Community CS	Charter	209.3	213.2	219.2	225.1
METS CS	Charter	-	198	192.5	203.8
Soaring Heights CS	Charter	209.4	208.2	212.1	224.4
The Ethical Community CS	Charter	209.7	-	-	-
Academy I	District	-	229.7	227.2	229.9
Alexander D. Sullivan School	District	184.9	-	-	-
Alfred Zampella School	District	197.0	199.3	201.4	212.2
Chaplain Charles Watters School	District	187.1	190.2	184.5	200.4
Charles E. Trefurt School	District	193.1	-	-	-
Christa McAuliffe School	District	194.9	201.3	205.0	211.9
Cornelia F. Bradford School	District	205.8	196.6	211.4	216.2
Dr. Charles P. DeFuccio School	District	188.8	192.9	191.0	203.1
Dr. Michael Conti School	District	204.1	202.1	200.9	212.8
Explore 2000 Middle School	Hudson County	-	213.6	216.7	224.7
Ezra L. Nolan School	District	-	183.2	177.5	195.2
Frank R Conwell School	District	196.6	-	-	-
Franklin L. Williams School	District	-	192.4	194.4	208.5
Gladys Nunery School	District	186	-	-	-
Infinity Institute	District	-	232	221.2	228.5

⁷ NJ DOE Student Achievement Files <http://www.nj.gov/education/schools/achievement/prior.htm>

School	Governance	NJ ASK 5 LAL	NJ ASK 6 LAL	NJ ASK 7 LAL	NJ ASK 8 LAL
James F. Murray School	District	195.5	197.5	198.6	208.9
Joseph H. Brensinger School	District	194.4	195.6	195.9	208.3
Jotham W. Wakeman School	District	197.9	-	-	-
Julia A. Barnes ES	District	187.3	185.4	180.1	196.1
Mahatma K. Gandhi School	District	192.8	194.1	192.1	205.4
Martin Center for the Arts	District	169.5	184.4	181.2	195.9
Martin Luther King, Jr. School	District	199.9	197.3	193.4	209.5
Middle School # 4	District	-	203.3	201	207.9
Nicolaus Copernicus School	District	199.0	-	-	-
Ollie Culbreth, Jr. School	District	175.4	183.5	-	-
PS # 20	District	189.9	-	-	-
PS # 34	District	185.5	185.5	183.3	200.7
Rafael de J. Cordero School	District	199.7	199.1	201.2	213.6
Rev. Dr. Ercel F. Webb School	District	184.7	-	-	-
Whitney M. Young, Jr. School	District	180.1	182.9	173.2	-

NJ ASK Math, Grades 5-8

School	Governance	NJ ASK 5 Math	NJ ASK 6 Math	NJ ASK 7 Math	NJ ASK 8 Math
Dr. Lena Edwards Academic CS	Charter	200.1	196.5	178.9	186.4
Jersey City Community CS	Charter	208.0	199.3	177.7	189.8
Jersey City Golden Door CS	Charter	225.7	210.4	200.0	202.8
Learning Community CS	Charter	230.7	220.4	220.7	226.4
METS CS	Charter	-	215.1	196.3	190.9
Soaring Heights CS	Charter	234.2	217.1	207.8	223.2
The Ethical Community CS	Charter	236.9	-	-	-
Academy I	District	-	261.7	237.2	240.8
Alexander D. Sullivan School	District	209.8	-	-	-
Alfred Zampella School	District	227.0	212.5	206.0	214.3
Chaplain Charles Watters School	District	208.6	196.1	179.2	184.0
Charles E. Trefurt School	District	222.2	-	-	-
Christa McAuliffe School	District	214.5	211.7	200.3	205.1
Cornelia F. Bradford School	District	245.1	191.9	204.6	212.1
Dr. Charles P. DeFuccio School	District	208.8	202.5	190.7	199.6
Dr. Michael Conti School	District	229.4	213.5	199.0	206.8
Explore 2000 Middle School	Hudson County	-	227.2	214.0	226.1
Ezra L. Nolan School	District	-	185.8	173.5	177.3
Frank R Conwell School	District	216.3	-	-	-
Franklin L. Williams School	District	-	203.6	193.2	200.6
Gladys Nunery School	District	209.5	-	-	-
Infinity Institute	District	-	259.6	229.6	242.8
James F. Murray School	District	224.3	207.9	196.6	203.2

School	Governance	NJ ASK 5 Math	NJ ASK 6 Math	NJ ASK 7 Math	NJ ASK 8 Math
Joseph H. Brensinger School	District	225.2	204.7	194.1	202.8
Jotham W. Wakeman School	District	230.8	-	-	-
Julia A. Barnes ES	District	211.3	194.7	-	-
Mahatma K. Gandhi School	District	220.1	206.1	191.2	199.5
Martin Center for the Arts	District	183.8	193.2	179.3	181.4
Martin Luther King, Jr. School	District	231.7	211.0	204.8	212.0
Middle School # 4	District	-	216.1	204.3	203.1
Nicolaus Copernicus School	District	229.1	-	-	-
Ollie Culbreth, Jr. School	District	197.7	194.2	174.8	-
PS # 20	District	217.5	-	-	-
PS # 34	District	201.1	190.1	180.0	182.2
Rafael de J. Cordero School	District	228.5	202.9	196.2	205.9
Rev. Dr. Ercel F. Webb School	District	208.8	-	-	-
Whitney M. Young, Jr. School	District	192.3	188.5	174.3	-

Appendix C: Tables

Table 1. Charter and District Average Demographics in Jersey City

	Charter	District
# of Schools	10	42
% of Total	19.2%	80.8%
% Free/Reduced Lunch	57.7%	73.9%***
% Free Lunch	47.1%	64.6%***
% ELL	9.0%	11.7%*
% Sp Ed	0.2%	8.7%***

*p<.05 **p<.01 ***p<.001

Table 2. Linear Modeling Estimates of 5th Grade NJASK LAL

	Model 1	Model 2
Charter	0.41*	0.03
% Free Lunch	-	-0.29***
% Sp Ed	-	-0.24*
% ELL	-	0.21***
Intercept	-0.94*	1.08***
R-Squared	0.06	0.54
Change in R-Squared	-	0.48

*p<.05 **p<.01 ***p<.001 ~p<.10

Note: Coefficients indicate a 10% difference in each category. Included a measure of year to account for drift, however not indicated in table.

Table 3. Linear Modeling Estimates of 6th Grade NJASK LAL

	Model 1	Model 2
Charter	0.35~	-0.33~
% Free Lunch	-	-0.25***
% Sp Ed	-	-0.60***
% ELL	-	-0.07
Intercept	-0.89***	1.47***
R-Squared	0.05	0.39
Change in R-Squared	-	0.34

*p<.05 **p<.01 ***p<.001 ~p<.10

Note: Coefficients indicate a 10% difference in each category. Included a measure of year to account for drift, however not indicated in table.

Table 4. Linear Modeling Estimates of 7th Grade NJASK LAL

	Model 1	Model 2
Charter	0.34~	-0.31~
% Free Lunch	-	-0.27***
% Sp Ed	-	-0.52***
% ELL	-	-0.05
Intercept	-0.62***	1.75***
R-Squared	0.08	0.46
Change in R-Squared	-	0.38

*p<.05 **p<.01 ***p<.001 ~p<.10

Note: Coefficients indicate a 10% difference in each category. Included a measure of year to account for drift, however not indicated in table.

Table 5. Linear Modeling Estimates of 8th Grade NJASK LAL

	Model 1	Model 2
Charter	0.34*	-0.21
% Free Lunch	-	-0.26***
% Sp Ed	-	-0.46***
% ELL	-	0.01
Intercept	-0.97***	1.25***
R-Squared	0.05	0.46
Change in R-Squared	-	0.41

*p<.05 **p<.01 ***p<.001 ~p<.10

Note: Coefficients indicate a 10% difference in each category. Included a measure of year to account for drift, however not indicated in table.

Table 6. Linear Modeling Estimates of 5th Grade NJASK Math

	Model 1	Model 2
Charter	0.16	-0.26~
% Free Lunch	-	-0.27***
% Sp Ed	-	-0.65***
% ELL	-	0.21***
Intercept	-0.96***	1.33***
R-Squared	0.11	0.56
Change in R-Squared	-	0.45

*p<.05 **p<.01 ***p<.001 ~p<.10

Note: Coefficients indicate a 10% difference in each category. Included a measure of year to account for drift, however not indicated in table.

Table 7. Linear Modeling Estimates of 6th Grade NJASK Math

	Model 1	Model 2
Charter	0.10	-0.47*
% Free Lunch	-	-0.18***
% Sp Ed	-	-0.67***
% ELL	-	-0.06
Intercept	-1.32***	0.64~
R-Squared	0.16	0.38
Change in R-Squared	-	0.22

*p<.05 **p<.01 ***p<.001 ~p<.10

Note: Coefficients indicate a 10% difference in each category. Included a measure of year to account for drift, however not indicated in table.

Table 8. Linear Modeling Estimates of 7th Grade NJASK Math

	Model 1	Model 2
Charter	0.02	-0.60**
% Free Lunch	-	-0.22***
% Sp Ed	-	-0.64***
% ELL	-	-0.07
Intercept	-0.98***	1.23***
R-Squared	0.02	0.36
Change in R-Squared	-	0.34

*p<.05 **p<.01 ***p<.001 ~p<.10

Note: Coefficients indicate a 10% difference in each category. Included a measure of year to account for drift, however not indicated in table.

Table 9. Linear Modeling Estimates of 8th Grade NJASK Math

	Model 1	Model 2
Charter	0.08	-0.47*
% Free Lunch	-	-0.22***
% Sp Ed	-	-0.62***
% ELL	-	-0.001
Intercept	-0.91***	1.25***
R-Squared	0.06	0.38
Change in R-Squared	-	0.32

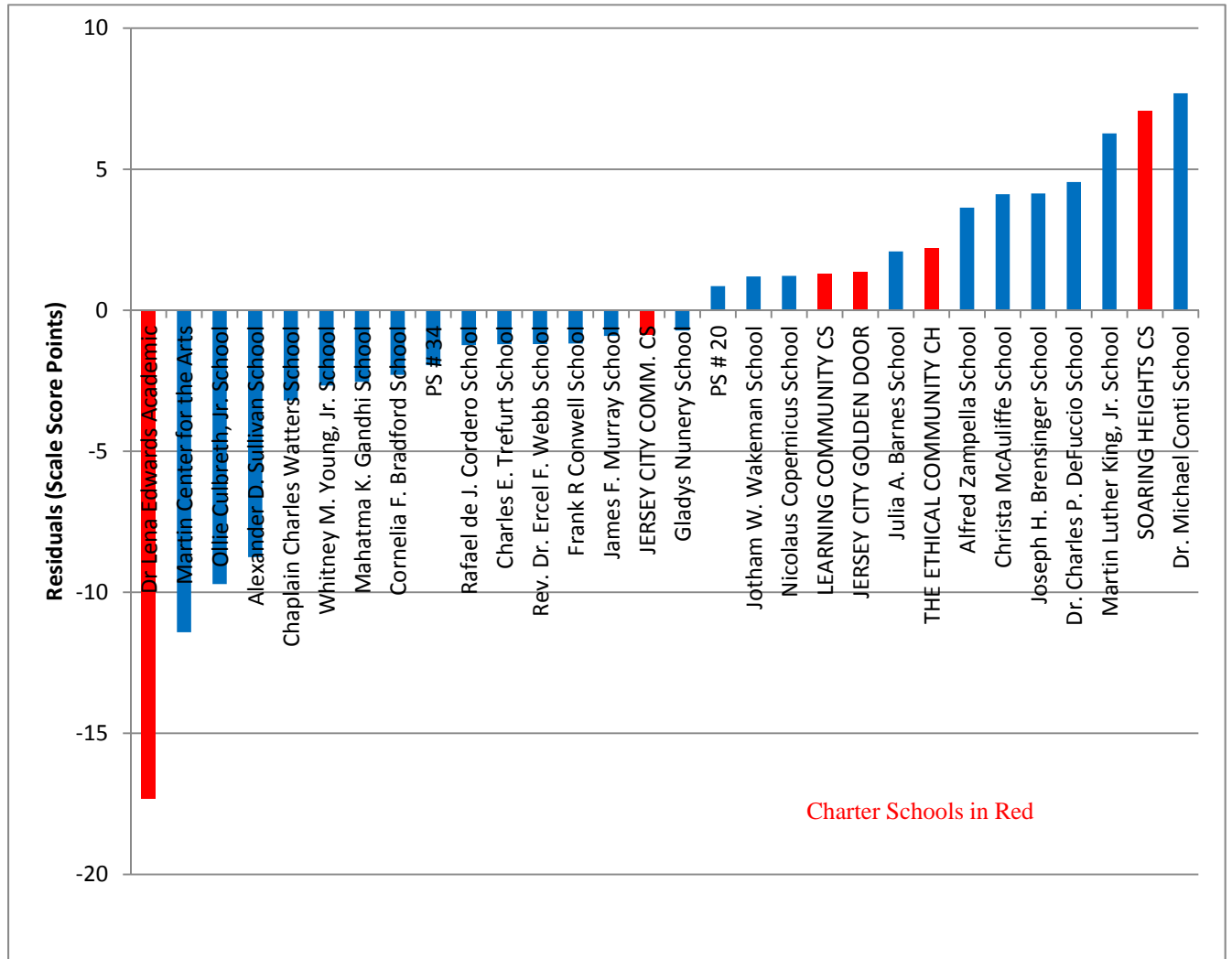
*p<.05 **p<.01 ***p<.001 ~p<.10

Note: Coefficients indicate a 10% difference in each category. Included a measure of year to account for drift, however not indicated in table.

Appendix D: “Beating the Odds” Analysis⁸

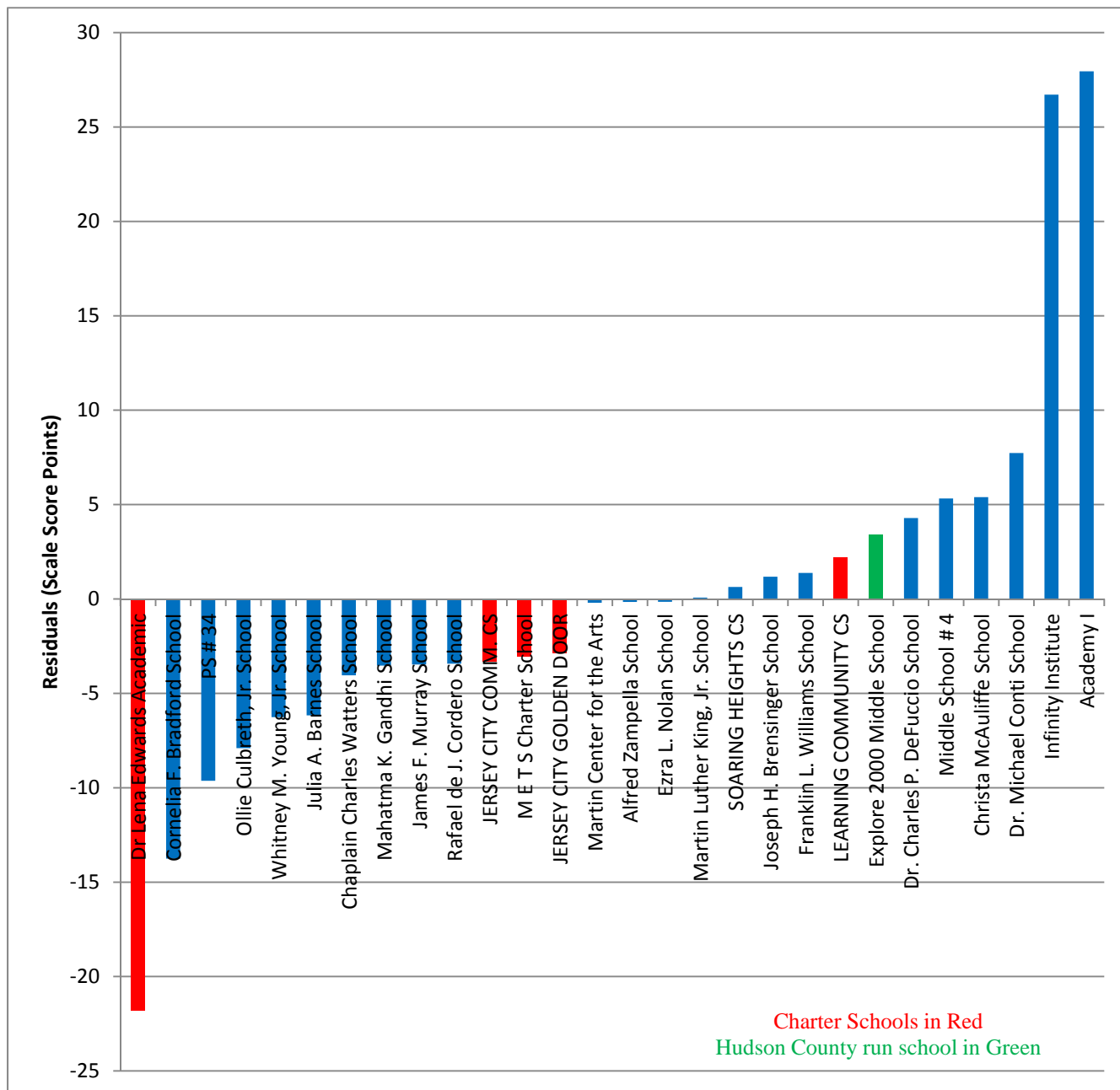
Residuals= Actual Mean Scale Score – Predicted Mean Scale Score (controlling for demographics)

5th Grade Language Arts Literacy

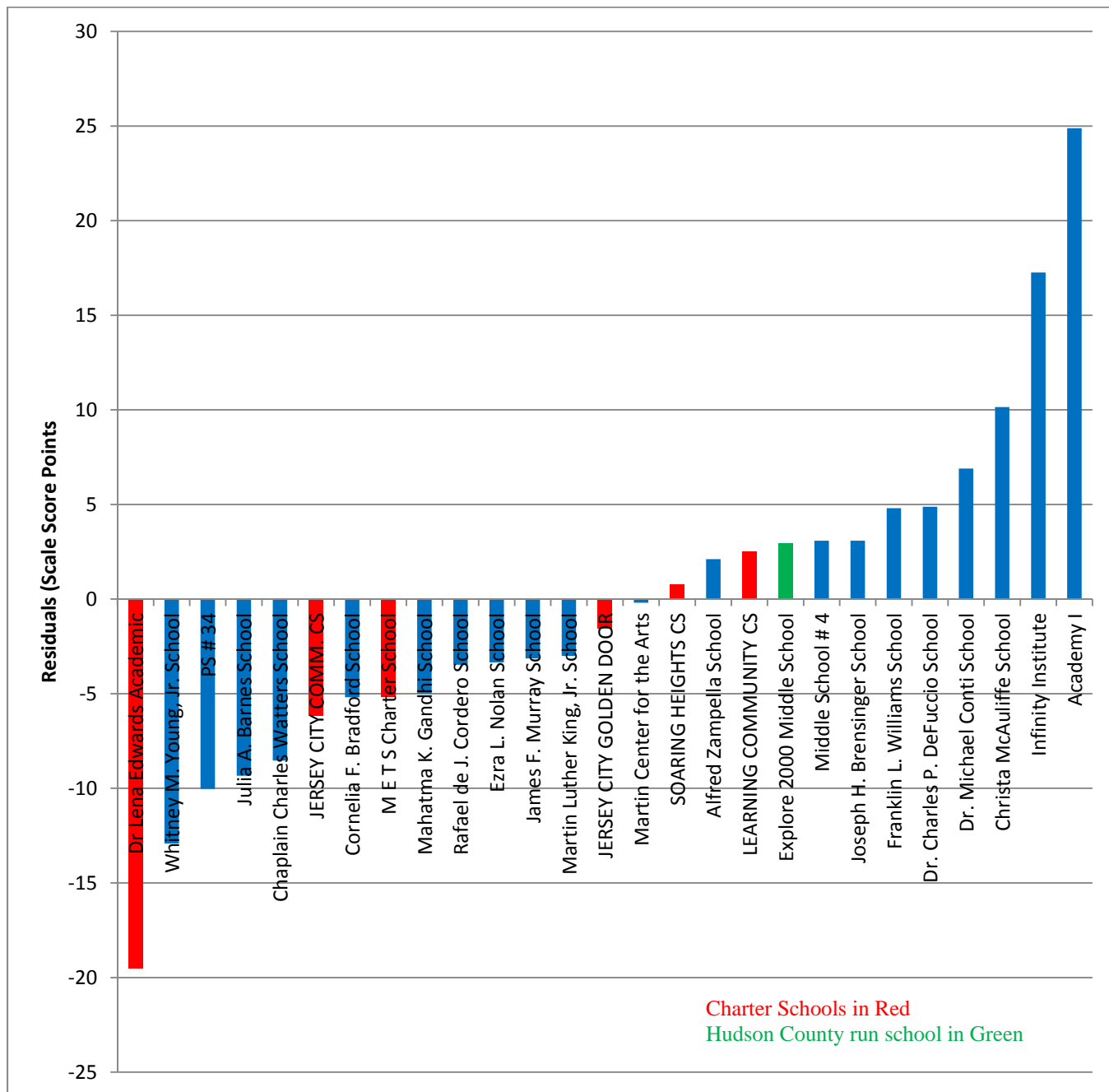


⁸ All data comes from NJDOE Enrollment files, NJDOE Special Ed files, and NJDOE Student Achievement files. <http://www.nj.gov/education/data/enr/> and <http://www.nj.gov/education/specialed/data/2014.htm> and <http://www.nj.gov/education/schools/achievement/prior.htm>

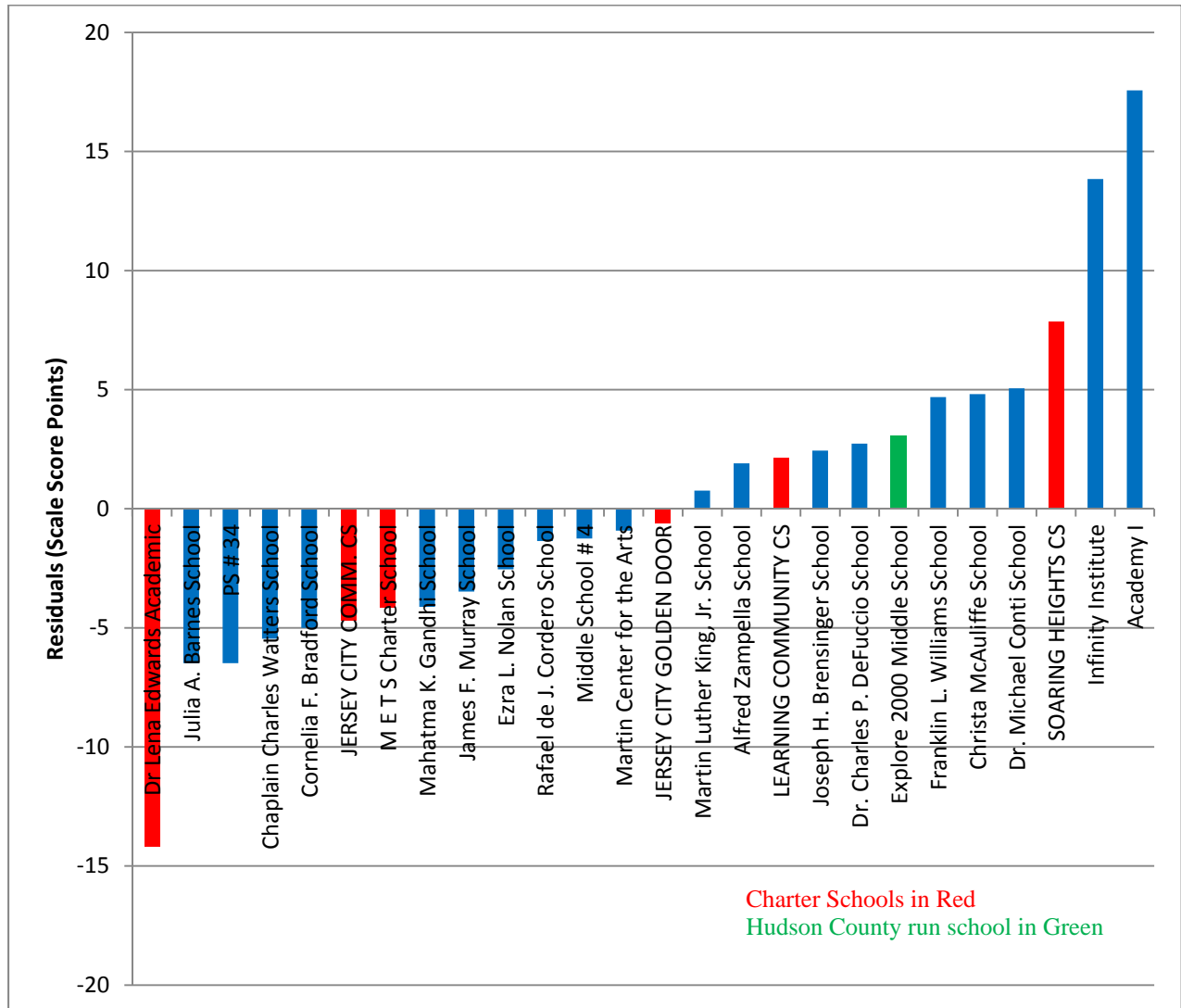
6th Grade Language Arts Literacy



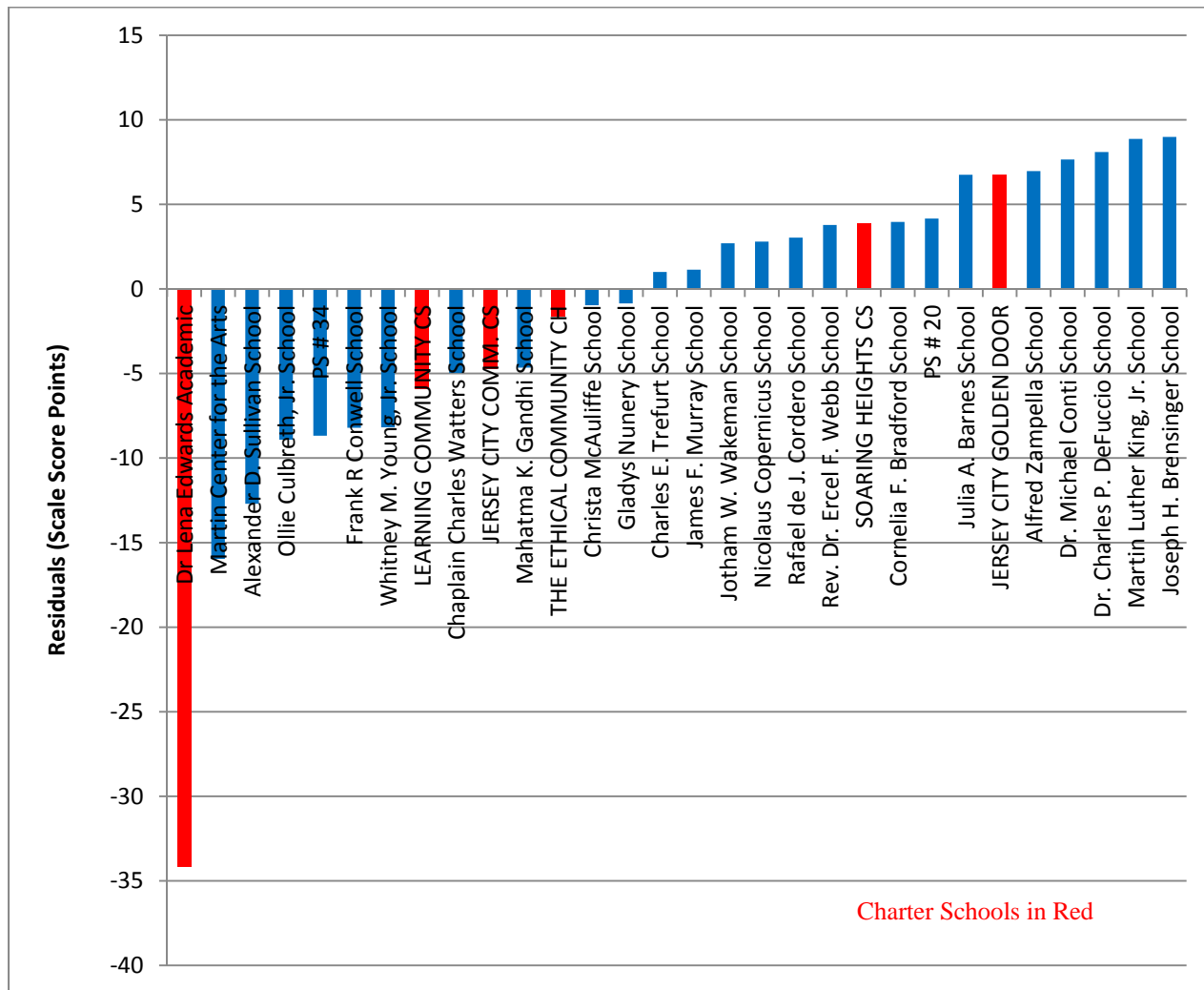
7th Grade Language Arts Literacy



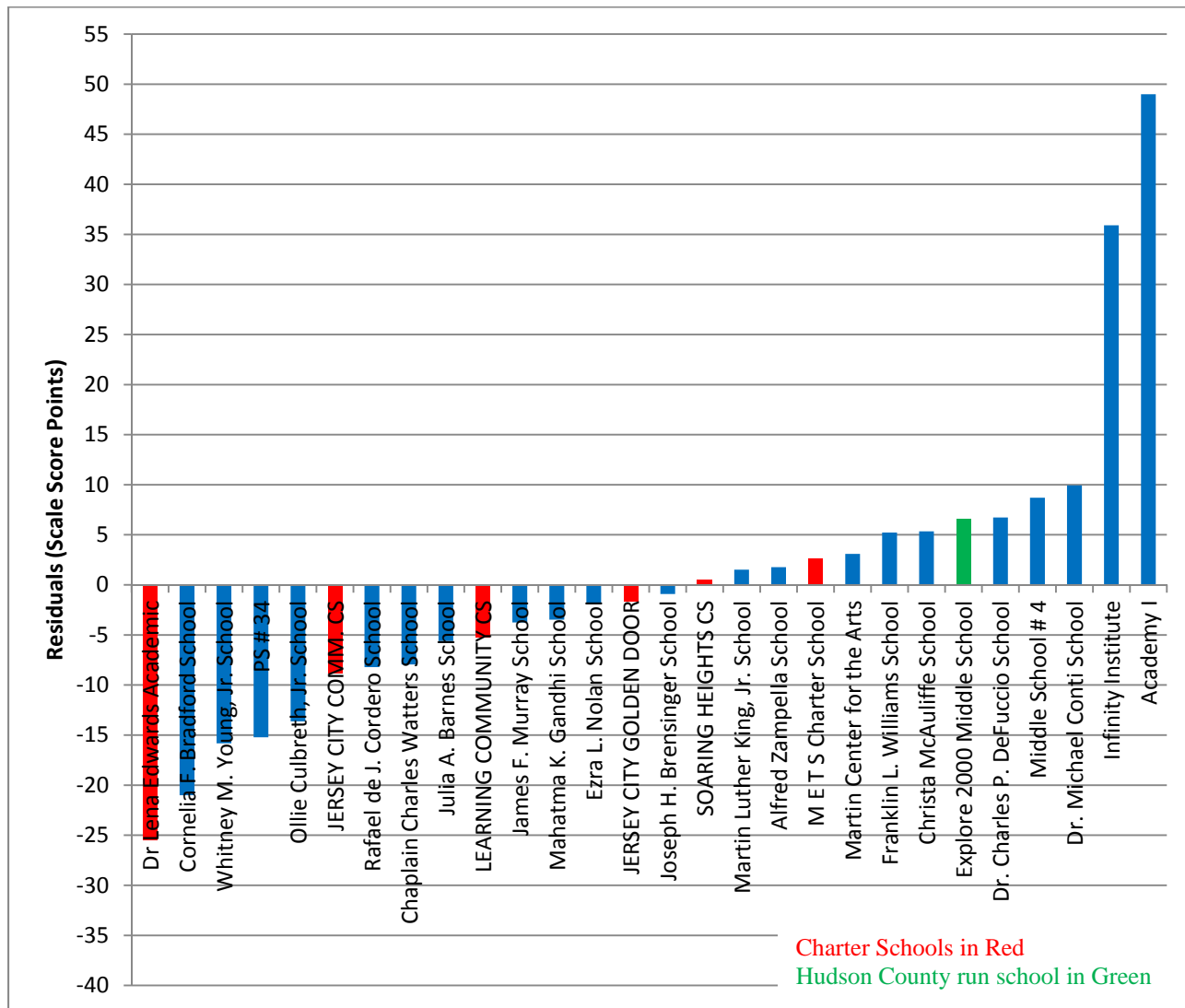
8th Grade Language Arts Literacy



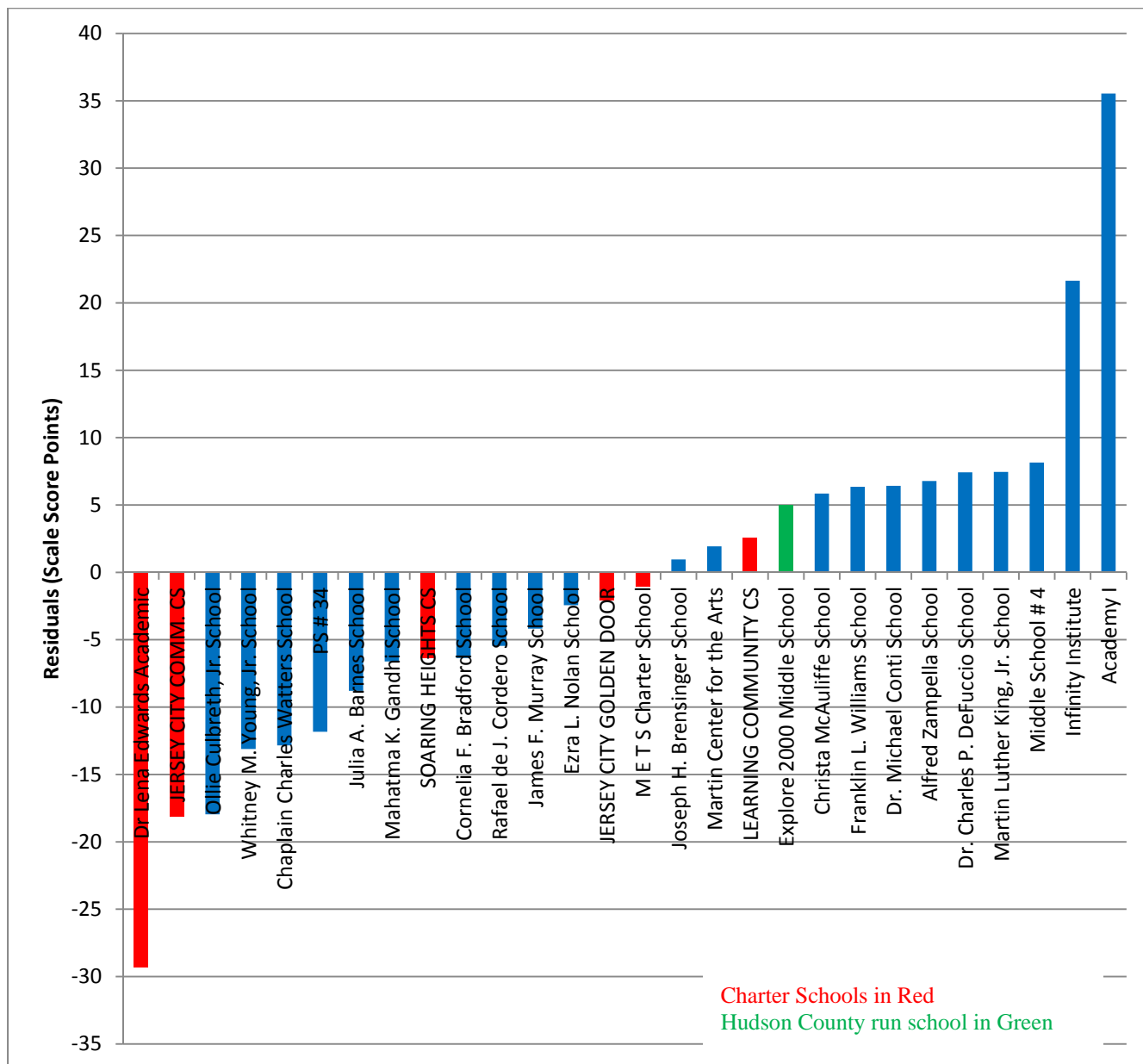
5th Grade Math



6th Grade Math



7th Grade Math



8th Grade Math

