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CHARTER SCHOOL PERFORMANCE IN NEW YORK CITY

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SUMMARY

This report supplements the CREDO National Charter School Study *Multiple Choice: Charter School Performance in 16 States*, released in June 2009, with an in-depth examination of the results for charter schools in New York City. New York City was not included in the national report but this city-specific analysis follows the approach used for the pooled national study. For the interested reader, the full report is available at credo.stanford.edu.

This document reports on the analysis of 6 years of schooling, beginning with the 2003-2004 school year and concluding with the 2008-2009 data. A total of 20,640 charter school students from 49 charter schools are followed for as many years as data are available. The students are drawn from Grades 3 - 8, since these are the grades that are covered by the state achievement testing program. An identical number of virtual comparison students are included in the analysis. The composite virtual student is based on students in competitor traditional public schools, known as the charter school's feeder pool. In New York City, it was possible to create virtual matches for 85 percent of the charter schools students in both reading and math.

Academic growth on state achievement tests is used as the outcome of interest. The analysis examines whether students in charter schools in New York City outperform their traditional public school counterparts under a variety of scenarios. In all the scenarios, a number of control factors are applied to the estimation so that the contribution of the schools themselves can be isolated from other potentially confounding influences. Each of the scenarios is summarized below and in more detail within the applicable sections of the report.

Overall the results found that the typical student in a New York City charter school learns more than their virtual counterparts in their feeder pool in reading and mathematics. In school-by-school comparisons New York City charters perform relatively better in math than in reading. In math, more than half the charter schools are showing academic growth that is statistically larger than their students would have achieved in their regular public schools. A third of charter schools show no difference, and 16 percent were found to have significantly lower learning. In reading, the numbers are not as strong, but show that nearly 30 percent outperform their local alternatives, 12 percent deliver worse results and about 60 percent are producing learning that is equivalent to their regular public school counterparts.

New charter school students show a significant loss on learning in reading but a significant benefit in math compared to their counterparts in traditional public schools. In the second year, charter school students show positive improvement in both reading and mathematics compared to their counterparts in traditional public schools and this impact stays positive and significant through the third year of attendance.

The results also show that in New York City Black and Hispanic students enrolled in charter schools do significantly better in reading and math compared to their counterparts in traditional public schools. Charter students from most starting points also tend to do better than their peers in traditional public schools. The results for students in poverty however, only show a statistical positive impact in reading and no significant difference in math as compared to their counterparts in traditional public schools. Special Education students and English Language Learner students in charter schools in New York City receive no significant benefit or loss from charter school attendance compared to their counterparts in traditional public schools in reading and math.

In summary, the charter school performance is generally positive in New York City compared to that of traditional public schools. These results also compare positively to our national pooled results.

INTRODUCTION

This report supplements the CREDO National Charter School Study *Multiple Choice: Charter School Performance in 16 States*, released in June 2009, with an in-depth examination of the results for charter schools in New York City. New York City was not included in the national report but this city-specific analysis follows the approach used for the pooled national study. Since the methods used to estimate the effects of charter schooling on student academic performance are detailed in the larger report, they will not be repeated here. For the interested reader, the full report is available at credo.stanford.edu.

This document reports on the analysis of 6 years of schooling, beginning with the 2003-2004 school year and concluding with the 2008-2009 data. A total of 20,640 charter school students from 49 charter schools are followed for as many years as data are available. The students are drawn from Grades 3 - 8, since these are the grades that are covered by the state achievement testing program. An identical number of virtual comparison students are included in the analysis. The composite virtual student is based on students in competitor traditional public schools, known as the charter school's feeder pool. In New York City, it was possible to create virtual matches for 85 percent of the charter schools students in reading and 85 percent in math. This proportion assures that the results reported here can be considered as indicative of the overall performance of charter schools in the state. The total number of observations is large enough to be confident that the tests of effect will be sensitive enough to detect real differences between charter school and traditional school students at the $p < .05$ level.

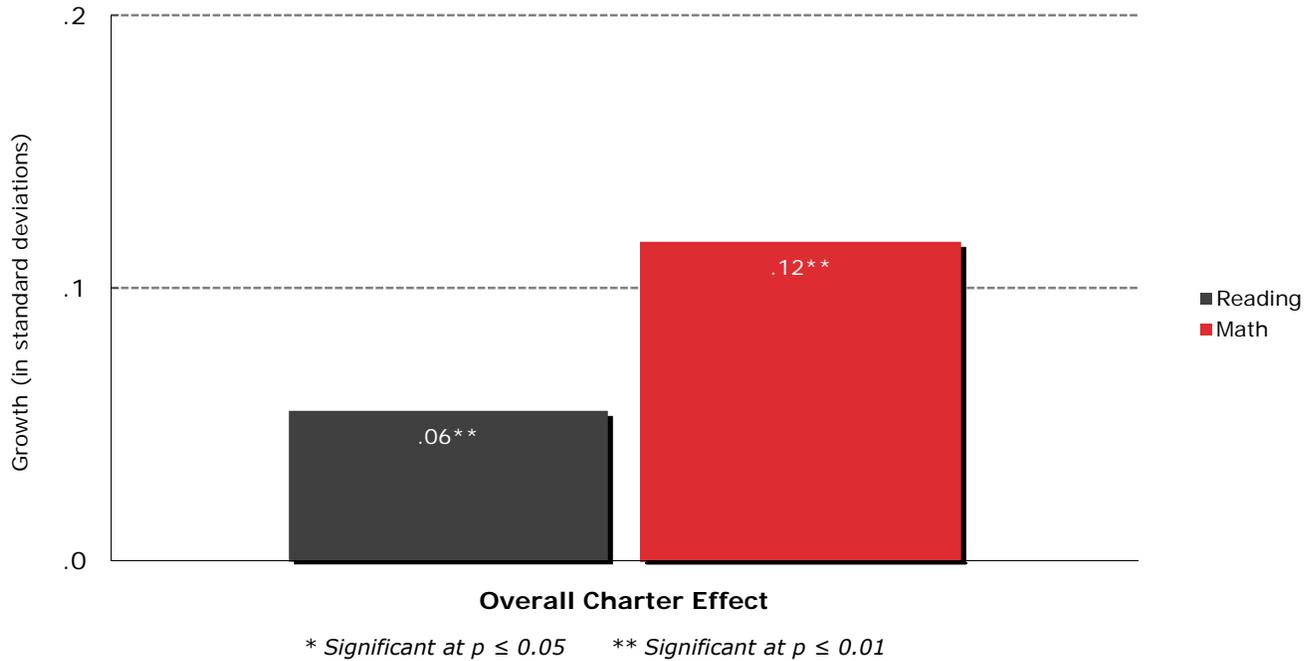
The table below gives a brief demographic profile of the New York City charter students and the subset of students for which we were able to find matches for our analysis.

	Total Charter	Matched
% Black	62.8%	64.4%
% Hispanic	31.1%	31.5%
% Special Education	13.5%	10.8%
% English Language Learners	3.1%	2.4%
% Free/Reduced Lunch	77.4%	82.4%

Academic growth on state achievement tests is used as the outcome of interest. The analysis examines whether students in charter schools in New York City outperform their traditional public school counterparts under a variety of scenarios. In all the scenarios, a number of control factors are applied to the estimation so that the contribution of the schools themselves can be isolated from other potentially confounding influences. Each of the scenarios is presented in the following sections of the report.

First, we examine whether charter schools differ overall from traditional public schools in how much their students learn, all other factors held constant. The results appear in Figure 1. The typical student in a New York City charter school learns more than their virtual counterparts in their feeder pool in reading and mathematics.

Figure 1: State Effects



The advantage for charter students in reading is about 2 scale score points. In math, charter students score about 5 scale score points higher than their counterparts.

SCHOOL-LEVEL COMPARISONS

Because the unit of analysis for public policy discussions is the school, the performance of each New York City charter schools was compared to the learning experience their students would have received had they attended their traditional public schools. This type of head-to-head comparison provides a useful summary of the performance of the sector overall that complements the student-level analysis in the rest of this report.

The test for New York City schools was slightly different than the test employed in CREDO's earlier national study. Because all the NYC schools are drawn from the same education market, there was no need to control for market differences across all the schools, as was the case in the earlier national analysis. Instead, it sufficed to use simple t-tests of each pair of schools; that is, that charter school performance against the performance of its associated comparison group. The student learning gains were averaged for each school and then compared for statistical differences. The results appear in the following table.

School-Level Comparisons of Learning Gains
(Value is the percentage of all NYC charter schools)

Subject	Negative and Significant	Not Significant	Positive and Significant
Reading	12%	59%	29%
Math	16%	33%	51%

Note: Based on t-test of means of charter school average learning gains compared to equivalent average gains in comparison records. The tests used a standard of significance at the $p \leq .05$ level.

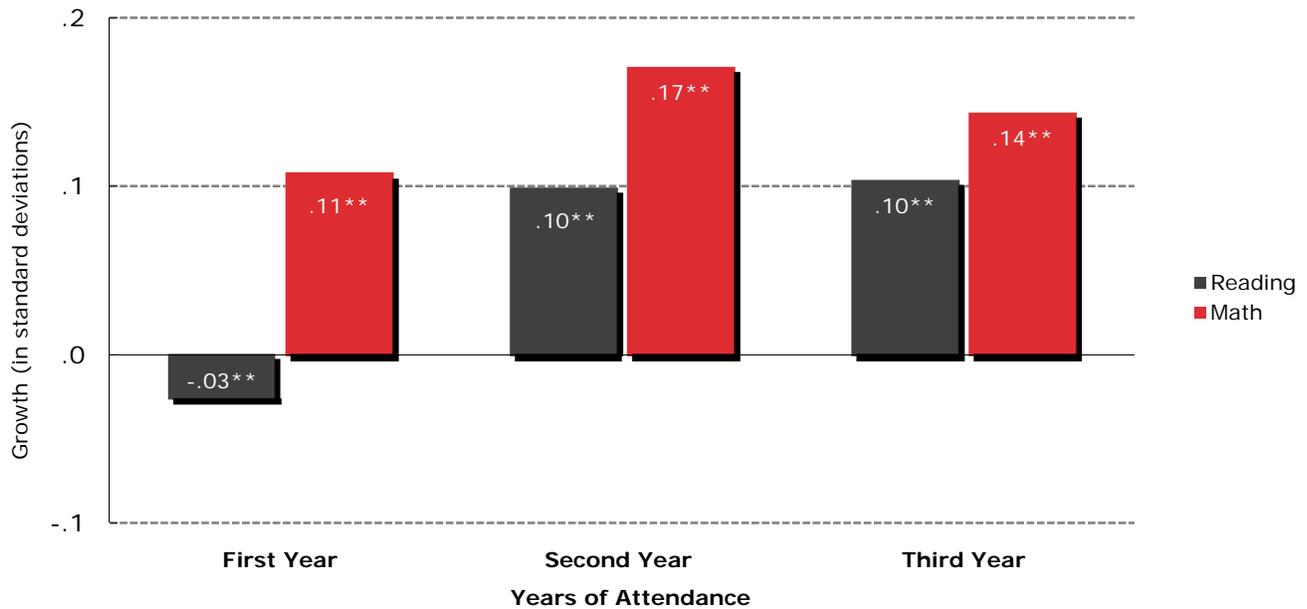
Consistent with the student-level results, the school-by-school comparisons showed that New York City charters perform relatively better in math than in reading. In Math, more than half the charter schools are showing academic growth that is statistically larger than their students would have achieved in their regular public schools. A third of charter schools show no difference, and 16 percent were found to have significantly lower learning. In reading, the numbers are not as strong, but show that nearly 30 percent outperform their local alternatives, 12 percent deliver worse results and about 60 percent are producing learning that is equivalent to their regular public school counterparts.

As a point of comparison, the math figures are starkly different from the national figures released in the CREDO national report, which found that 17 percent of schools outperformed their local schools, 46 percent were no different and 37 percent performed worse. No test was done for reading in the national study. So in both reading and math, the New York City results are more positive overall: the proportion of schools that produce significantly worse learning results than their TPS alternatives is less than half what was found nationally. Further, the proportion of charter schools that demonstrate better learning gains is larger in both reading and math, with the proportion being more than double in the case of math.

CHARTER SCHOOL IMPACT BY STUDENTS' YEARS OF ENROLLMENT

To delve deeper into the charter school effects in New York City, students were grouped by the number of consecutive years they were enrolled. This question examines whether the academic success of students who enroll in a charter school fluctuates as they continue their enrollment. In this scenario, we limit the analysis to the charter students who enrolled for the first time in the charter school between 2004-2005 and 2008-2009; although the number of students included will be smaller, it is the only way to make sure that the available test results align with the years of enrollment. The results appear in Figure 2 below.

Figure 2: Impact by Students' Years of Enrollment



* Significant at $p \leq 0.05$ ** Significant at $p \leq 0.01$

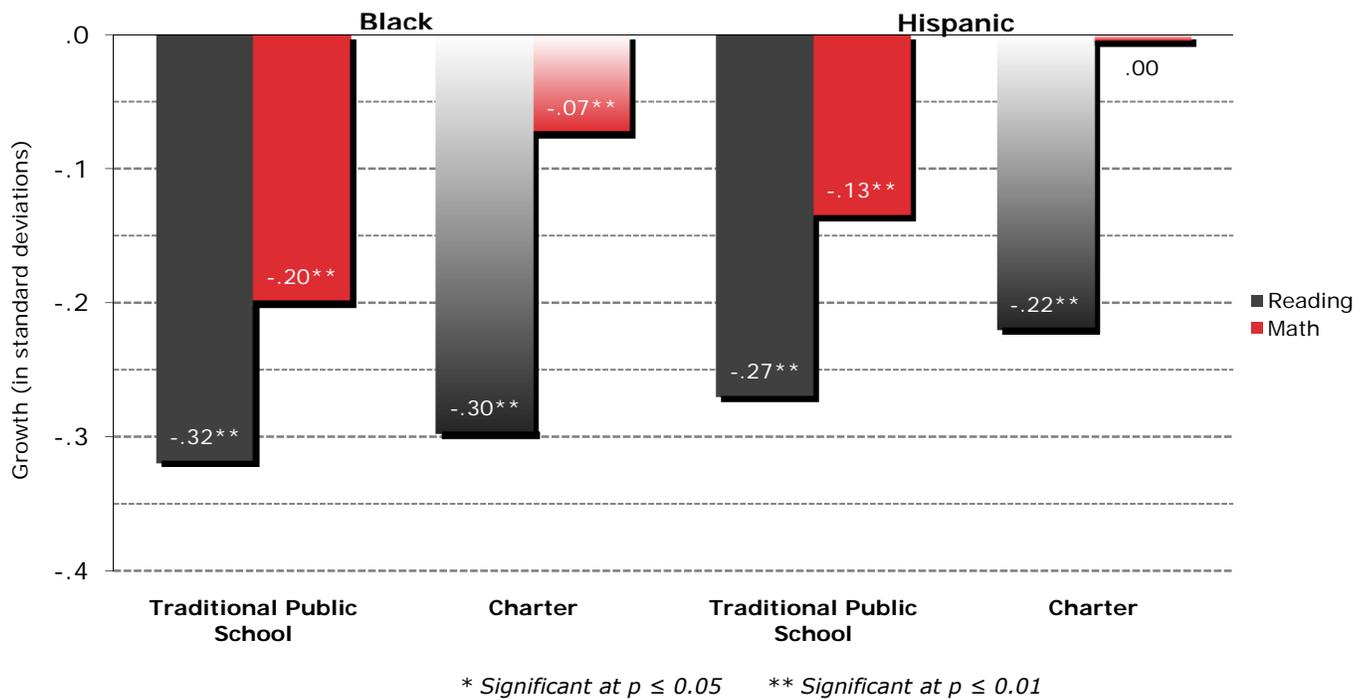
The results suggest that new charter school students receive a significant loss on learning in reading but a significant benefit in math compared to their counterparts in traditional public schools. In subsequent years, charter school students have an initial gain in both reading and math from charter school attendance compared to their counterparts in traditional public schools and this impact stays positive and significant through the third year of attendance.

In scale score points, charter students lose about 1 point in reading in their first year at a charter school. However, they gain over 4 scale score points more than their TPS counterparts in math in that same year. In the second year at a charter school, charter students have a 2-point advantage in reading and a nearly 11-point advantage in math. By their third year at a charter school, students have a 4-point advantage in reading and a 15-point advantage in math compared to their counterparts in traditional public schools.

CHARTER SCHOOL IMPACT BY RACE/ETHNICITY

Attention in US public education to achievement differences by racial and ethnic backgrounds has increased in recent years. The effectiveness of charter schools across ethnic and racial dimensions is especially important since so many charter schools are focused on serving historically underserved minority students. This impact of charter schools on academic gains of Black and Hispanic students is presented in Figure 3 below. The graphics show the differences between charter school students and their virtual peers. The baseline of comparison in every comparison is the performance of the average traditional public school white student who does not qualify for Free or Reduced Price Lunch subsidies, Special Education services or English Language Learner support.

Figure 3: Impact by Race/Ethnicity



The results show that in New York City Blacks enrolled in charter schools do significantly better in reading and math compared to their counterparts in traditional public schools. The effect translates into nearly a 1 scale score point advantage for charter students in reading scale scores and over 5 scale score points in math.

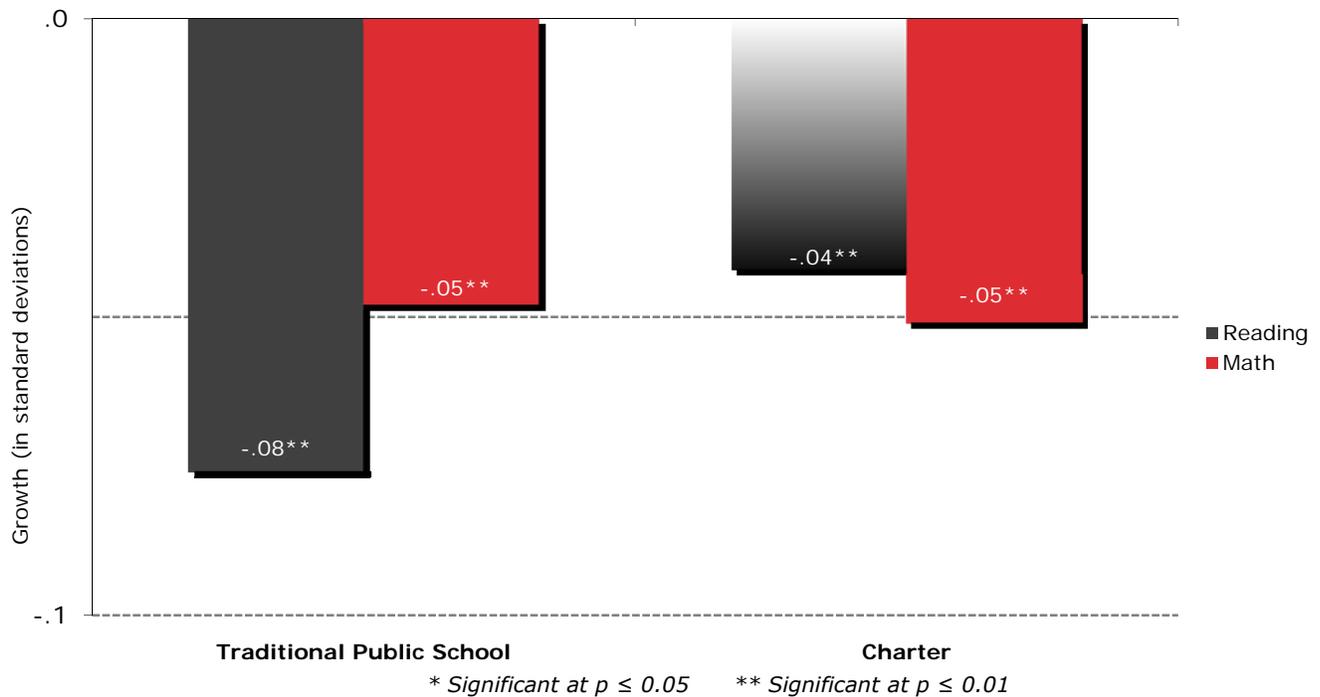
Hispanics enrolled in charter schools also do significantly better in reading and math compared to their counterparts in traditional public schools. The effect translates into nearly a 2-point advantage for charter students in reading scale scores and over 5 scale score points in math.

IMPACT OF CHARTER SCHOOLING ON STUDENTS IN POVERTY

Much of the motivation for developing charter schools aims at improving education outcomes for students who are in poverty. The enrollment profiles of charter schools across the country underscore this fact; in the national pooled sample 49 percent of the students are eligible for Free or Reduced Price Lunch, a proxy for low income households.¹ Thus, the impact of charter schools on the learning of students in poverty is important both in terms of student outcomes and as a test of the commitment of charter school leaders and teachers to address the needs of the population in better ways than in other settings. Figure 4 presents the results for New York City.

¹ Claims by other researchers that charter schools under-report their proportions of FRPL eligible students appear to be unfounded in our study.

Figure 4: Impact on Students in Poverty



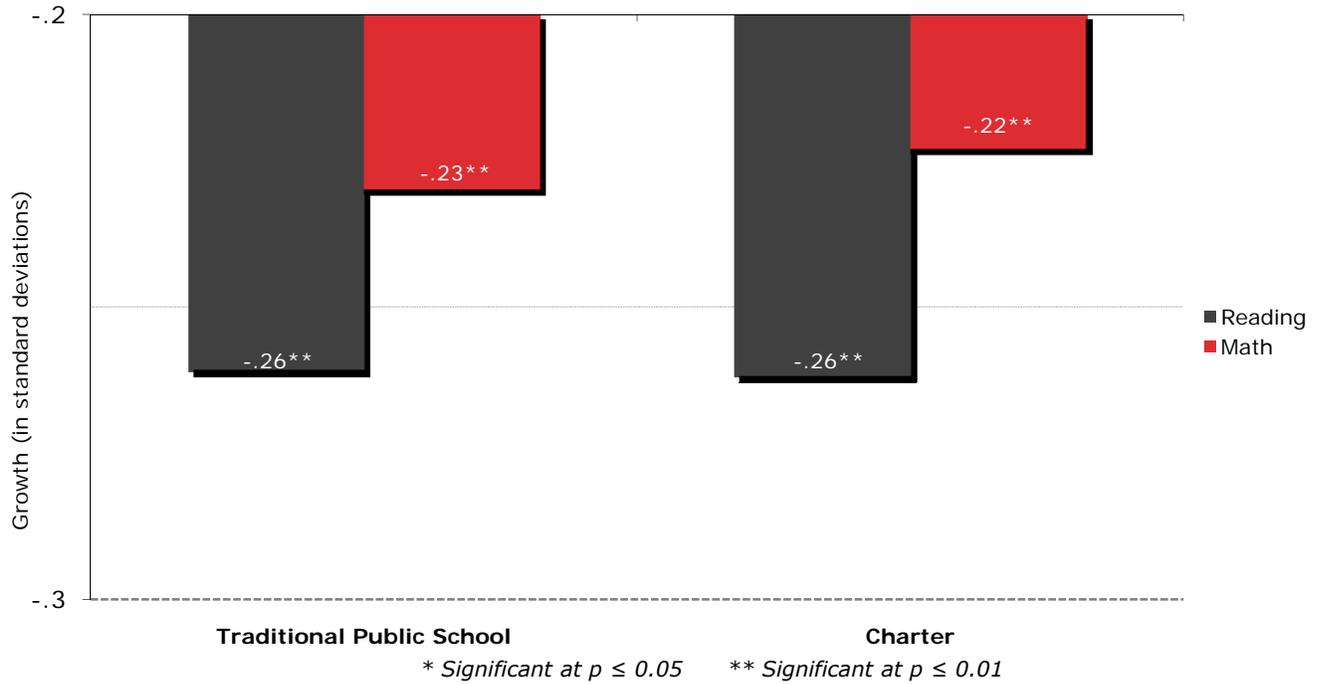
As shown in the figure above, students in poverty enrolled in charter schools do better in reading and about the same in math compared to their counterparts in traditional public schools.

CHARTER SCHOOL IMPACTS WITH SPECIAL EDUCATION

The demographic comparisons in the full report indicate that across the charter sector, schools serve fewer Special Education students and in smaller proportions of their enrollment base than the traditional public schools. In some cases, this result is a deliberate and coordinated response with local districts, based on a balance of meeting the needs of the students and consideration of cost-effective strategies for doing so. In New York City, the overall proportion of charter school students who are Special Education is 14 percent, as compared to 16 percent citywide.

It is especially difficult to compare outcomes of Special Education students, regardless of where they enroll. The most serious problem is caused by small numbers and diverse typologies in use across states; the result is that there is tremendous variation when all categories are aggregated, a necessary and messy requirement. Of all the facets of the study, this one deserves the greatest degree of skepticism. With this cautionary note, the results are presented in Figure 5 below.

Figure 5: Impact with Special Education Students



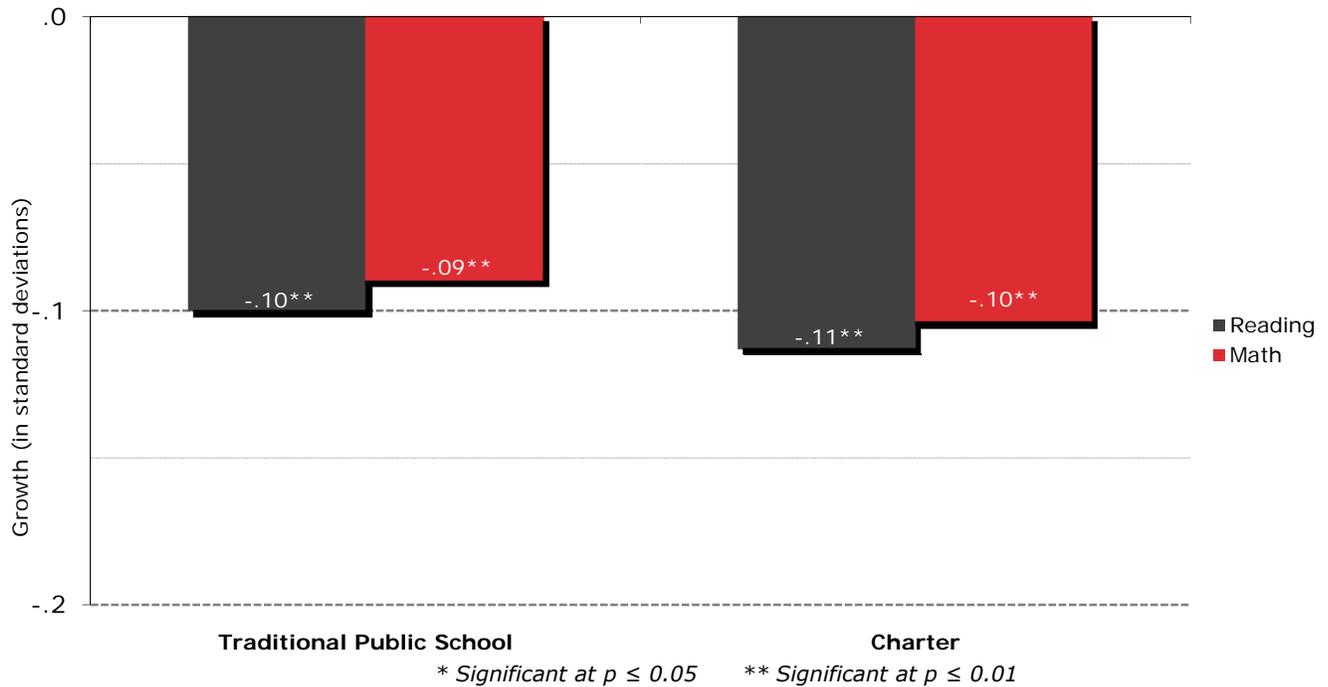
Special Education students in charter schools in New York City receive no significant benefit or loss from charter school attendance compared to their counterparts in traditional public schools in reading and math.

EFFECTS OF CHARTER SCHOOLING ON ENGLISH LANGUAGE LEARNERS

Students who enroll in school without sufficient English proficiency represent a growing share of public school students. Their success in school today will greatly influence their success in the world a decade from now. Since their performance as reflected by National Assessment of Education Progress has lagged well behind that of their English proficient peers, their learning gains are a matter of increasing focus and concern.

The comparison of learning gains of charter school English Language Learners and their traditional school counterparts in New York City appears in Figure 6.

Figure 6: Effect on English Language Learners



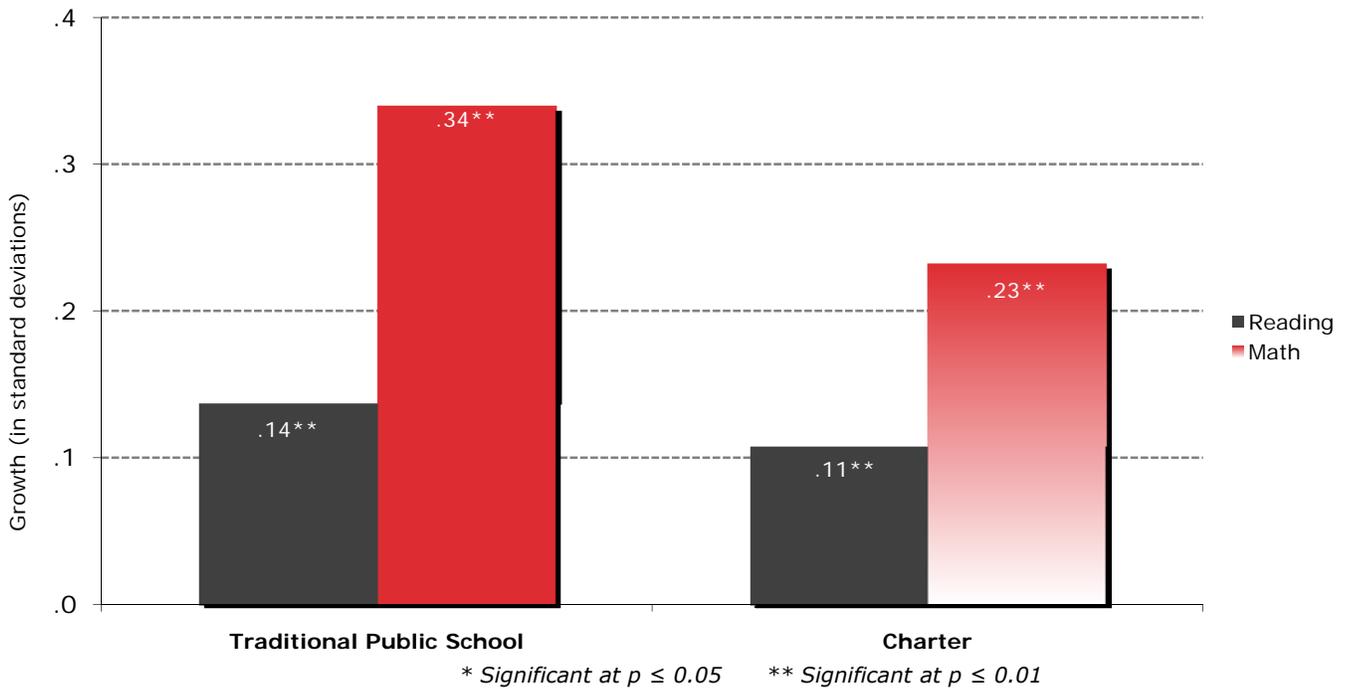
English Language Learner students in charter schools in New York City receive no significant benefit or loss from charter school attendance compared to their counterparts in traditional public schools in reading and math.

CHARTER SCHOOL IMPACTS WITH GRADE-REPEATING STUDENTS

This study examined the outcomes of students who were retained. Often a highly charged topic, the underlying premise is that additional time in grade can help students by remediating deficits and shoring up grade-level competencies. Existing research on the outcomes of students who have been retained is limited; the breadth of states included in this study provides an opportunity to examine the results generally and the difference between charter school students and those in traditional public schools in particular.

Retention practices differ widely across the country and between the charter and traditional public school sectors. The fact that retained charter students have among the lowest match rates of any subgroup in our study suggests that charter schools are more likely to retain academically low-performing students. Regardless, in both the national pooled data and in the observations of New York City students, sufficient numbers of matches were found to enable the learning gains following retention to be estimated. The results appear in Figure 7.

Figure 7: Impact with Grade-Repeating Students



Retained students in charter schools in New York City show less growth compared to their counterparts in traditional public schools in math. Retained students receive no significant benefit from charter school attendance compared to their counterparts in traditional public schools in reading.

CHARTER SCHOOL IMPACT BY STUDENT'S STARTING DECILE

A general tenet of charter schools is a commitment to the education and development of every child. Further, many charter schools, including several in New York City, have as part of their mission a specific emphasis on students who have not thrived academically in traditional public schools and whose early performance is well below average. We examined the performance of charter schools to see if they produced equivalent results across the spectrum of student starting points and in relation to the results observed for equivalent students in traditional public schools.

To do this, students were grouped into deciles based on their baseline test scores in reading and math on New York City's achievement tests. The average growth of student achievement in each decile was then computed and compared. The results appear in Figure 8 below.

Figure 8.a: Impact by Students' Starting Decile - Reading

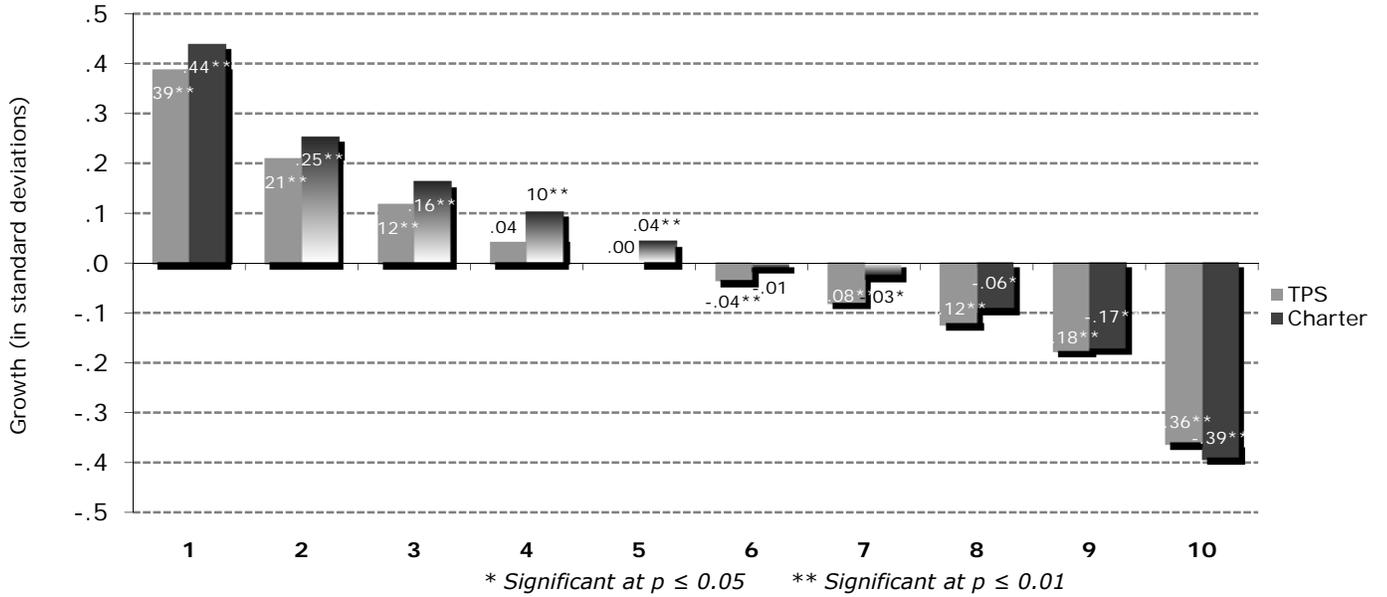
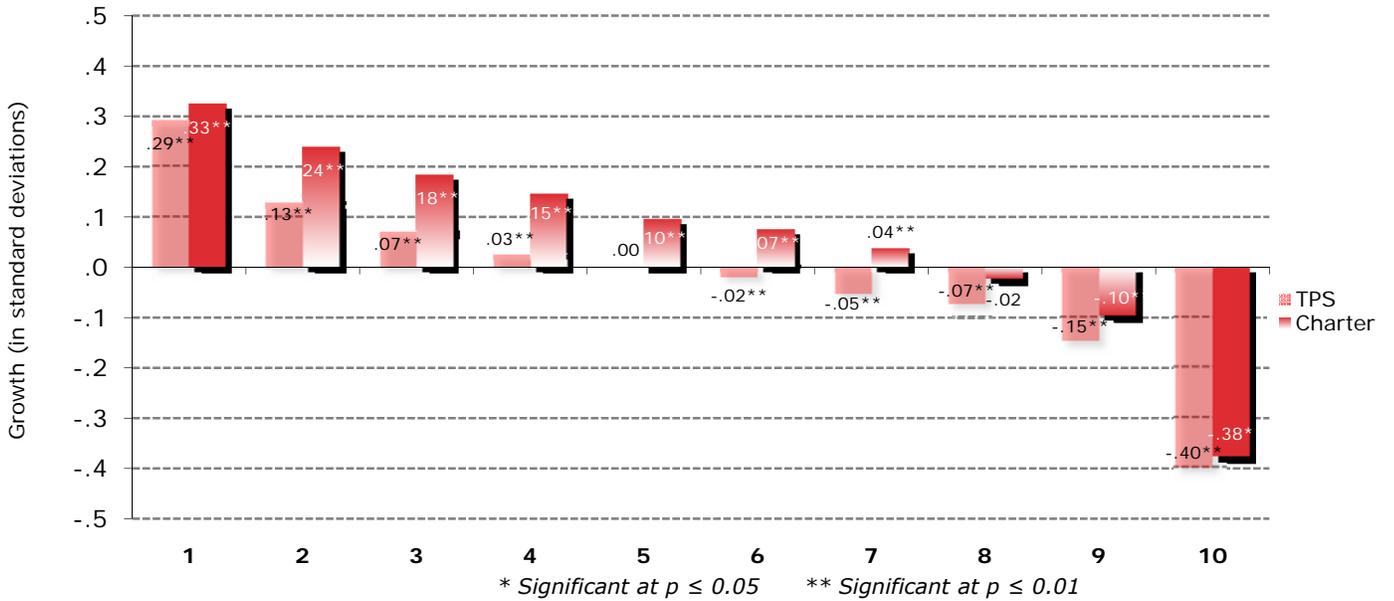


Figure 8.b: Impact by Students' Starting Decile - Math



Both figures demonstrate the expected “S”-shaped curve to the results. The overall curve reflects the typical pattern of larger learning gains for students with lower prior scores and larger learning losses for students with higher starting scores, a phenomenon known as “regression to the mean”. Here, the relative magnitudes are what is important: Do charter schools produce relatively better growth results than traditional public schools? If so, the charter curve would have larger gains on the low end and smaller losses on the high end of the distribution.

For students in New York City, Figures 8.a and 8.b show that charter schools do better than traditional public schools in most respects. The effect of charter school attendance on growth results in both math and reading is almost entirely positive across the deciles.

SUMMARY OF FINDINGS

With the students they have enrolled, New York City charter schools provide **significantly better** results for the following groups of students:

Reading

All Students
Students enrolled for 2 years
Students enrolled for 3 years
Blacks
Hispanics
Students in most starting deciles

Math

All Students
Students enrolled for 1 year
Students enrolled for 2 years
Students enrolled for 3 years
Blacks
Hispanics
Students in most starting deciles

At the same time, the analysis showed they performed **significantly worse** with the following groups of students:

Reading

Students enrolled for 1 year

Math

Retained students

For the remaining groups in the analysis, there was no discernable difference between charter school and traditional public school performance.