City Study 2022:

KANSAS CITY

Table of Contents

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REPORT OVERVIEW

01

About The City Studies Project

The City Studies project examines the performance of schools in select U.S. cities, including Kansas City. We study the academic progress of students as the measure of school performance.

Cohort 1   Cohort 2

Sectors of Schools

COMMUNITIES MAY HAVE UP TO THREE SECTORS OF SCHOOLS

CHARTER SCHOOLS

Public schools operated independently from the traditional school district, with autonomy in adapting school designs and held accountable for education results.

Charter Management Organizations (CMOs)

Organizations holding the charter and overseeing the operation of at least three charter schools.

Independent Charter Schools

Organizations holding the charter and overseeing the operation of a single or two charter schools.

SELECTIVE SIGNATURE SCHOOLS

District-run schools with focused themes and academically selective admission.

OTHER DISTRICT-RUN SCHOOLS

Public schools not belonging to any of above two types.

Research Question and Analyses

IN THIS REPORT WE EXAMINE ACADEMIC PERFORMANCE IN KANSAS CITY USING DATA FROM THE SCHOOL YEARS 2015-16 THROUGH 2018-19. THERE ARE THREE LEVELS OF ANALYSIS.

WE MAKE TWO SETS OF COMPARISONS.

- The performance of Kansas City students is benchmarked against the state average performance, accounting for student characteristics.

- The performance of charter school students and the performance of signature school students within Kansas City are then compared to that of similar traditional public school (district school) students within Kansas City.

01
Overall performance in Kansas City schools over two years.

02
Performance for Kansas City charter schools, Kansas City signature schools and the rest of Kansas City Public schools over two years.

03
Performance in the 2018-2019 school year **by school type, race, poverty status, English language learner (ELL) status, special education status and gender.**

Measure of Academic Performance

ACHIEVEMENT VS. GROWTH

Achievement scores capture what a student knows at a point in time. They are influenced by students' prior conditions in addition to schools' contributions.

Growth scores indicate how much progress a student makes from one year to the next. Growth scores allow us to zero in on the contributions of schools separately from other factors that affect point-in-time scores.

IN THIS STUDY WE MEASURE ACADEMIC PERFORMANCE AS HOW MUCH GROWTH STUDENTS MAKE FROM ONE YEAR TO THE NEXT.

We analyze student growth in standard deviation units so that the results can be assessed for statistical differences. The full set of findings appear in the Appendix.

In the following graphs of findings, we transform growth from standard deviation units into days of learning based on a typical 180-day school year.

SPECIAL HANDING OF KANSAS CITY GROWTH SCORES FOR 2017-18

For the period ending in Spring 2018, we use student test scores from the 2015-16 school year as starting scores to calculate student growth because the Missouri test score data for 2016-17 are incomplete.

RESEARCH FINDINGS
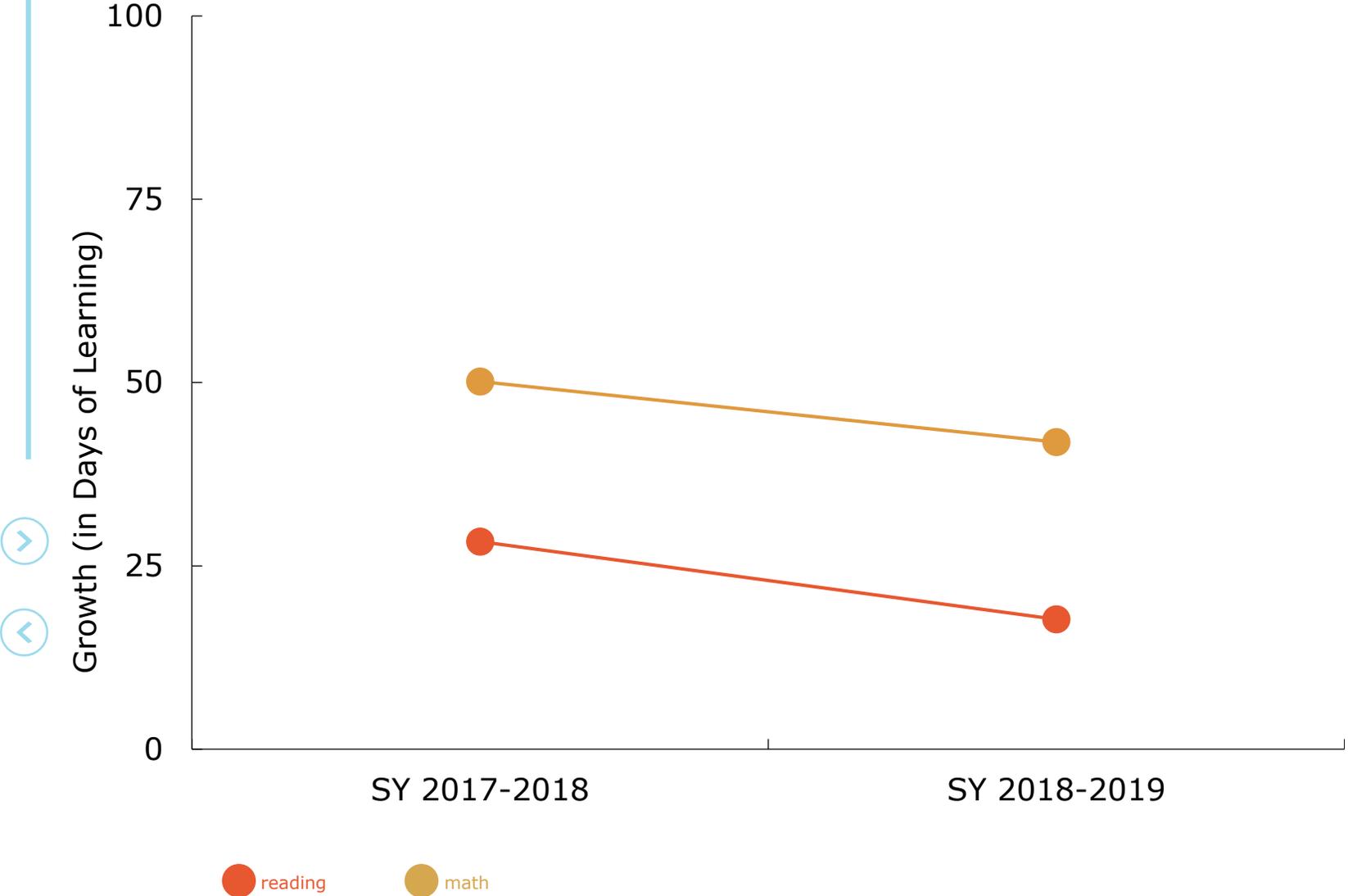
02

Research Findings > Overall Kansas City Results > Reading & Math

Average One-Year Learning Gains for All Kansas City Students Compared to the State Average Learning Gains, by Year and Subject

Growth (in Days of Learning)

100

75

50

25

0

SY 2017-2018   SY 2018-2019

◼ significantly different at p< 0.05

● reading   ● math

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Research Findings > Sector Analysis > Reading

VS. STATE & COMPARISON WITHIN KANSAS CITY

Learning Gains in Reading for Students in Kansas City Charter Schools, Kansas City Signature Schools, and Kansas City District Schools Compared to the State Average Learning Gains, by Year
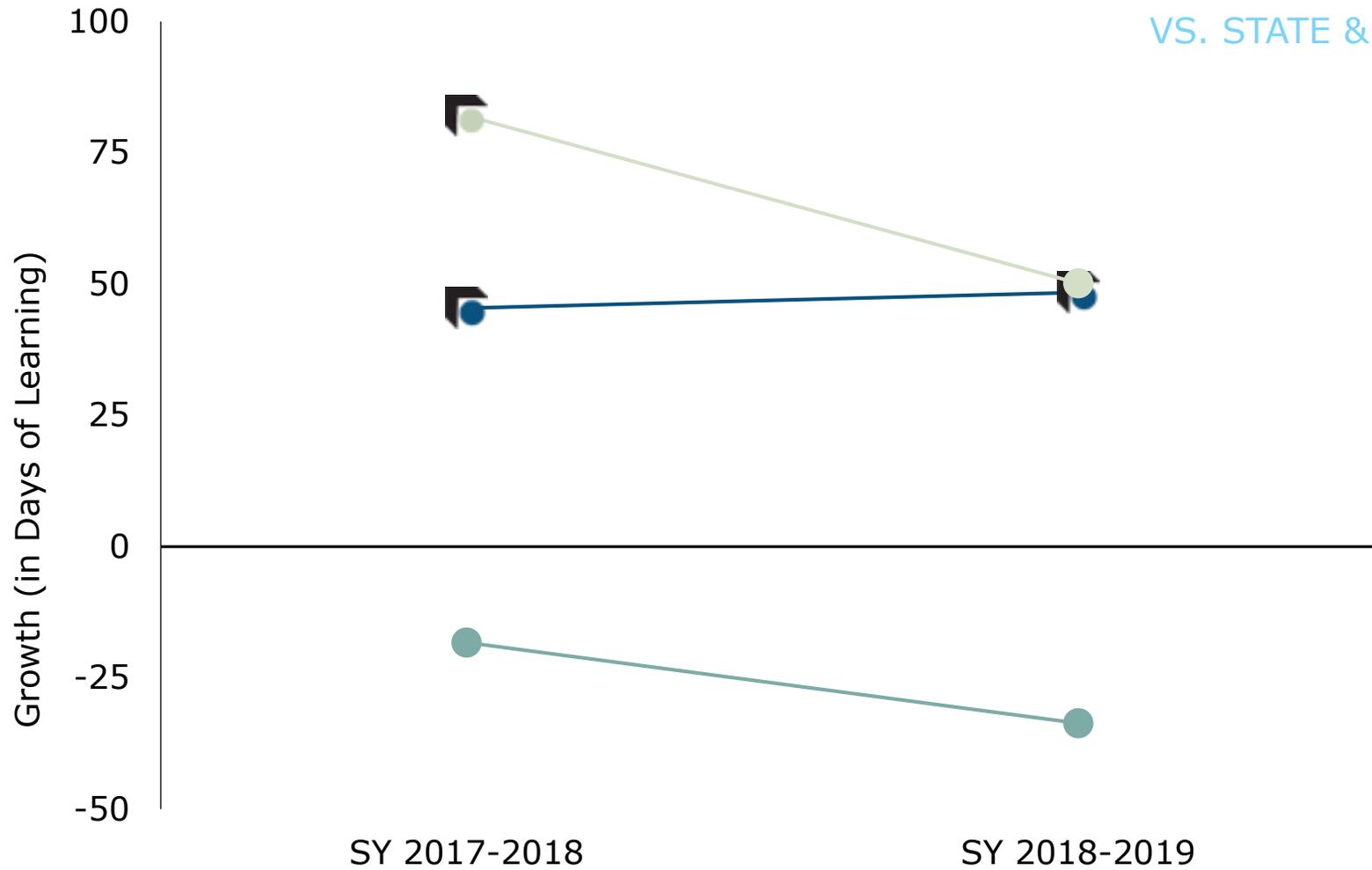
Tests of Differences

Reading	'17-'18	'18-'19
Charter vs. District	◪	
Signature vs. District	◪	
Charter vs. Signature		

◪ significantly different at p< 0.05

charter ● signature ● district ●

VS. STATE & COMPARISON WITHIN KANSAS CITY

Learning Gains in Math for Students in Kansas City Charter Schools, Kansas City Signature Schools, and Kansas City District Schools Compared to the State Average Learning Gains, by Year
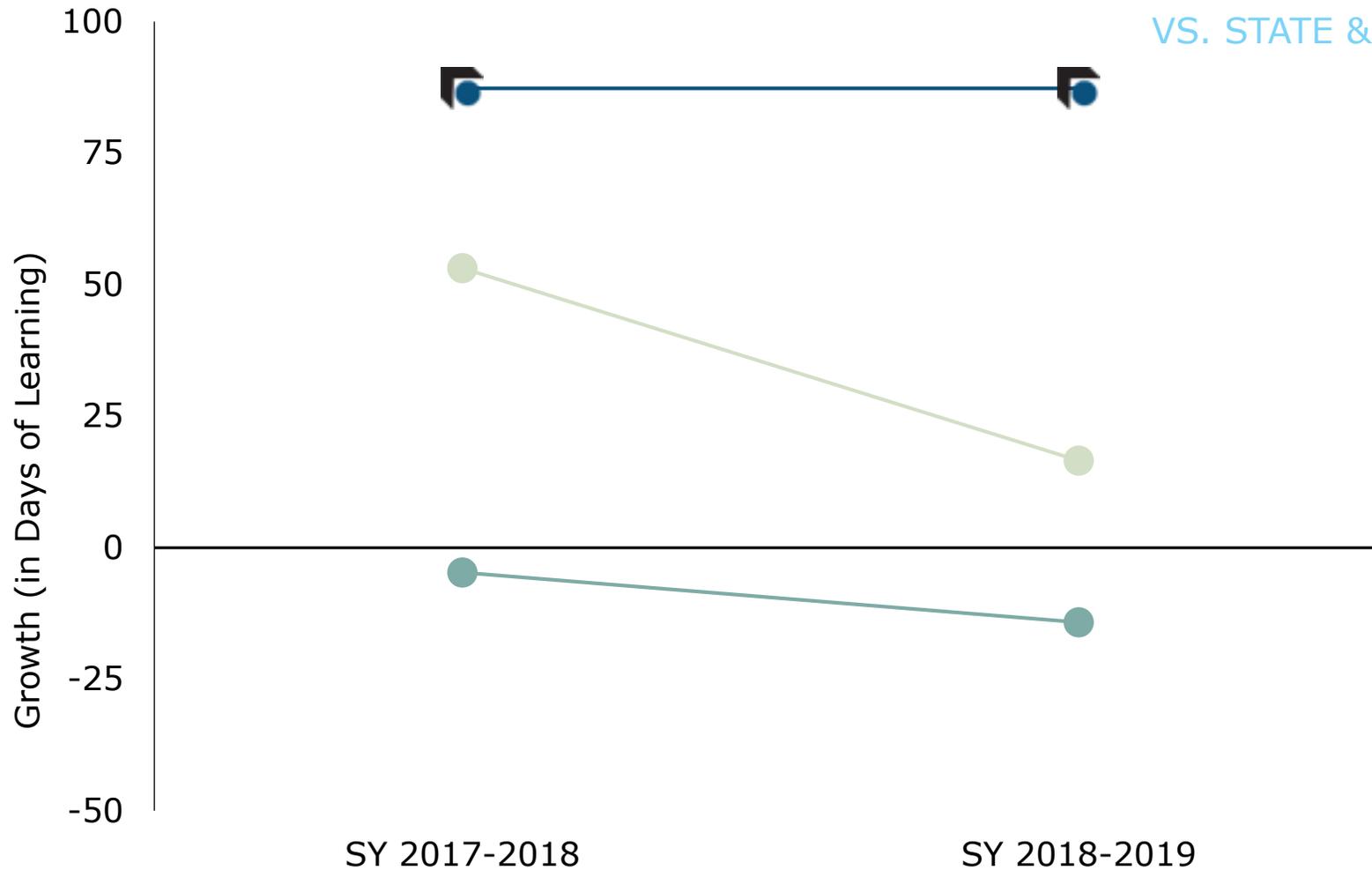
Tests of Differences		
Math	'17-'18	'18-'19
Charter vs. District	◥	◥
Signature vs. District	◥	
Charter vs. Signature		

◥ significantly different at p< 0.05

100

75

50

25

0

-25

-50

Growth (in Days of Learning)

SY 2017-2018   SY 2018-2019

● charter   ● signature   ● district

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Research Findings > Charter Subsector Analysis
> vs. state & comparison within Kansas City

Relative Learning Gains for Students in Kansas City CMO-Affiliated Charter Schools and Independent Kansas City Charter Schools Compared to the Average Learning Gains for All Student in the State, by Subject
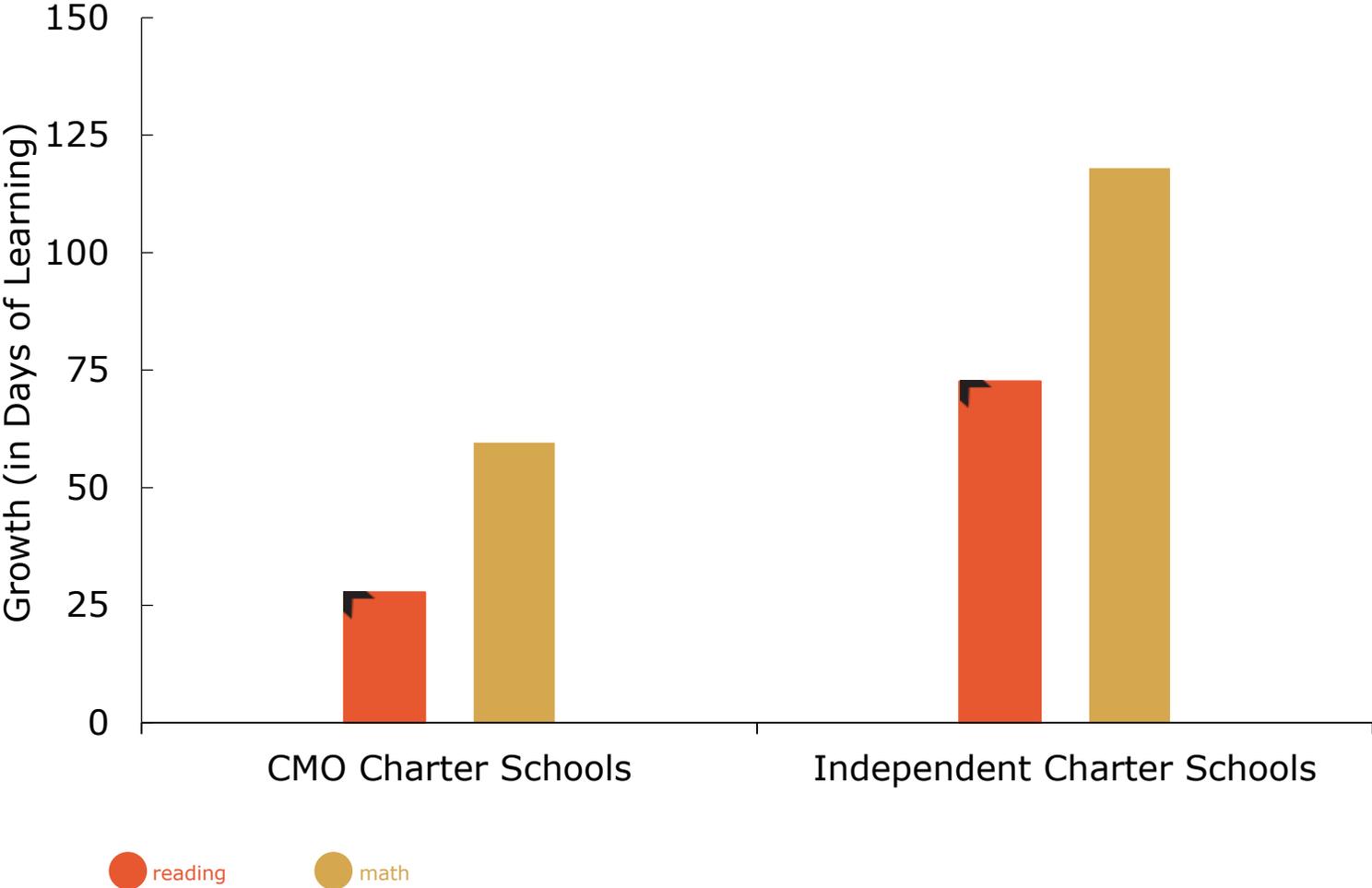
Tests of Differences	
Reading	sig
CMOs vs Independent Charter Schools	
Math	
CMOs vs Independent Charter Schools	

▟ significantly different at p< 0.05

reading ● math ●

Research Findings > School-Level Performance by Sector
> Reading
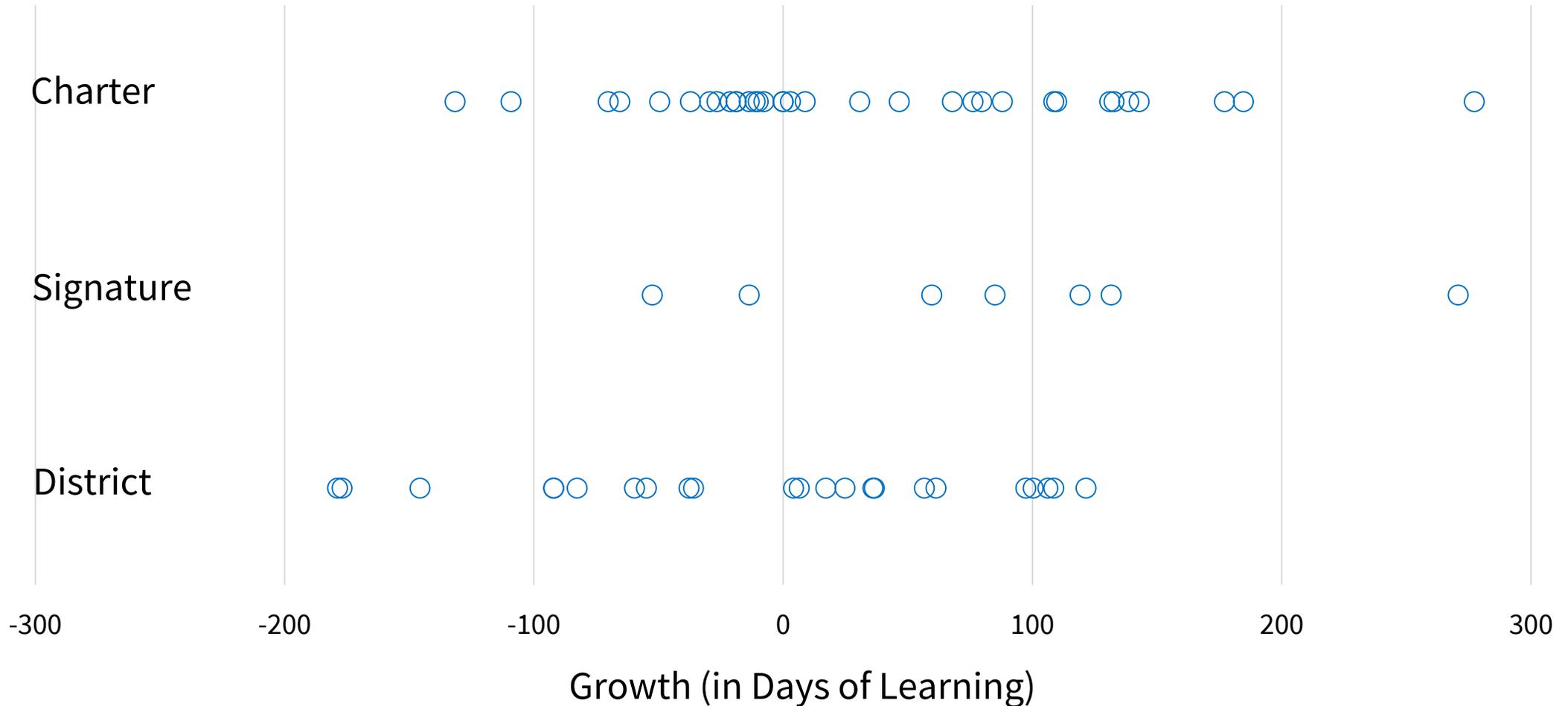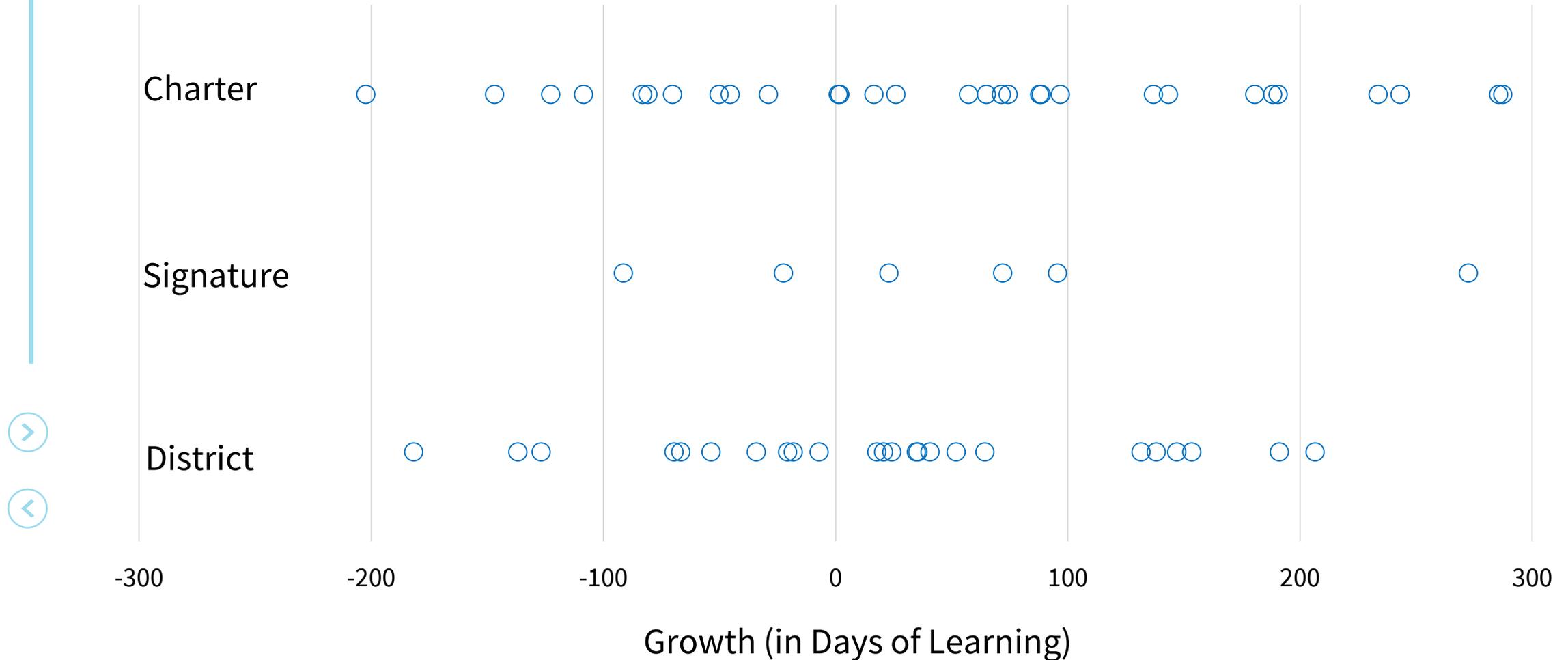
Growth (in Days of Learning)

Research Findings > School-Level Performance by Sector

>Math

Growth (in Days of Learning)

Research Findings > Student Subgroup Analysis > Black Students

VS. STATE BY SECTOR & COMPARISON WITHIN KANSAS CITY

Learning Gains for Black Students in Kansas City Charter Schools, Black Students in Kansas City Signature Schools, and Black Students in Kansas City District Schools Compared to the Average Learning Gains of Black Students Statewide, by Subject

Tests of Differences

Reading   sig
Charter Black vs. District Black
Signature Black vs. District Black

Math
Charter Black vs. District Black
Signature Black vs. District Black

significantly different at p< 0.05

reading   math

Research Findings > Student Subgroup Analysis > Hispanic Students

VS. STATE BY SECTOR & COMPARISON WITHIN KANSAS CITY

Learning Gains for Hispanic Students in Kansas City Charter Schools, Hispanic Students in Kansas City Signature Schools, and Hispanic Students in Kansas City District Schools Compared to the Average Learning Gains of Hispanic Students Statewide, by Subject

Tests of Differences

Reading   sig
    Charter Hispanic vs. District Hispanic
    Signature Hispanic vs. District Hispanic

Math
    Charter Hispanic vs. District Hispanic
    Signature Hispanic vs. District Hispanic

◤ significantly different at p< 0.05

Growth (in Days of Learning)

Kansas City Charter Hispanic Students
Kansas City Signature Hispanic Students
Kansas City District Hispanic Students

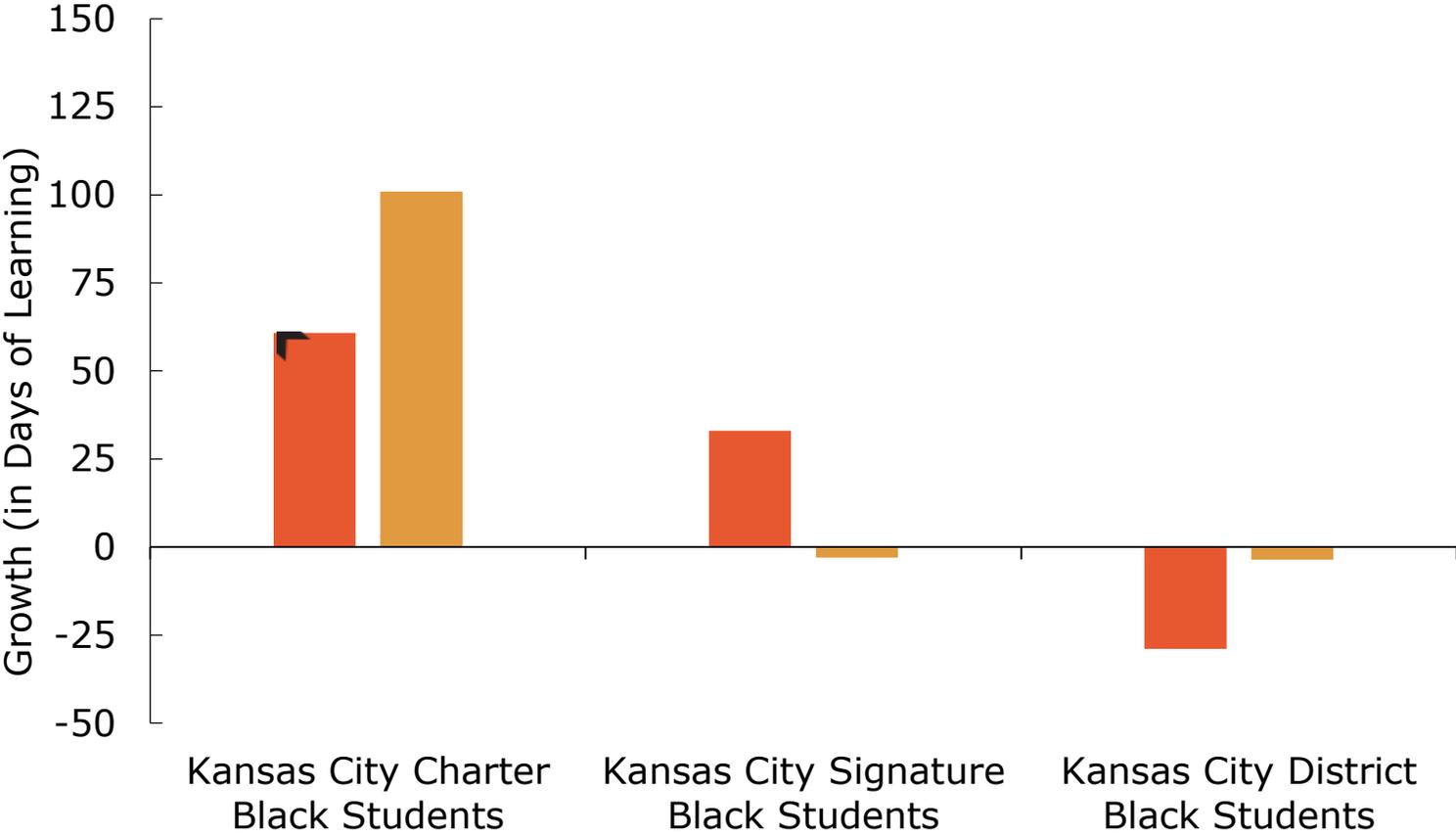● reading   ● math

Research Findings > Student Subgroup Analysis > Students in Poverty

ALL VS. STATE

Learning Gains for All Kansas City Students in Poverty Compared to the Average Learning Gains of Students in Poverty Statewide, by Subject

Growth (in Days of Learning)

150
125
100
75
50
25
0
-25
-50

Kansas City Students in Poverty

◢ significantly different at p< 0.05

● reading   ● math

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Research Findings > Student Subgroup Analysis > Students in Poverty

VS. STATE BY SECTOR & COMPARISON WITHIN KANSAS CITY

Learning Gains for Kansas City Charter School Students in Poverty, Kansas City Signature School Students in Poverty, and Kansas City District School Students in Poverty Compared to the Average Learning Gains of Students in Poverty Statewide, by Subject

Tests of Differences

Reading   sig

Charter Poverty vs. District Poverty

Signature Poverty vs. District Poverty

Math

Charter Poverty vs. District Poverty

Signature Poverty vs. District Poverty

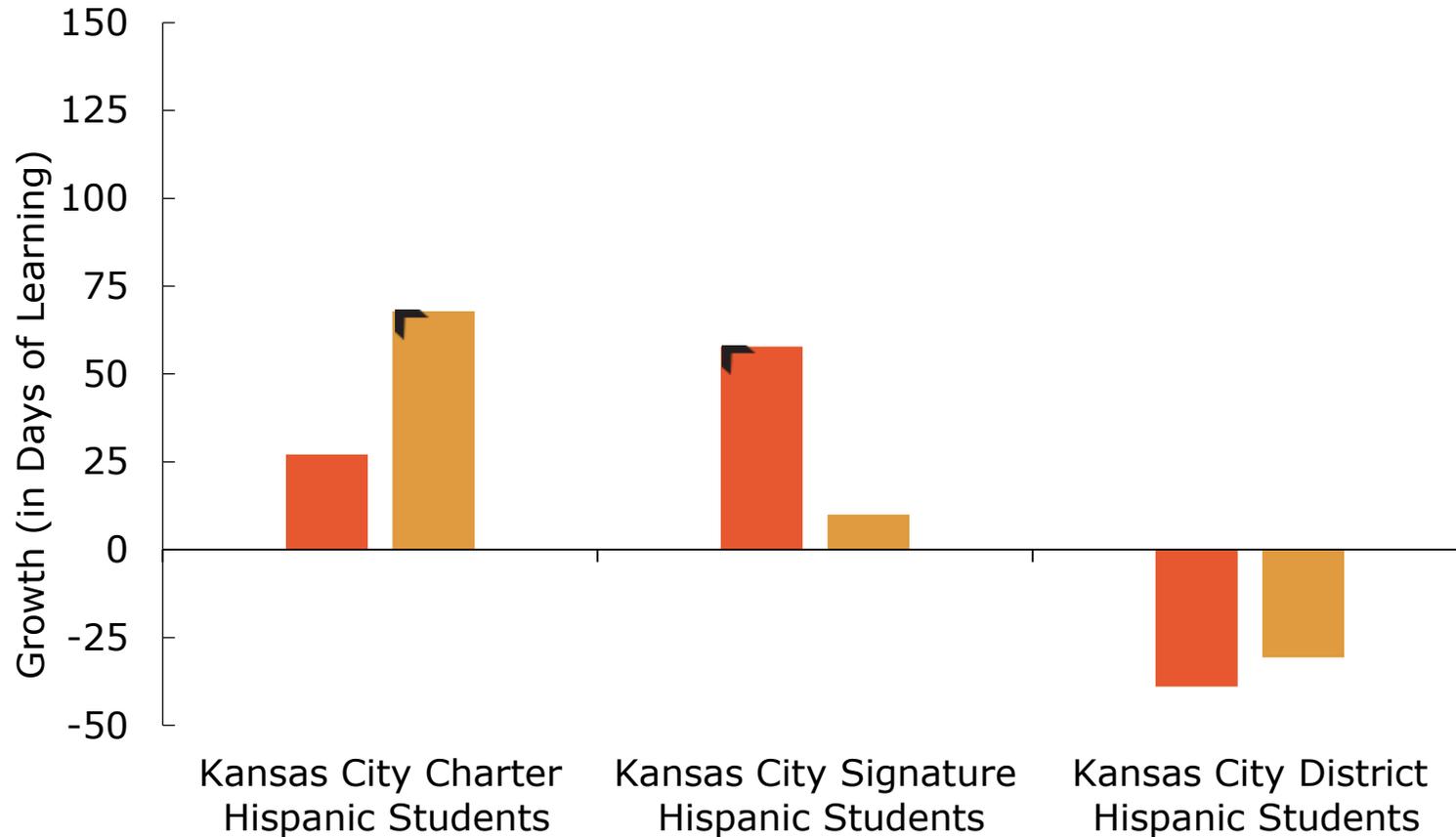■ significantly different at p< 0.05

● reading   ● math

Research Findings > Student Subgroup Analysis
> ELL Students
ALL VS. STATE

Learning Gains for All ELL Students in Kansas City
Compared to the Average Learning Gains of ELL
Students Statewide, by Subject

Growth (in Days of Learning)

150

125

100

75

50

25

0

-25

-50

Kansas City ELL Students

significantly different at p< 0.05

● reading   ● math

Research Findings > Student Subgroup Analysis
> ELL Students
VS. STATE BY SECTOR & COMPARISON WITHIN KANSAS CITY

Learning Gains for ELL Students in Kansas City Charter Schools, ELL Students in Kansas City Signature Schools, and ELL Students in Kansas City District Schools Compared to the Average Learning Gains of ELL Students Statewide, by Subject

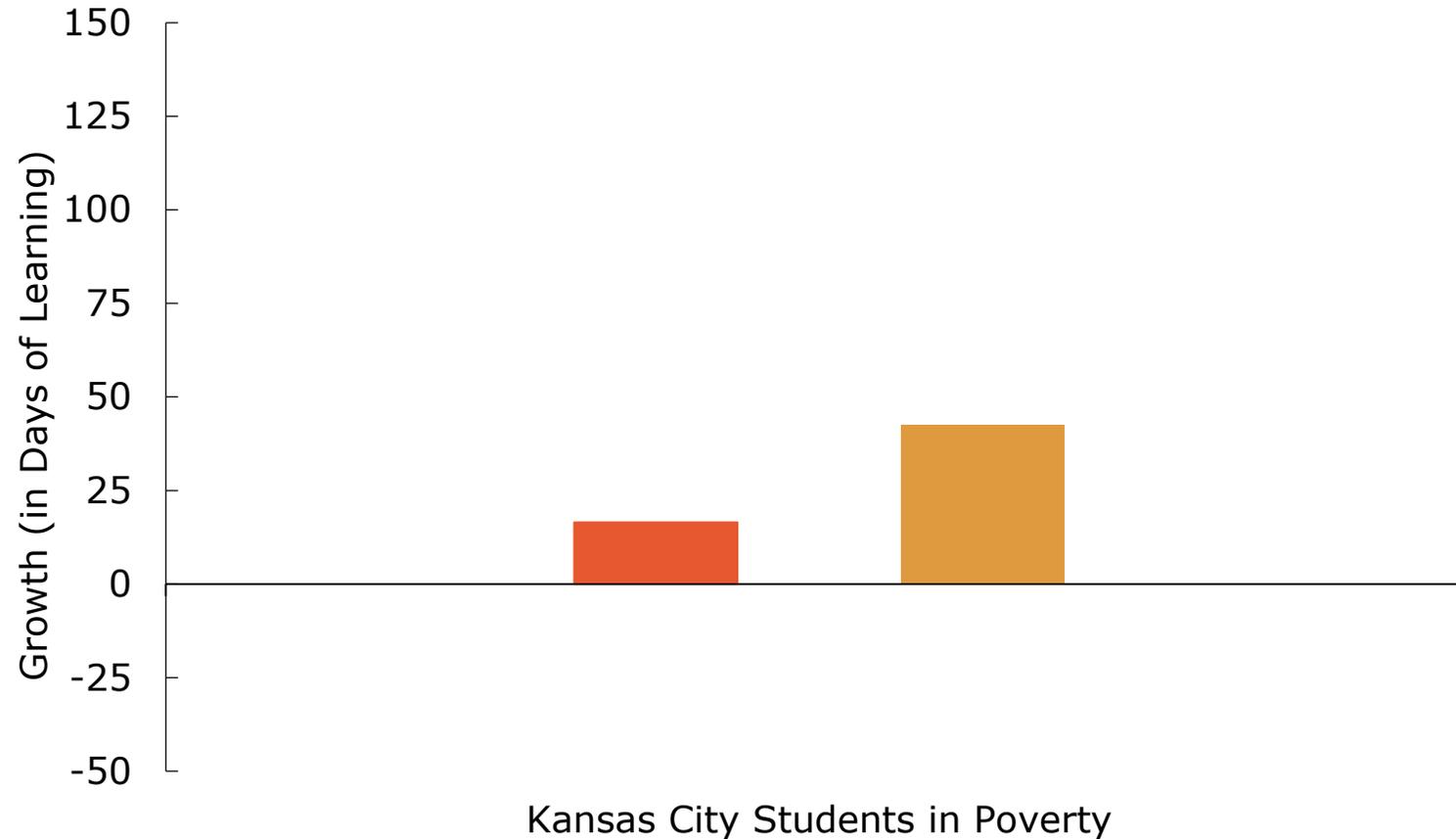| Tests of Differences	
Reading	sig
Charter ELL vs. District ELL	
Signature ELL vs. District ELL	⌐
Math	
Charter ELL vs. District ELL	
Signature ELL vs. District ELL	

⌐ significantly different at p< 0.05

reading ● math ●

**Research Findings > ** Student Subgroup Analysis > Special Ed Students

ALL VS. STATE

Learning Gains for All Kansas City Students in Special Education Compared to the Average Learning Gains of Students in Special Education Statewide, by Subject

Growth (in Days of Learning)

Kansas City Special Ed Students

◯ significantly different at p< 0.05
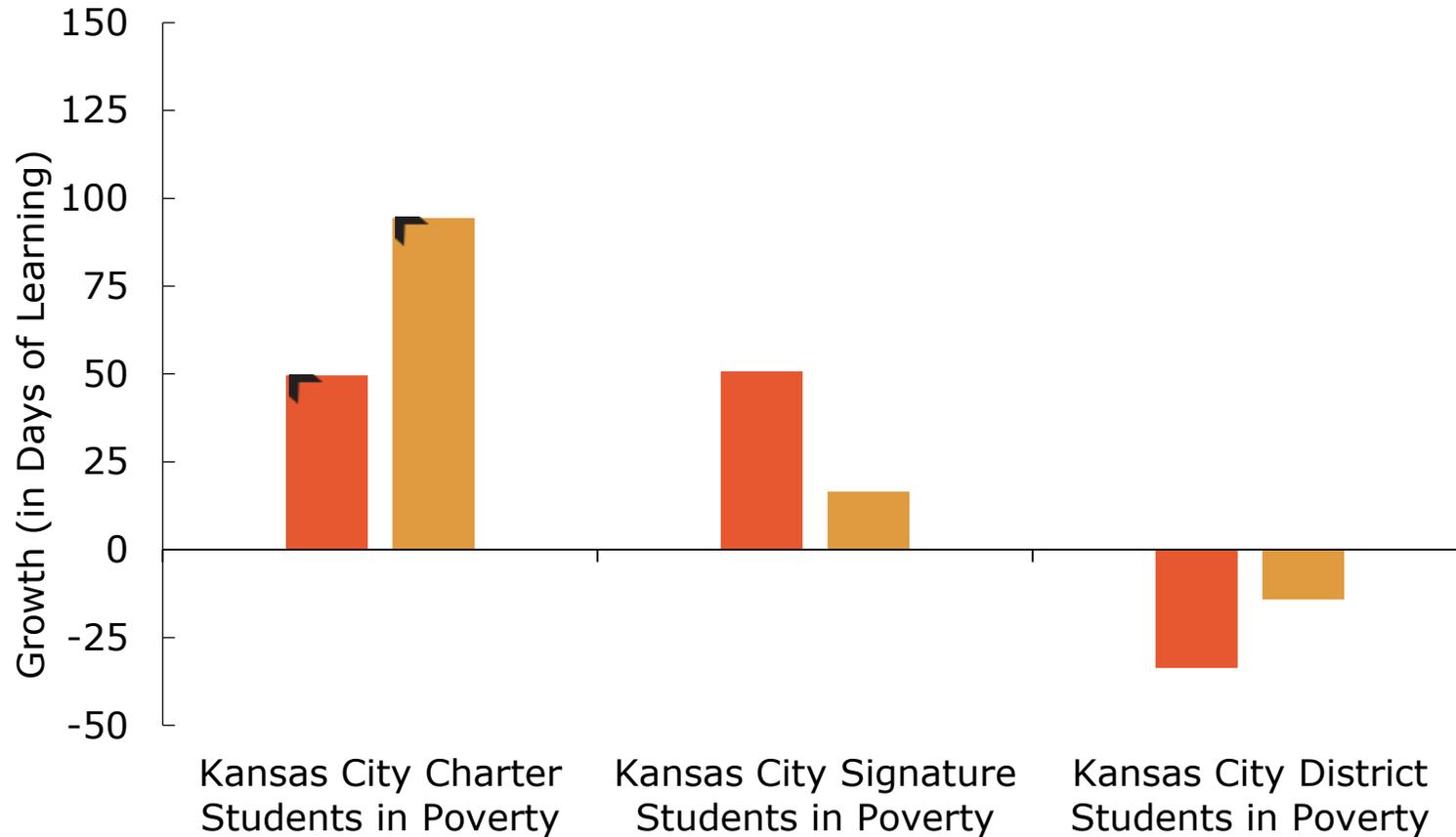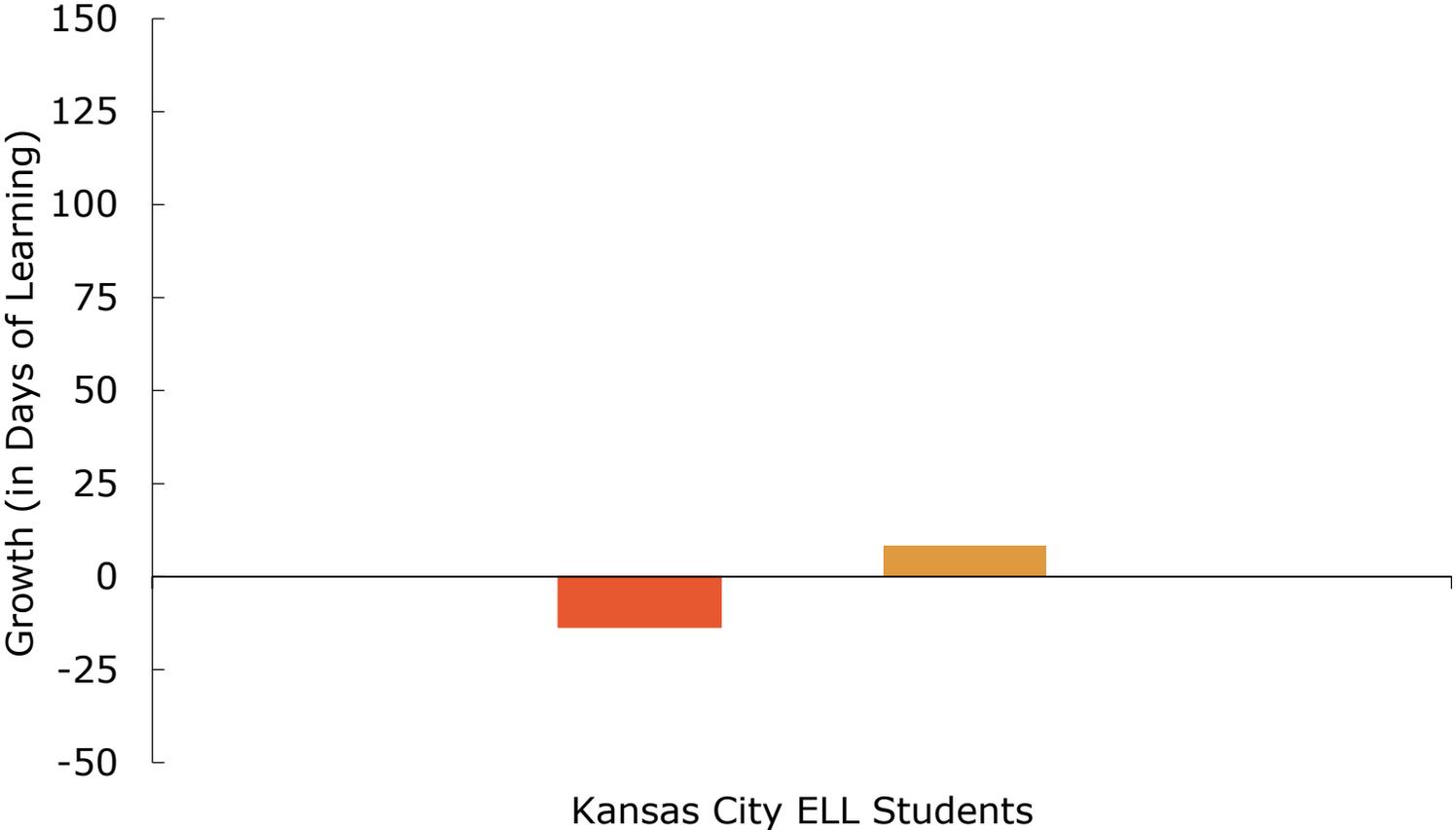
● reading ● math

Research Findings > Student Subgroup Analysis > Special Ed Students

VS. STATE BY SECTOR & COMPARISON WITHIN KANSAS CITY

Learning Gains for Kansas City Charter School Students in Special Ed., Kansas City Signature School Students in Special Ed., and Kansas City District School Students in Special Ed. Compared to the Average Learning Gains of Students in Special Ed. Statewide, by Subject

Tests of Differences	
Reading	sig
Charter Sped vs. District Sped	⌐
Signature Sped vs. District Sped	
Math	
Charter Sped vs. District Sped	⌐
Signature Sped vs. District Sped	

⌐ significantly different at p< 0.05

Growth (in Days of Learning)

Kansas City Charter Students in Special Ed. Kansas City Signature Students in Special Ed. Kansas City District Students in Special Ed.

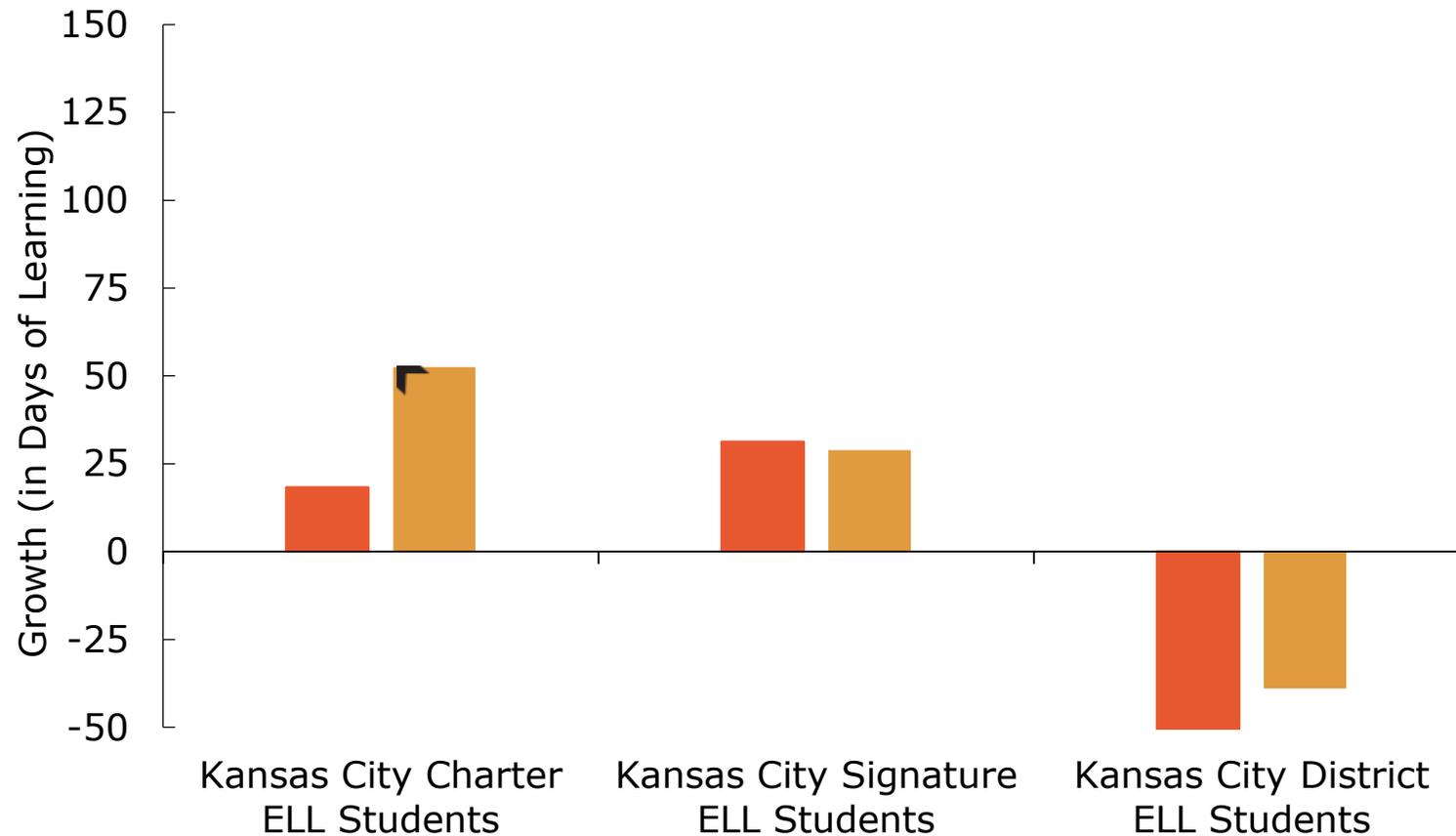● reading ● math

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Research Findings > Student Subgroup Analysis
> Male Students

VS. STATE BY SECTOR & COMPARISON WITHIN KANSAS CITY

Learning Gains for Male Students in Kansas City Charter Schools, Male Students in Kansas City Signature Schools, and Male Students in Kansas City District Schools Compared to the Average Learning Gains of Male Students Statewide, by Subject
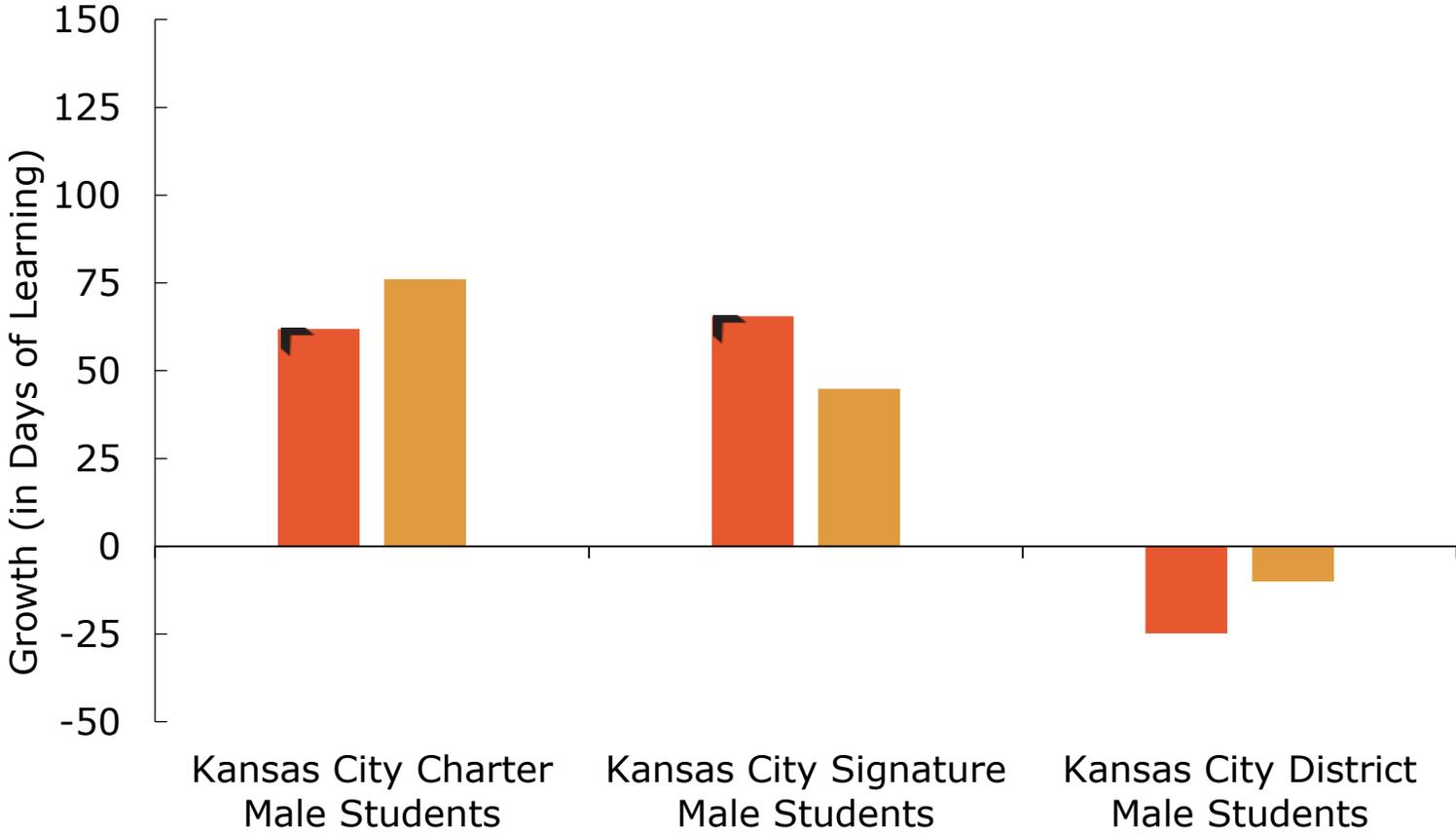
Tests of Differences

Reading   sig
  Charter Male vs. District Male
  Signature Male vs. District Male

Math
  Charter Male vs. District Male
  Signature Male vs. District Male
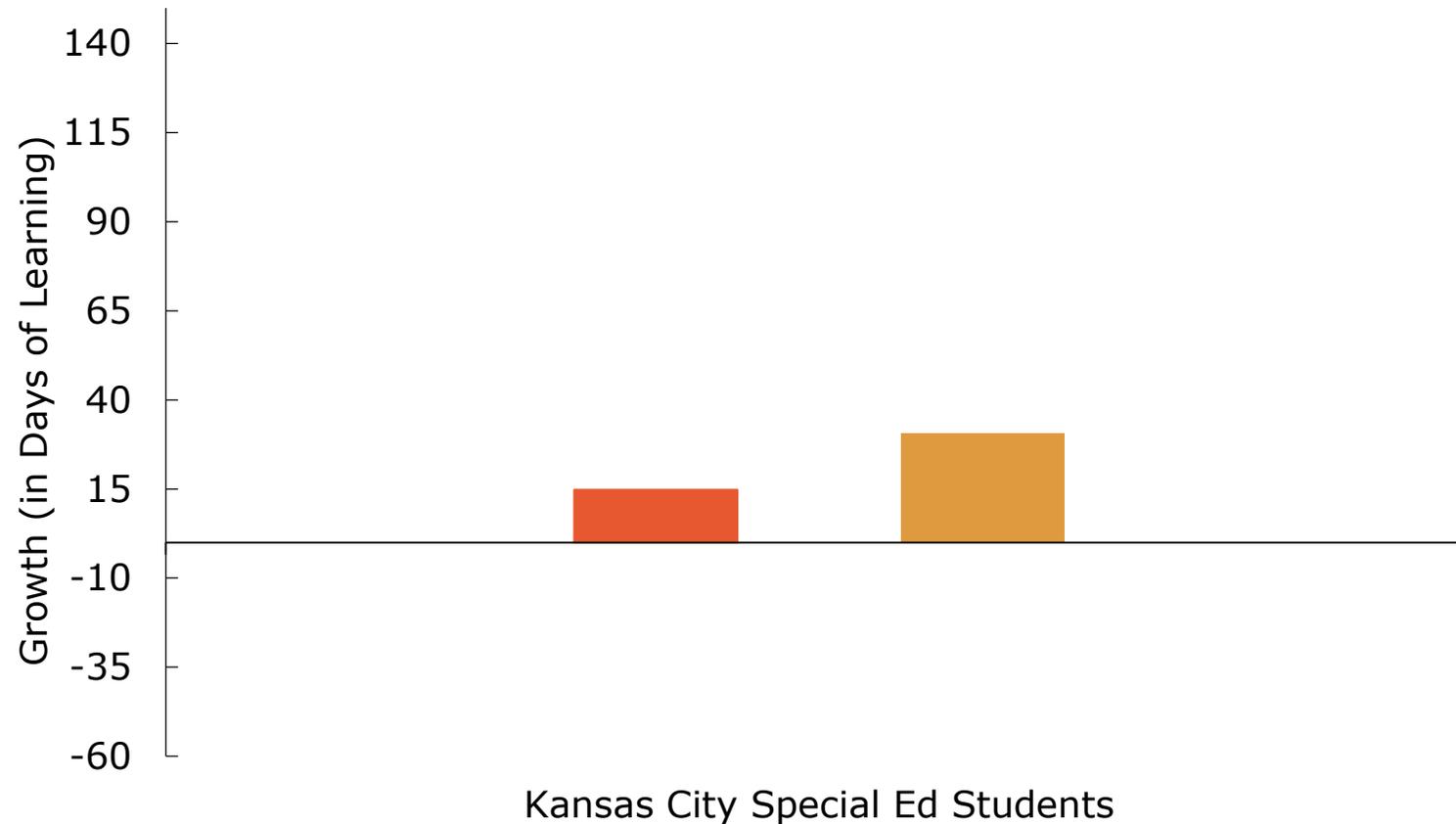
significantly different at p< 0.05

reading   math

Research Findings > Student Subgroup Analysis > Female Students

ALL VS. STATE

Learning Gains for All Kansas City Female Students Compared to the Average Learning Gains of Female Students Statewide, by Subject
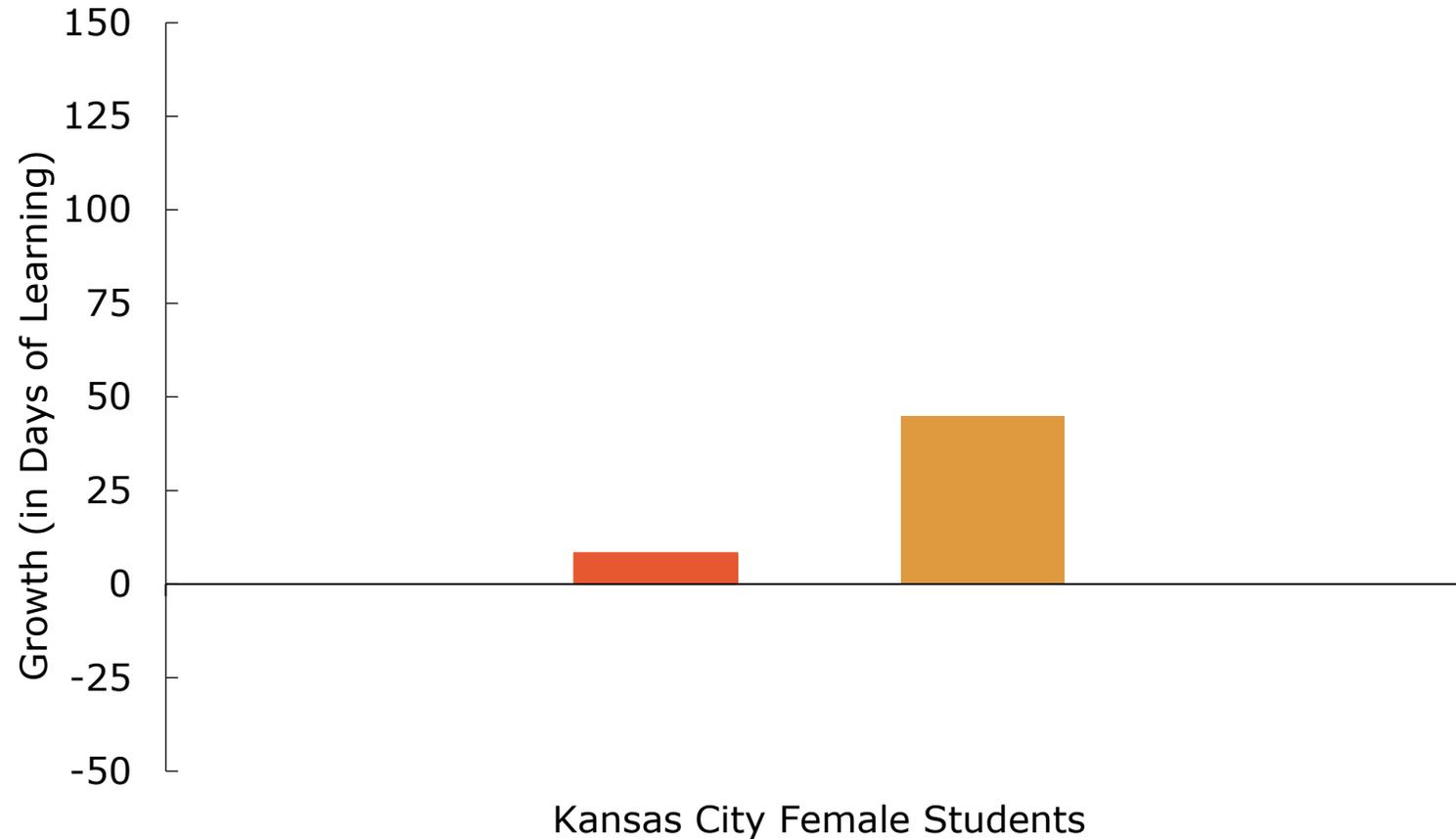
Growth (in Days of Learning)

Kansas City Female Students

significantly different at p< 0.05
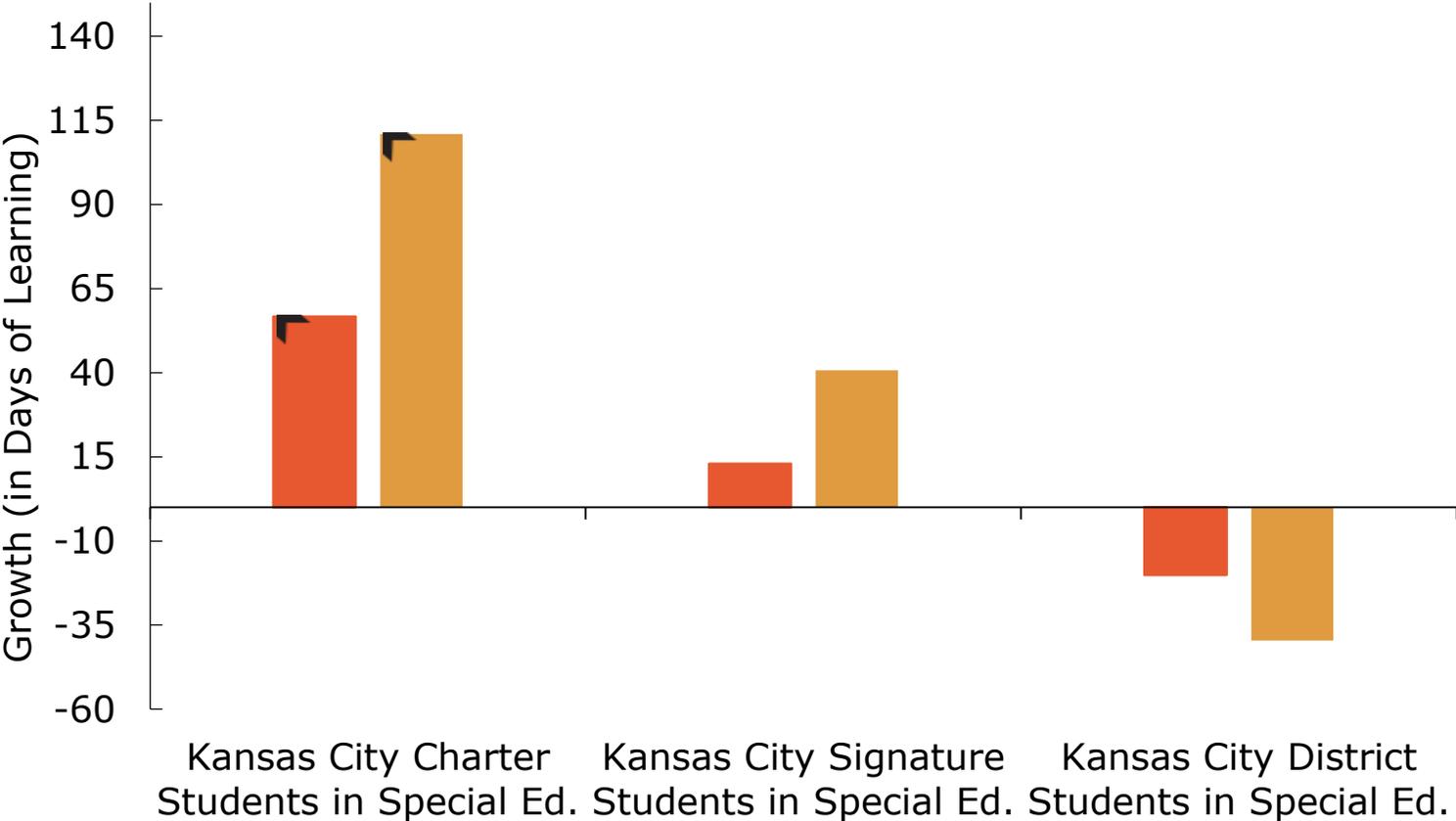
● reading   ● math

Research Findings > Student Subgroup Analysis > Female Students

VS. STATE BY SECTOR & COMPARISON WITHIN KANSAS CITY

Learning Gains for Female Students in Kansas City Charter Schools, Female Students in Kansas City Signature Schools, and Female Students in Kansas City District Schools Compared to the Average Learning Gains of Female Students Statewide, by Subject
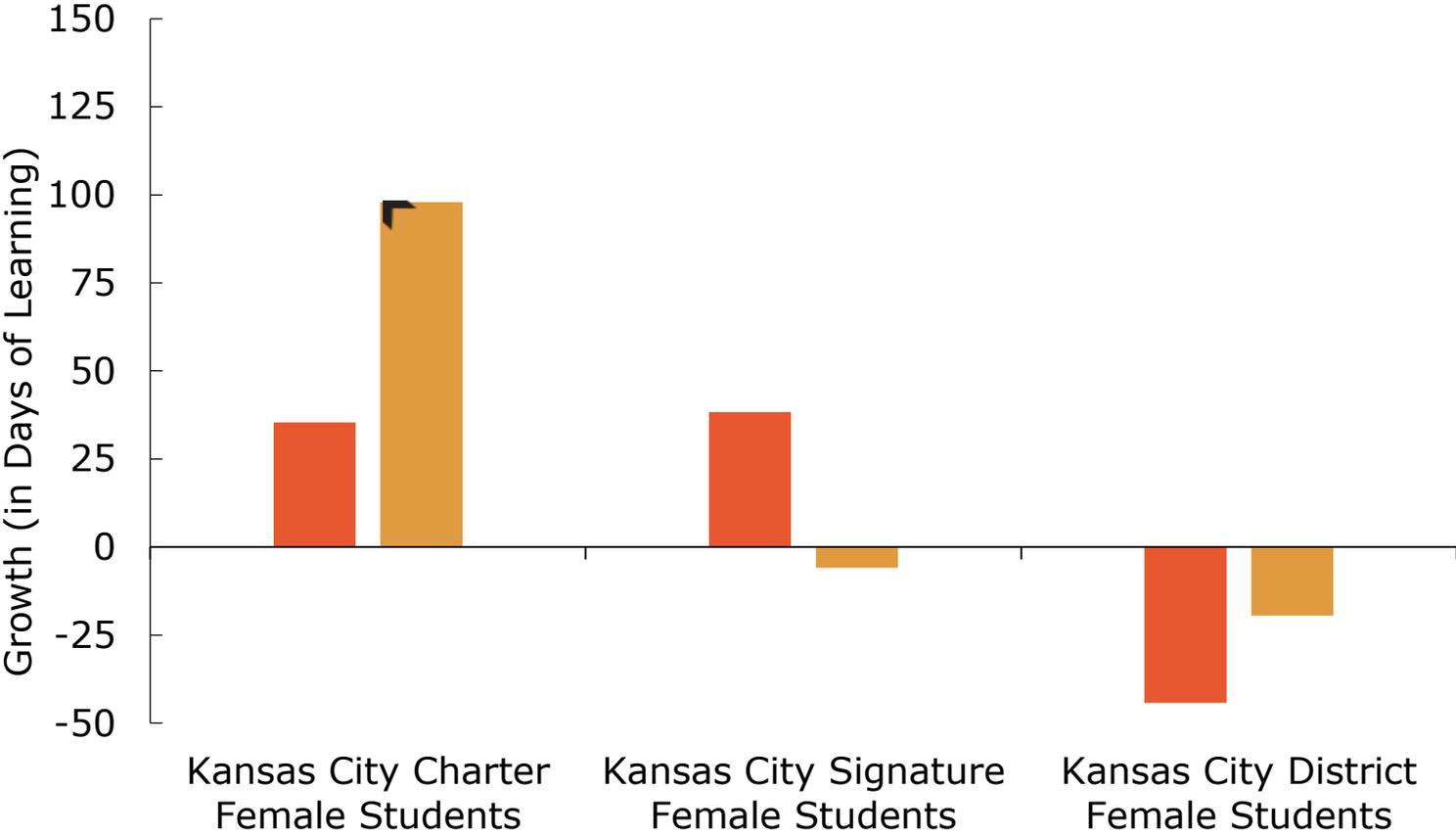
Tests of Differences

Reading   sig
  Charter Female vs. District Female
  Signature Female vs. District Female

Math
  Charter Female vs. District Female
  Signature Female vs. District Female

significantly different at p< 0.05

● reading ● math

Summary of Findings

The summary of the findings from the analysis of Kansas City schools is presented <u>here</u>.

APPENDIXES

03

Acknowledgments

Student-level data were provided by the **Missouri Department of Elementary & Secondary Education**.

School Smart Kansas City assisted CREDO with verifying the list of public schools in Kansas City.

Types of Charter Schools

There are two types
of charter schools.

CHARTER MANAGEMENT ORGANIZATIONS (CMOS)

Organizations holding the charter and overseeing the operation of at least three charter schools.

INDEPENDENT CHARTER SCHOOLS

Organization holding the charter and overseeing the operation of a single charter school. It may run the school directly or contract with an organization which provides services to one or two charter schools.

OUR ANALYSES OF KANSAS CITY CHARTER SCHOOLS INCLUDE A BREAKOUT OF CMOS AND INDEPENDENT CHARTERS.

- With more schools and students than a single charter school, CMOs have some operational advantages in their ability to spread administrative fixed costs, thus providing the possibility of greater efficiency. In addition, CMOs may be able to support additional programs and more robust staffing.

- Whether CMOs lead to better student outcomes is a matter of interest across the country.

Methods

The annual academic growth of students in Kansas City from 2015-16 to 2018-19, overall and by sector, is benchmarked to the state average growth, accounting for student characteristics.

We also explore how one-year growth of Kansas City students for the period ending in Spring 2019 differs by school type, race, poverty status, English language learner status, special education status, and gender.

Days of Learning

CREDO USES ADVANCED TECHNOLOGY AND SOPHISTICATED STATISTICAL TOOLS TO MEASURE STUDENTS, SCHOOLS AND THE EDUCATION LANDSCAPE.

While these tools create precise and reliable answers, they are presented in technical terms that are not user-friendly to a general audience. To translate the technical results into terms that are accessible to non-technical audiences, CREDO developed Days of Learning.

Student

3rd Grade

= 180 days

Student

Less than 180 days   More than 180 days

4th Grade
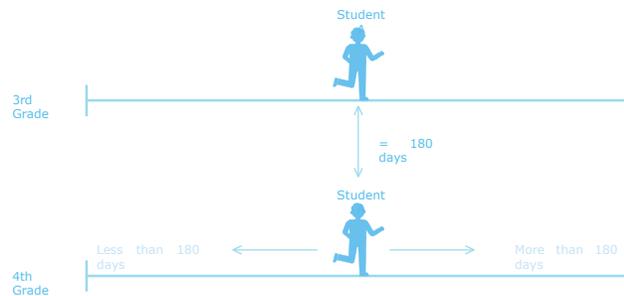
01 **Think about the students in your state's public schools.** For many of their years of schooling, they take achievement tests to measure what they know at the end of the school year. We can identify the average score for each test each year.

02 **Imagine a student who scores exactly at the average in one year**, say 4th grade, and then in the following year, scores exactly at the average again on the 5th-grade test. The amount of year-to-year learning for that student show us what the average learning is for all the students who took both tests.

03 **We do that calculation for every grade the state tests:** 4th to 5th, 5th to 6th, and so on.

04 **CREDO uses those annual measures of average learning** to represent a typical year of learning, and equates that to a typical 180-day school year. We say that the student in our example has gained 180 days of learning.

05 **If a student makes more progress than the average student,** we take the amount of extra achievement and translate it into 180-days of learning plus "X" extra days. We are creating a measure of student learning as if the student went to school for 180 days plus X days. The size of "X" depends on how much more the student learns than the average student — if it's a lot more, then "X" will be a large number, and if it's a small amount more, "X" will be a small number.

06 **The same is true for students who do not learn as much as the average student.** Instead of adding to the 180-days-of-learning average, we subtract from that base to reflect the smaller-than-average advances that those students realize. In these cases, the difference leads to numbers such a "165 days of learning" or "152 days of learning". Against the average standard of 180 days, these smaller days show that students learned as if they had only attended school for 180 days minus X days during the school year.

Overall Kansas City Results

	READING		MATH	
	Standard Deviation	Days of Learning	Standard Deviation	Days of Learning
Kansas City Overall 2017-18	0.05	28	0.09	50
Kansas City Overall 2018-19	0.03	17	0.07	41

Significant at p < 0.05*

Significant at p < 0.01**

Kansas City School Sectors Compared to State Average

	READING		MATH	
	Standard Deviation	Days of Learning	Standard Deviation	Days of Learning
Charter Schools 2017-18	0.08**	45**	0.15**	87**
Charter Schools 2018-19	0.08**	48**	0.15**	87**
Signature Schools 2017-18	0.14*	82*	0.09	53
Signature Schools 2018-19	0.09	50	0.03	16
Other District Schools 2017-18	-0.03	-19	-0.01	-5
Other District Schools 2018-19	-0.06	-34	-0.02	-15

Significant at p < 0.05*

Significant at p < 0.01**

Comparison of School Sectors within Kansas City

	READING		MATH	
	Standard Deviation	Days of Learning	Standard Deviation	Days of Learning
Charter Schools vs. Other District Schools 2017-18	0.11*	63*	0.16*	92*
Charter Schools vs. Other District Schools 2018-19	0.14	82	0.17*	101*
Signature Schools vs. Other District Schools 2017-18	0.17*	100*	0.10*	57*
Signature Schools vs. Other District Schools 2018-19	0.14	83	0.05	30

Significant at p < 0.05*

Significant at p < 0.01**

Charter Subsector Analysis

	READING		MATH	
	Standard Deviation	Days of Learning	Standard Deviation	Days of Learning
Kansas City CMOs vs. State Average	0.05*	27*	0.10	59
Kansas City Independent Charters vs. State Average	0.12**	72**	0.20	118
Kansas City CMOs vs. Kansas City Independent Charters	-0.08	-45	-0.10	-59

Significant at p < 0.05*

Significant at p < 0.01**

Student Subgroup Analysis> Black Students

	READING		MATH	
	Standard Deviation	Days of Learning	Standard Deviation	Days of Learning
Compared with Statewide Average of Black Students				
Kansas City Black Students Overall	0.04	24	0.09	52
Kansas City Charter School Black Students	0.10**	60**	0.17	100
Kansas City Signature School Black Students	0.06	33	-0.01	-3
Kansas City Other District School Black Students	-0.05	-29	-0.01	-4
Compared with Black Students in Other District Schools in Kansas City				
Kansas City Charter School Black Students	0.15*	89*	0.18	104
Kansas City Signature School Black Students	0.11	61	0.00	0

Significant at p < 0.05*

Significant at p < 0.01**

Student Subgroup Analysis> Hispanic Students

	READING		MATH	
	Standard Deviation	Days of Learning	Standard Deviation	Days of Learning
Compared with Statewide Average of Hispanic Students				
Kansas City Hispanic Students Overall	0.01	8	0.04	24
Kansas City Charter School Hispanic Students	0.05	27	0.12*	67*
Kansas City Signature School Hispanic Students	0.10**	57**	0.02	10
Kansas City Other District School Hispanic Students	-0.07	-39	-0.05	-31
Compared with Hispanic Students in Other District Schools in Kansas City				
Kansas City Charter School Hispanic Students	0.11	66	0.17	98
Kansas City Signature School Hispanic Students	0.16*	96*	0.07	40

Significant at p < 0.05*

Significant at p < 0.01**

Student Subgroup Analysis> Students in Poverty

	READING		MATH	
	Standard Deviation	Days of Learning	Standard Deviation	Days of Learning
Compared with Statewide Average of Students in Poverty				
Kansas City Students in Poverty Overall	0.03	16	0.07	42
Kansas City Charter School Students in Poverty	0.08**	49**	0.16*	94*
Kansas City Signature School Students in Poverty	0.09	50	0.03	16
Kansas City Other District School Students in Poverty	-0.06	-34	-0.02	-15
Compared with Students in Poverty in Other District Schools in Kansas City				
Kansas City Charter School Students in Poverty	0.14*	83*	0.18*	108*
Kansas City Signature School Students in Poverty	0.14*	84*	0.05	30

Significant at $p < 0.05$*

Significant at $p < 0.01$**

Student Subgroup Analysis> ELL Students

	READING		MATH	
	Standard Deviation	Days of Learning	Standard Deviation	Days of Learning
Compared with Statewide Average of ELL Students				
Kansas City ELL Students Overall	-0.02	-14	0.01	8
Kansas City Charter School ELL Students	0.03	18	0.09*	52*
Kansas City Signature School ELL Students	0.05	31	0.05	28
Kansas City Other District School ELL Students	-0.09	-55	-0.07	-39
Compared with ELL Students in Other District Schools in Kansas City				
Kansas City Charter School ELL Students	0.12	73	0.16	91
Kansas City Signature School ELL Students	0.15*	86*	0.12	67

Significant at $p < 0.05$*

Significant at $p < 0.01$**

Student Subgroup Analysis> Special Ed Students

	READING		MATH	
	Standard Deviation	Days of Learning	Standard Deviation	Days of Learning
Compared with Statewide Average of Special Ed Students				
Kansas City Special Ed Students Overall	0.03	14	0.05	30
Kansas City Charter School Special Ed Students	0.10**	56**	0.19*	110*
Kansas City Signature School Special Ed Students	0.02	12	0.07	40
Kansas City Other District School Special Ed Students	-0.03	-21	-0.07	-40
Compared with Special Ed Students in Other District Schools in Kansas City				
Kansas City Charter School Special Ed Students	0.13*	76*	0.26**	150**
Kansas City Signature School Special Ed Students	0.06	33	0.14	80

Significant at $p < 0.05$*

Significant at $p < 0.01$**

Student Subgroup Analysis> Male Students

	READING		MATH	
	Standard Deviation	Days of Learning	Standard Deviation	Days of Learning
Compared with Statewide Average of Male Students				
Kansas City Male Students Overall	0.05	27	0.07	38
Kansas City Charter School Male Students	0.11**	61**	0.13	76
Kansas City Signature School Male Students	0.11*	65*	0.08	44
Kansas City Other District School Male Students	-0.04	-25	-0.02	-11
Compared with Male Students in Other District Schools in Kansas City				
Kansas City Charter School Male Students	0.15*	86*	0.15	86
Kansas City Signature School Male Students	0.15*	90*	0.09	54

Significant at p < 0.05*

Significant at p < 0.01**

Student Subgroup Analysis> Female Students

	READING		MATH	
	Standard Deviation	Days of Learning	Standard Deviation	Days of Learning
Compared with Statewide Average of Female Students				
Kansas City Female Students Overall	0.01	8	0.08	44
Kansas City Charter School Female Students	0.06	35	0.17*	97*
Kansas City Signature School Female Students	0.07	38	-0.01	-6
Kansas City Other District School Female Students	-0.08	-45	-0.03	-20
Compared with Female Students in Other District Schools in Kansas City				
Kansas City Charter School Female Students	0.14*	79*	0.20*	117*
Kansas City Signature School Female Students	0.14*	82*	0.02	13

Significant at p < 0.05*

Significant at p < 0.01**

THANK YOU