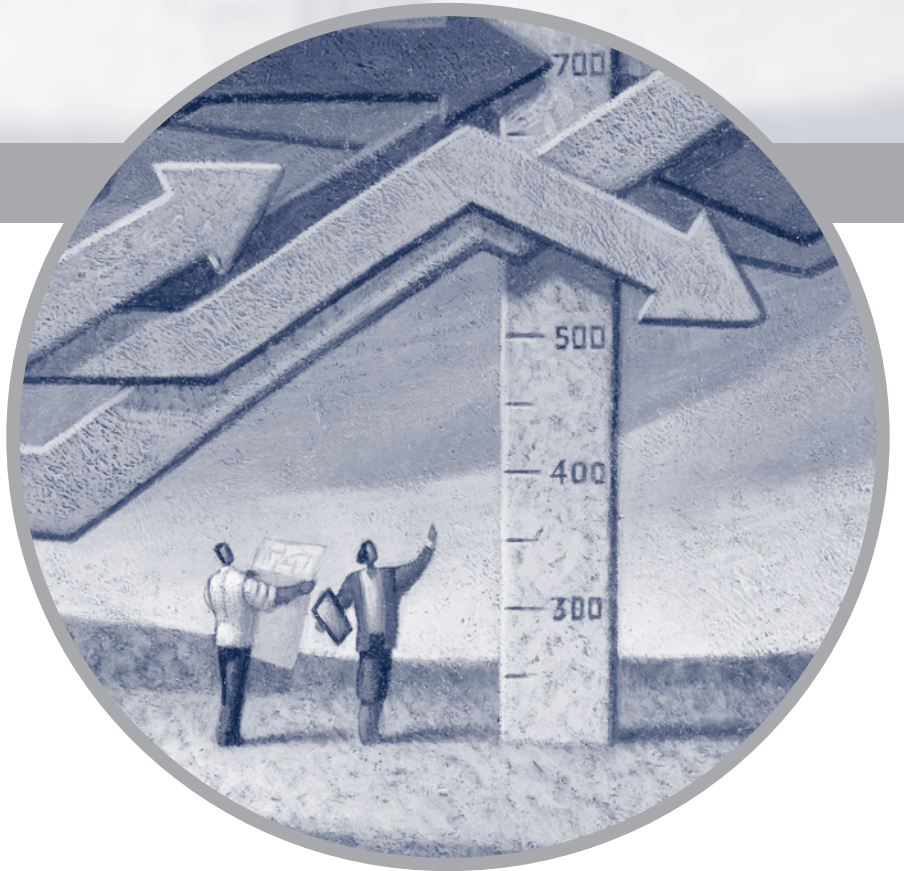
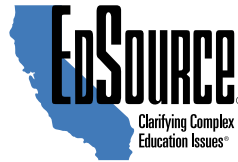


California's Charter Schools: Measuring Their Performance







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California's Charter Schools:

Measuring Their Performance



CHARTER SCHOOLS ARE PUBLIC SCHOOLS that operate outside school district control and most state regulations. Their relative autonomy lets them determine their own instructional program. Yet this independence is not entirely without limitation. Charter schools operate under a five-year, renewable contract (“charter”) negotiated with a district, county office of education, or the State Board of Education. They must also attract students to open and retain students to remain viable. Groups can start schools from scratch or convert existing schools to charter status. Whether a charter school is a “start-up” or “conversion,” students do not *have* to enroll but *choose* to.

In addition to enrollment demands, charter schools in California are expected to demonstrate adequate or improved student performance under federal and state accountability systems just like noncharter public schools. A charter school also faces specific performance requirements under state law and must meet performance goals outlined in its charter. If it does not meet those goals, the charter-granting

agency can revoke or refuse to renew the school’s charter.¹

Despite these limitations, charter schools’ instructional program can be more innovative and flexible than district-run schools. In theory, this freedom should lead to better student performance because a charter school can create a program that better fits the students and teachers who choose to be at the school. In fact, many charters are formed with a specific type of student or program in mind.

California’s first charter school opened in 1993. Since then, the numbers have grown steadily each year. Parents want to know if these schools are providing sound instruction, and local and state policymakers care about whether allowing schools more independence translates into higher student achievement.

This report addresses two critical questions:

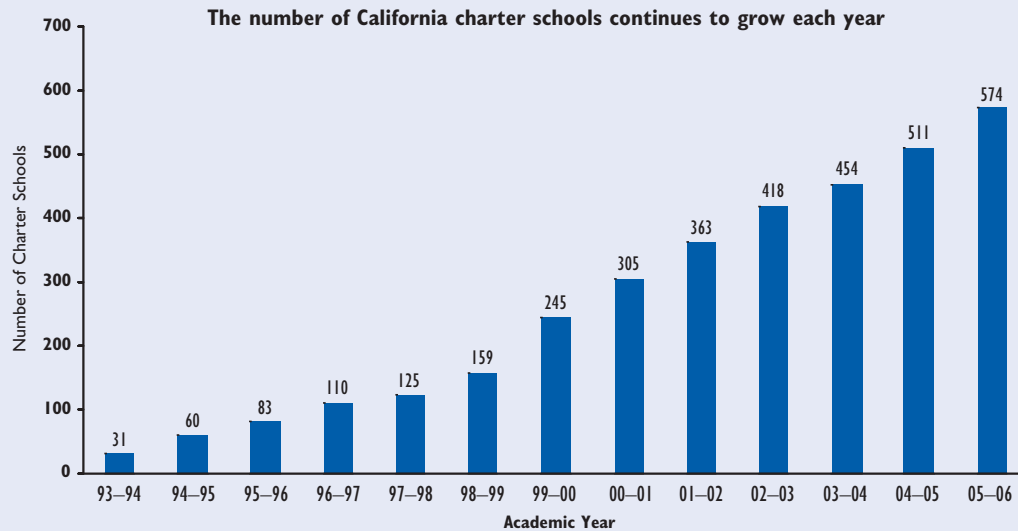
- How does the academic performance of California charter schools differ from that of noncharters?
- How does the academic performance of different kinds of charter schools vary?

The report examines school and student performance as measured by state tests using a research method—statistical regression—that makes it possible to reasonably compare groups of schools that serve somewhat different students. Charter elementary, middle, and high schools are each compared to their noncharter counterparts. In addition, the report compares the performance of various subgroups of charter schools, including start-ups versus conversions, those that operate as more traditional classroom-based schools versus nonclassroom-based, and those that are operated by a school management organization versus charter schools that are not.

This report also compares schools based on the measures used by the state for its accountability system, which includes statewide ranks, similar schools ranks, and success meeting growth targets.

This report begins with a description of the analytic approach, the set of schools studied, and the measures used to gauge performance. This information defines and clarifies the terms and figures that follow in the performance comparisons that begin on page 8.

Charter Schools in California: Vital Statistics



	93-94	94-95	95-96	96-97	97-98	98-99	99-00	00-01	01-02	02-03	03-04	04-05	05-06
Enrollment†	10,761	23,228	30,977	39,624	48,101	68,685	99,048	113,956	132,643	158,942	167,764	181,818	202,683
% of State's Enrollment	0.2%	0.4%	0.6%	0.7%	0.8%	1.2%	1.7%	1.9%	2.2%	2.5%	2.7%	2.9%	3.2%

Note: To be counted among the schools open in a given year, a school must operate at a minimum from Nov. 1 through February.

† Enrollment data is not available for a few schools each year.

The number of charter schools in California has grown significantly since 1992 when they were first authorized by the state. A total of 574 charter schools operated throughout California in 2005-06 (the most current data available), representing about 6% of all state public schools that year. Because charters tend to have fewer students than "regular" public schools, they enrolled only 3.2% of the state's students. These are small increases from 2004-05 when the state ranked 12th in the nation in the percent of public schools that were charters and 11th in the percent of students enrolled in charters. (The national statistics include the 50 states and the District of Columbia.)

Among the 1,034 school districts and county offices of education in California, 248 (24%) had at least one charter school. Eight districts—which together enroll about 6,300 students—have converted all their schools to charter status. Five of those all-charter districts have only one school. The other three districts have two, three, and five schools.

Compared to California's noncharter public schools, charter schools are less likely to be elementary schools and more likely to be high schools. Among the 9,001 noncharters open in 2005-06, 62% were elementary, 15% were middle, and 23% were high schools. In contrast, the 574 charters consisted of 47% elementary, 12% middle, and 41% high.

Taken as a whole, the state's charters also differ from noncharters in the students they serve and the teachers they employ. Charters serve greater proportions of African American and white students and smaller percentages of Asians, Latinos, and English learners. (It is possible that differences in the percentages of English learners are due to differences in ability to help students achieve proficiency in English. However, publicly available state data do not allow for investigation into this question.) In addition, charters have higher percentages of teachers who are not fully credentialed and have two years or less of experience. The table below shows the most recent data available.

	Percentages for All Schools Combined*	
	Charters (574 schools)	Noncharters (9,001 schools)
Students		
African American	12%	8%
Asian	4%	8%
Latino	38%	48%
White	39%	30%
English Learner	17%	25%
Teachers		
Teachers Not Fully Credentialed	15%	5%
Teachers with Two Years Experience or Less	24%	12%

* If all charter schools were combined into one school and all noncharter schools were combined into another school, these are the percentages that would result. The percentages related to student ethnicities do not sum to 100% because not all ethnicities are reflected in the table.

How to Interpret the Findings in this Report

This report adjusts for differences in important student characteristics when comparing performance outcomes

This report relies on a number of techniques to make performance comparisons more meaningful. It uses a statistical technique to try to strip away the effects of student and teacher characteristics and school size on performance. It also looks at performance in past years to bolster claims about performance in 2006 and examines the consistency of results across multiple—albeit overlapping—measures. Further, the report focuses on subsets of schools that have data on all those performance measures. Finally, analyses are generally broken down by school type—elementary, middle, and high—to compare like with like.

Three concepts guide the analytic approach

Three concepts are at the fore of this year's analytic approach: controlling for student characteristics, showing data from multiple years, and triangulating findings.²

over which the school staff normally has no influence.

This report examines performance differences between groups of schools after applying statistical controls for specific school characteristics. As a result, it provides a more valid assessment of schools' performance than would a comparison that did not take these characteristics into account.

The research team controlled for the first variable—size of enrollment—because in many settings there is evidence of a link between school size and student achievement, and charters and noncharters differ substantially in their average enrollments. The second variable—the SCI—is released annually as part of the Base API report. A school's SCI value, which can range roughly from 100 to 200, summarizes its student demographics and school and teacher characteristics, as they are associated with academic performance.

for is the motivation of parents and students. Parents who elect to send their children to charter schools instead of the neighborhood public school may have a greater stake in their children's education, and that can have an effect on student achievement that an analysis such as this simply cannot measure. A second factor is funding—how much a school gets and how it spends it. The complexities of determining the resources available to charters and noncharters, as well as the expenditure constraints and opportunities that different types of charters have, are beyond the scope of this report and are not considered.

In the end, the research technique used in this study can indicate differences that are not attributable to SCI factors and school size. But it cannot provide certainty that differences in achievement between charters and other public schools are due only to a school's status as a charter.

Showing data from multiple years—“stability”

Findings that hold consistently across multiple years are stronger and more credible than those that are more short-lived. This report replicates the main 2006 analyses with data from previous years and notes whether the results have been stable over time.³

This approach is not the same as a longitudinal analysis, which tracks the same students over time. Such an analysis is not currently possible with California's publicly available data.

Triangulating findings—“consistency”

Findings that are consistent across measures, as well as over time, are more robust and defensible. This study reports school-level results from multiple measures—Academic Performance Index (API), adequate yearly progress (AYP),

The School Characteristics Index (SCI) is primarily a summary of students' backgrounds.

A low SCI value means the students face a high level of challenge.

Controlling for student characteristics—“validity”

This study uses two variables to statistically control for differences in schools: the size of enrollment and the School Characteristics Index (SCI).

Students' academic performance is strongly associated with their backgrounds, in particular their parents' education and socioeconomic status. Therefore, to evaluate the performance of a school, it is important to take into consideration these characteristics,

Higher SCI values are associated with less student poverty, higher parental education levels, etc., and higher expected academic performance. In this report, school characteristics, SCI, and student characteristics are used interchangeably. (For more on the SCI, see the box on page 5.)

As important as the SCI factors are, they still do not cover all the variables that might possibly contribute to differences in school performance or student achievement. One critical factor not accounted

The School Characteristics Index (SCI) is a powerful “control variable”

The state has created a composite index, the School Characteristics Index (SCI), to summarize multiple factors that are associated with student performance on state tests but are largely beyond the control of the schools themselves. When comparing the performance of groups of schools, this study “controls for” schools’ SCI values to adjust for differences in these important factors. This makes it possible to estimate how one group’s performance would compare to another group’s if they had similar students and teachers. The use of the SCI prompts two questions: what factors does the SCI include, and how strong is it as a control variable?

The Schools Characteristics Index includes the following factors:

- Student ethnicity: percent in each of seven ethnic categories;
- Average parental education level;
- Percent of English learners;
- Percent of students with disabilities;
- Percent of students in the Gifted and Talented Education program (GATE);
- Percent of students who have been reclassified from “English learner” to “fluent English proficient (RFEP);”[‡]
- Percent of migrant education students;
- Percent of students in the free/reduced-priced meals program;
- Percent of fully credentialed teachers;
- Percent of teachers with emergency permits;
- Average class size;
- Student mobility: percent of students enrolled since the beginning of the school year;
- Whether the school operates a multitrack, year-round educational program; and
- Percent of enrollment in various grade spans.

[‡] Students who have been reclassified have the same impact as English learners on a school’s SCI. Thus, a school does not suffer a “penalty” for redesignating an English learner.

What makes something a strong “statistical control”?

As a group, charter schools perform somewhat differently than noncharter schools. Likewise, there are differences among different types of charter schools. As noted elsewhere, the goal of this analysis is to see how much of that difference is based on a school’s status as a charter school or a particular type of charter. To inform that question, the study controls for differences in schools’ SCI values and another factor believed to have some relationship to school performance—school size.

The table below shows the proportion of variation in school performance that is explained by the combination of SCI and school size. Statisticians refer to this proportion of variation as “R²,” and the closer “R²” is to 100%, the more the model explains any differences. As the data show, the R² in the models is high, ranging from 64% to 87% depending on the outcome measure and grade span. (The SCI accounts for the vast majority of that variation.) The data below are for the charter-versus-noncharter analyses.

SCI and School Size Explain a Large Proportion of Variation (R²) in 2006 Analyses of Charters Versus Noncharters

Proportion of Explained Variation—R²—in Models Including Only SCI and Size

Outcome Measure	Elementary	Middle	High
Base API	83%	85%	80%
AYP English	84%	87%	76%
AYP Math	73%	75%	75%
CST English	78%	83%	77%
CST Math	64%	75%	N/A
CAHSEE English	N/A	N/A	82%
CAHSEE Math	N/A	N/A	80%

The large proportion of variation explained by SCI and size increases the confidence in this study’s estimates of the effect of charter status (or being a specific type of charter school) on academic performance.

See www.cde.ca.gov/ta/ac/ap/documents/tdgreport0400.pdf for the technical foundation of the School Characteristics Index (SCI), or see www.cde.ca.gov/ta/ac/ap/documents/simschl06b.pdf for a less technical summary.

California Standards Tests (CSTs), and California High School Exit Exam (CAHSEE)—to examine the consistency of findings.

Granted, some of these measures substantially overlap each other. For example, AYP and API results are different ways of “packaging” CST (and, for high schools, CAHSEE) scores. However, each of the measures reported here is important to educators and policymakers in its own right because each gives a different look at performance. For example, AYP results show the percentage of students meeting the federal and state goal of proficiency on state content standards, but API scores indicate the distribution of scores across the entire spectrum of performance levels on the CSTs. And reporting CST results from single benchmark grades helps create “apples to apples”

comparisons of schools with different grade configurations.

This report reflects multiple performance analyses on a specific subset of schools

This study includes only schools with 2006 data on API, AYP, grade-specific CST, and for high schools, CAHSEE results.⁴ Altogether 346 charter schools and 7,122 traditional public schools met that criteria. This means that 40% of the 574 charter schools and 21% of the 9,001 noncharter schools open in 2005–06 are not represented in this study. For both sets of schools, high schools are much more likely to be excluded than elementary and middle schools. Among both charters and non-charters, the percentage of excluded high schools is the same—53%.

The vast majority of excluded schools—about 95% of both charters and

noncharters—lack API and/or SCI data. For charters, the main reason for not having API and/or SCI data is that the schools are “small” (have II–99 test scores) and therefore are not assigned SCI values. Noncharters have two main reasons for lacking API/SCI data: they are too small or they are held accountable under California’s Alternative Schools Accountability Model (ASAM), which does not issue SCI values.⁵ The excluded high schools tend to have very high rates of student mobility, which may lower the number of valid student test scores to the point that the school is deemed “small” and therefore does not receive an API and/or SCI score.

This study categorizes schools in multiple ways

The report compares charter schools at each grade span to their noncharter counterparts, a reasonable approach given that performance data are generally tracked and reported based on these three grade-level divisions. Schools are classified as elementary, middle, or high based on their designation for the API.⁶

In addition to dividing schools by grade span, the analyses break charters into some major categories:

This study includes only schools with 2006 data on API, AYP, grade-specific CST, and for high schools, CAHSEE results.

figure 1 | Count of Charters in this Analysis, Cross-tabulated by Grade Level and Type

Member of Management Organization or Nonmember	Classroom-based or Nonclassroom-based	Conversion or Start-up	Elementary	Middle	High	Total
Member School	Classroom-based	Conversion	4	1	0	5
		Start-up	14	13	15	42
	Nonclassroom-based	Conversion	0	0	0	0
		Start-up	6	0	6	12
Nonmember School	Classroom-based	Conversion	54	12	4	70
		Start-up	84	27	49	160
	Nonclassroom-based	Conversion	4	0	5	9
		Start-up	17	1	30	48
Total			183	54	109	346

DATA: CALIFORNIA DEPARTMENT OF EDUCATION

EDSOURCE 6/07

- those run by a management organization versus those not run by such an organization;
- conversions versus start-ups; and
- classroom-based versus nonclassroom-based schools.

(Those terms are defined in the relevant sections that follow.) Figure I on page 6 provides the counts of charter schools in each subcategory.

This report looks at multiple performance measures

As previously described, this study compares the performance of groups of schools on various measures. Specifically, the analyses that follow use these test score results:

- The Academic Performance Index (API) annual school-level measure. The API reflects scores from California Standards Tests (CSTs)⁷ in English, math, social science (for middle and high schools only), and science; a norm-referenced test⁸ for grades 3 and 7; and the California High School Exit Exam (CAHSEE).
- Annual measurable objectives for adequate yearly progress (AYP), as summarized by percent of students scoring proficient or above on CSTs in English language arts and math. For high schools, percent proficient is based on grade 10 results on the CAHSEE.
- Mean scale score on the CSTs at key grades and for two subjects. The analysis looks at grades 3 and 7 for English and math, as well as grade 10 for English.⁹ (Scale scores take into account the difficulty of test questions, allowing scores to be added, averaged, or otherwise aggregated.)
- Mean scale score of 10th graders on the CAHSEE in English language arts and math.

Two concepts are key to understanding the performance results

Two concepts are important to understand when viewing the performance comparisons that follow: *statistical significance* and *effect size*.

A result is statistically significant when the analysis shows it is probably not due to chance variation alone. (Think of a coin being flipped 100 times. One would expect “heads” to come up 50 times, but chance variation may produce, say, 45 or 55 heads. If instead heads came up 30 or 70 times, however, one would suspect that the coin was weighted to one side or the other.)

Researchers vary somewhat in the threshold they use for statistical significance. This study follows one common practice, reporting statistical significance at three levels: 0.10, 0.05, and 0.01.¹⁰ Those levels indicate the chance that a result is due to random variation. For example, a result that is statistically significant at the 0.05 level means that there is a 5% chance that the result is due to random variation.

Statistical significance gives information about the likelihood of a result, but it does not indicate the size of an effect. For example, it does not tell whether a difference of four API points is large, moderate, small, or negligible.

Another measure—effect size—helps to interpret the magnitude of the results. It puts performance comparisons in relation to the variation of performance of each group.¹¹ The most common guidelines for interpreting effect size propose values of 0.20, 0.50, and 0.80 to represent, respectively, small, moderate, and large effects.

Effect size also places results from various measures such as API and AYP on a common scale. For example, the performance comparison of charter middle schools and noncharter middle schools on pages 10–11 indicates that, after adjusting for differences in student characteristics and school size, charters scored on average 41 points higher than noncharters. It also shows that charters outperformed noncharters on the percentage of students scoring proficient or above on the California Standards Test in English by nine percentage points. Differences of 41 API points and nine percentage points are not on the same scale, but the effect sizes—respectively, 0.44 and 0.41—are on the same scale and indicate that the effect of being a charter middle school on API scores and the percent proficient and above on the English CST are about the same. In this case, the effect is small to moderate, based on the guidelines described above.

Findings from Analyses that Control for Student Characteristics and Enrollment

On pages 8 through 13, the results based on school level (elementary, middle, and high) are reported. The findings on charters run by management organizations are explained on pages 14–15, and the results that compare conversions with start-ups are on pages 16–17. And on pages 18–19, the findings based on comparing classroom-based versus nonclassroom-based charter schools are detailed. Note that the performance analyses in this section are based on the subset of schools that have data for the measures described on pages 4 and 6.

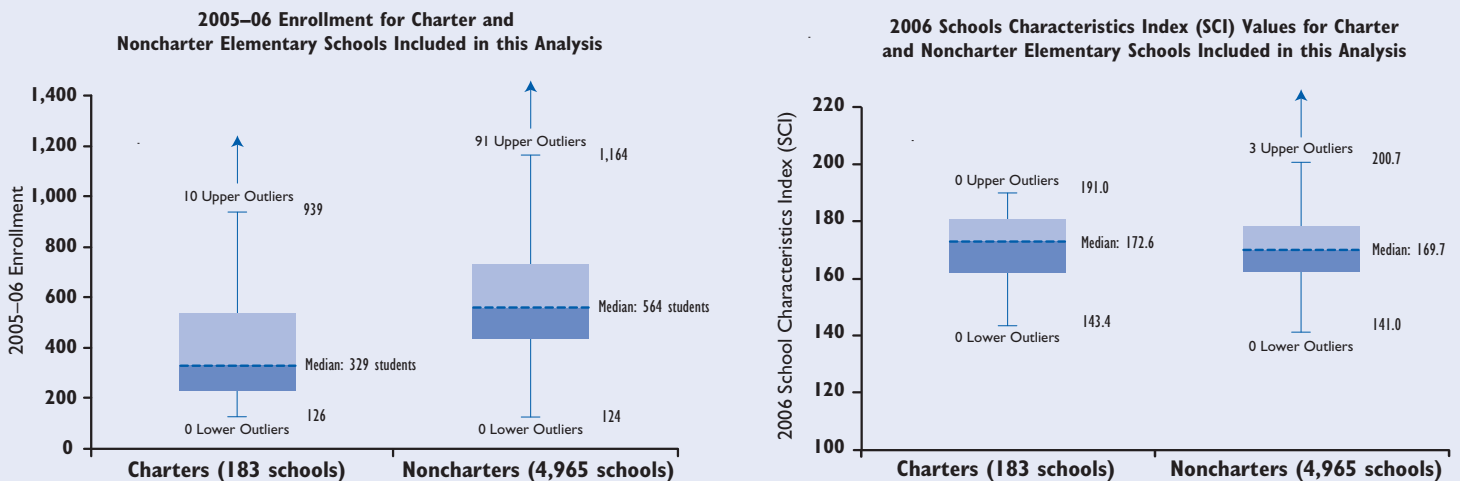
With student characteristics accounted for, elementary charter schools did not perform as well as elementary noncharters

Based on the subset of schools that have the necessary data, this analysis looks at 183 charter elementary schools that served nearly 78,000 students and 4,965 noncharter elementary schools that enrolled more than 2.9 million students. Most of these charter elementary schools (85%) are classroom-based. Two-thirds are start-ups.

The median charter elementary school in this analysis served fewer disadvantaged students

than the median noncharter elementary school. For example, in the median charter, 4% of students had parents who did not graduate from high school, but 15% of students in the median noncharter had parents with that level of education. On the other hand, charter students were considerably more likely to have an inexperienced teacher: the median charter had 20% of teachers with two years of experience or less, and the median noncharter had 9%. Charter

elementary schools enjoyed a slightly lower challenge level overall, as indicated by a slightly higher median SCI value: 172.6 versus 169.7 for noncharters. (Based on SCI values, the median charter elementary school would be predicted to score 23 points higher on the API than the median noncharter elementary school.) It is important to “control for” those differences between the two types of elementary schools when comparing their performance.



The rectangular boxes on the chart show the range from the 25th percentile (the bottom of the box) to the 75th percentile (the top of the box). The line inside the box marks the 50th percentile or the median (half the schools are above this line and half are below). The small horizontal lines above and below the box mark the beginning of the “outliers”—those schools with enrollments (left chart) or with SCI values (right chart) far from the median.

After controlling for differences in enrollment and student characteristics, charter elementary schools scored about nine points lower than noncharter elementary schools on the 2006 Base API.

After controlling for differences in enrollment and school characteristics, charter elementary schools scored lower than noncharter elementary schools on the API. The effect is -8.8 API points, or 10% of a standard deviation.

To put that difference in context, consider that the average API of an elementary noncharter is 766, which is toward the bottom of Decile 6 on the API. The expected performance of a hypothetical “average” charter elementary school that could somehow

enroll the same number of students with the same demographics and employ teachers with the same experience and credential levels would be 757, just at the cut point of API Deciles 5 and 6. This effect is not large, but it is fairly consistent with results using other measures. Notably, charters’ 2006 math performance trailed noncharters’ by a larger margin than on the API (effect size of -0.26 whether measured by AYP percent proficient or by CST scale score). The effect was also stable over time (-0.24 to -0.33).

At the elementary level, the AYP measure—percent proficient on CST in English language arts—is the only measure that favors charters (effect size of +0.05). The elementary school results are summarized in the table below.

The API results are stable over time, though the differences in 2006 (as already stated, effect size of -0.10 or 10% of a standard deviation) are more modest than in prior years. The API of charters trailed that of noncharters in 2004 (effect size of -0.22) and 2002 (effect size of -0.20) by larger amounts.

Summary of Elementary School Measures, Charter Versus Noncharter in 2006

2006 Outcome Measure	Average Score for Noncharters (n [†] =4,965)	How Charters' Scores Differed (n=183)	Charter Effect, After Adjusting for Enrollment and School Characteristics [£]	Effect Size (in standard units)
Base API	766.1	-2.1 API points (“-” means charters scored lower)	-8.8 API points***	-0.10
AYP English, percent proficient	46.5%	+3.0 percentage points** (“+” means charters scored higher)	+1.2 percentage points*	+0.05
AYP Math, percent proficient	55.6%	-3.7 percentage points***	-5.2 percentage points***	-0.26
CST English, Grade 3—mean scale score	332.6	-0.4 scale score points	-2.9 scale score points***	-0.10
CST Math, Grade 3—mean scale score	371.1	-8.0 scale score points***	-10.0 scale score points***	-0.26

† In the tables throughout this report, “n” refers to the number of schools represented.

£ How charters’ scores would have differed from noncharters’ if charters had had the same enrollments and school characteristics as the noncharters.

* Difference is significant at .10 level. (10% chance that difference is due to random variation.)

** Difference is significant at .05 level. (5% chance.)

*** Difference is significant at .01 level. (1% chance.)

Note: If no asterisk is present, the result is not statistically significant.

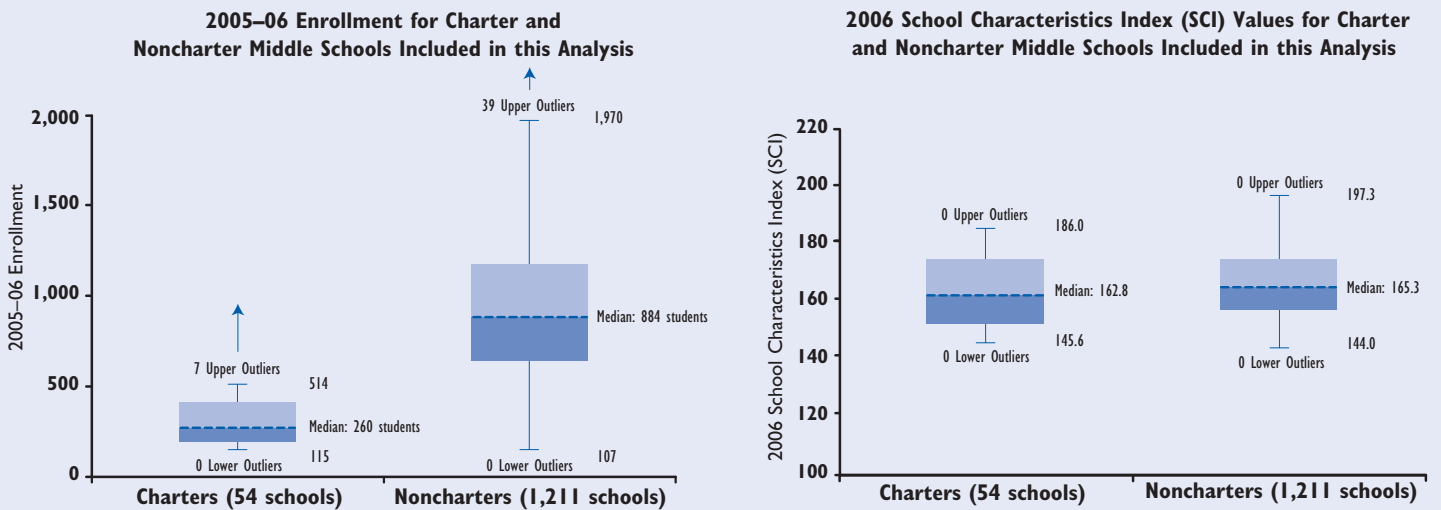
Charter middle schools significantly outperformed noncharter middle schools

As is true in other states, charter middle schools are not very common in California. Only 54 such schools, enrolling about 21,000 students, are represented in the analyses below. All but one were classroom-based, and 76% were start-ups. They are compared to 1,211 traditional middle schools, which served about 1.15 million students in 2005–06.

The two types of schools differ substantially in enrollment size—the median charter was less

than one-third the size of the median noncharter. They also differed in the types of students served and teachers employed. As with elementary schools, charter middle schools tended to have fewer English learners and fewer students whose most highly educated parent had not graduated from high school. However, the median charter middle school served more African American students and fewer white students than the median noncharter middle

school. Charter middle schools also had fewer experienced and fully credentialed teachers. The overall level of challenge faced by charter middle schools was higher, as indicated by a lower median SCI value: 162.8 versus 165.3 for noncharter middle schools. (Based on SCI values, the median charter middle school would be predicted to score 20 points lower on the API than the median noncharter middle school.)



The rectangular boxes on the chart show the range from the 25th percentile (the bottom of the box) to the 75th percentile (the top of the box). The line inside the box marks the 50th percentile or the median (half the schools are above this line and half are below). The small horizontal lines above and below the box mark the beginning of the “outliers”—those schools with enrollments (left chart) or with SCI values (right chart) far from the median.

Both with and without controlling for differences in enrollment and school characteristics, California’s middle school charters scored higher than noncharters on the API. After controlling for school characteristics, the effect is +40.9 points, or 44% of a standard deviation. The average API of a noncharter middle school is about 730, which is toward the bottom of Decile 6 on the API. The expected

performance of a charter middle school that could somehow enroll “the same students” and employ “the same teachers” would be about 771, toward the upper end of API Decile 7.

This effect is substantial, and it is consistent across other measures as well. On all measures analyzed for middle schools, the difference between charter performance and noncharter performance is statistically significant at the 0.01

level, meaning that there is less than a 1% chance that the difference between the two sets of schools was due to random variation. The middle school results are summarized in the table on page 11.

The results are also stable over time. Adjusting for school characteristics, the API of charters substantially exceeds that of noncharters in 2004 (effect size of +0.31) and 2002 (effect size of +0.33).

Both with and without controlling for differences in enrollment and SCI, charter middle schools scored significantly higher than noncharters on the API. The results are consistent over time and across multiple measures.

Summary of Middle School Measures, Charter Versus Noncharter in 2006

2006 Outcome Measure	Average Score for Noncharters (n=1,211)	How Charters' Scores Differed (n=54)	Charter Effect, After Adjusting for Enrollment and School Characteristics [£]	Effect Size (in standard units)
Base API	729.5	+23.5 API points* ("+" means charters scored higher)	+40.9 API points***	+0.44
AYP English, percent proficient	44.3%	+4.4 percentage points*	+8.7 percentage points***	+0.41
AYP Math, percent proficient	40.6%	+3.6 percentage points	+7.1 percentage points***	+0.34
CST English, Grade 7—mean scale score	342.5	+10.3 scale score points***	+14.3 scale score points***	+0.54
CST Math, Grade 7—mean scale score	339.9	+9.1 scale score points**	+14.8 scale score points***	+0.50

£ How charters' scores would have differed from noncharters' if charters had had the same enrollments and school characteristics as the noncharters.

* Difference is significant at .10 level. (10% chance that difference is due to random variation.)

** Difference is significant at .05 level. (5% chance.)

*** Difference is significant at .01 level. (1% chance.)

Note: If no asterisk is present, the result is not statistically significant.

Results for charter high schools are positive but less consistent

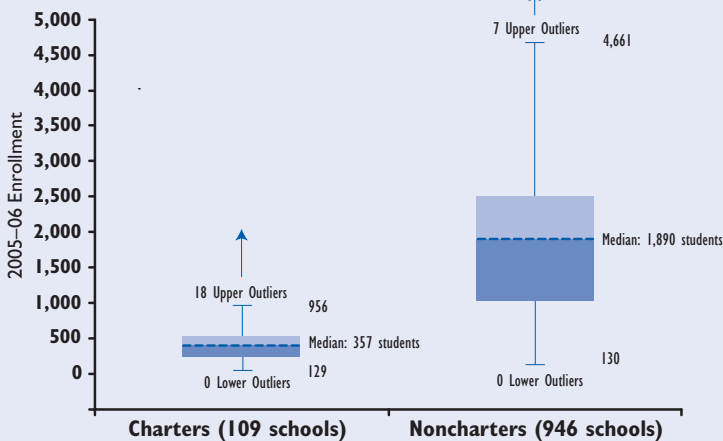
This report's analyses reflect the performance of 109 charter high schools that served more than 68,000 students and 946 noncharter high schools that enrolled more than 1.7 million students. These charter high schools were generally start-ups (92%) and had a substantial percentage of nonclassroom-based schools (38%).

Charter high schools were very different from noncharter high schools in enrollment

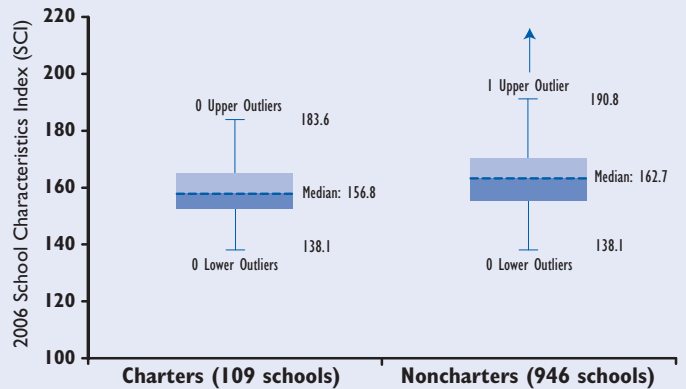
size, with the median charter less than one-fifth the size of the median noncharter. But when considering students' ethnicity and parental education levels, charter high schools and their noncharter counterparts had more similarities than were found at the elementary and middle school levels. For example, the gap in the percentages of white and Latino students was relatively small. Differences in teacher experience and credential levels,

however, were fairly sizable—just as they were at the other grade levels. When multiple challenge factors are considered simultaneously, the typical charter high school seemed to face a greater level of challenge: the median charter's SCI value was 156.8, and the median noncharter's SCI was 162.7. (Based on SCI values, the median charter high school would be predicted to score 47 points lower on the API than the median noncharter high school.)

2005–06 Enrollment for Charter and Noncharter High Schools Included in this Analysis



2006 School Characteristics Index (SCI) Values for Charter and Noncharter High Schools Included in this Analysis



The rectangular boxes on the chart show the range from the 25th percentile (the bottom of the box) to the 75th percentile (the top of the box). The line inside the box marks the 50th percentile or the median (half the schools are above this line and half are below). The small horizontal lines above and below the box mark the beginning of the “outliers”—those schools with enrollments (left chart) or with SCI values (right chart) far from the median.

After controlling for differences in enrollment and school characteristics, the study team found a mixture of favorable and unfavorable results for charter high schools.

In API terms, charter high schools scored higher than noncharter high schools. The effect is +14.6 points, or 17% of a standard deviation. The average API of a noncharter high school was about 703, or just above the line that splits API Deciles 5 and 6. The expected performance of a charter high school that

could somehow enroll “the same students” and employ “the same teachers” would be about 718, toward the upper end of API Decile 6. This effect is not large, but it is statistically significant at the 0.01 level.

Results on other measures suggest that the story in English language arts is different than in math. All of the high school performance results are statistically significant, and the API, English percent proficient (AYP), CST English scale score, and CAHSEE English scale score

results all favor charters. But the two math indicators, percent proficient (AYP) and CAHSEE math scale score, favor noncharters. These results are summarized in the table on page 13.

The results are not stable over time. The effect size of +0.17 pertaining to the 2006 API contrasts with a negligible effect favoring charters on the 2004 data (effect size of +0.01) and a substantial effect favoring charters on the 2002 data (effect size of +0.29).

After controlling for differences in enrollment and student characteristics, the study found that charter high schools scored higher than noncharters on the API, but the results were not stable over time. However, noncharter high schools outperformed charters in math.

Summary of High School Measures, Charter Versus Noncharter in 2006

2006 Outcome Measure	Average Score for Noncharters (n=946)	How Charters' Scores Differed (n=109)	Charter Effect, After Adjusting for Enrollment and School Characteristics [£]	Effect Size (in standard units)
Base API	703.0	-18.8 API points** ("-" means charters scored lower)	+14.6 API points*** ("+" means charters scored higher)	+0.17
AYP English, percent proficient	53.6%	-5.4 percentage points***	+3.0 percentage points**	+0.13
AYP Math, percent proficient	49.7%	-12.6 percentage points***	-5.1 percentage points***	-0.22
CAHSEE English, Grade 10—mean scale score	380.2	-1.9 scale score points	+4.3 scale score points***	+0.26
CAHSEE Math, Grade 10—mean scale score	380.8	-9.2 scale score points***	-2.6 scale score points***	-0.15
CST English, Grade 10—mean scale score	332.2	-2.9 scale score points	+5.7 scale score points***	+0.22

[£] How charters' scores would have differed from noncharters' if charters had had the same enrollments and school characteristics as the noncharters.

* Difference is significant at .10 level. (10% chance that difference is due to random variation.)

** Difference is significant at .05 level. (5% chance.)

*** Difference is significant at .01 level. (1% chance.)

Note: If no asterisk is present, the result is not statistically significant.

Charters run by management organizations generally performed well in 2006

Some charter schools in California are founded by, and receive ongoing operational assistance from, nonprofit “charter management organizations” (CMOs) or for-profit “educational management organizations” (EMOs).¹² This study sought to determine whether schools that are members of these organizations perform differently than those that are not members. (Most management organizations included in this analysis are nonprofit organizations.)

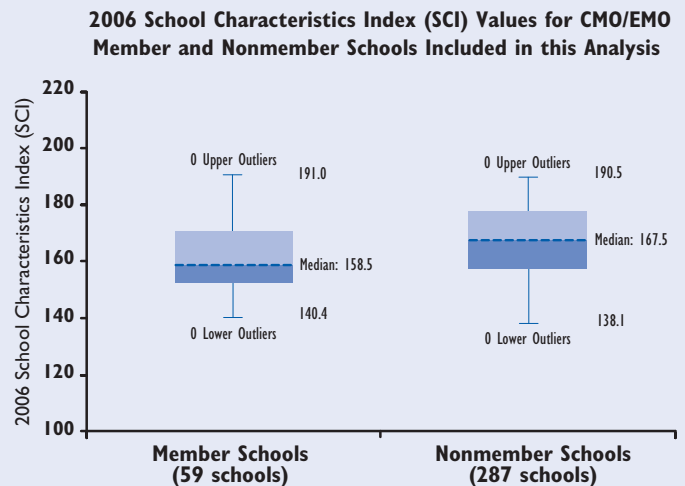
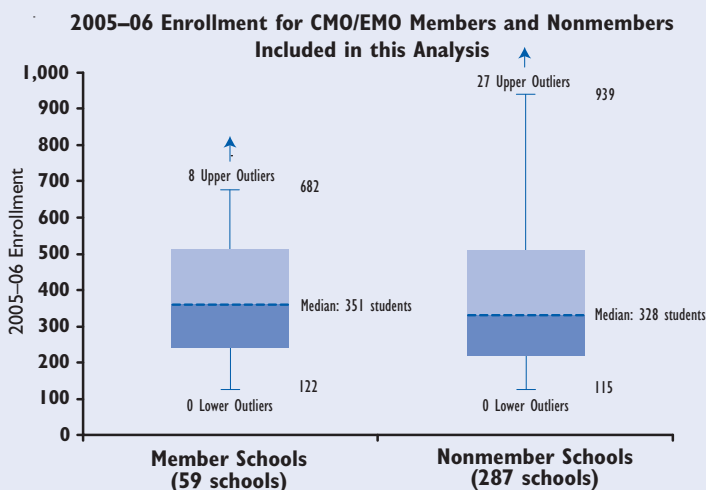
CMOs and EMOs not only start and run charter schools, but they also develop curricula, share best practices, and streamline administrative costs. For this report, a CMO/EMO is defined as an organization, or branch of an organization, created to provide administrative support for multiple charter schools.¹³ However, this definition excludes all-charter districts. It also excludes community-based organizations or educational agencies created to serve a different or broader

purpose but that also run one or more charter schools as part of that broader mission. Thus, the small handful of Conservation Corps offices and universities that support charter schools are not included as CMOs/EMOs in this analysis. Hereafter, charter schools belonging to a CMO or EMO are referred to as “member schools,” and the other charter schools are referred to as “nonmember schools.”

This analysis compares the performance of 59 member schools serving about 29,000 students to that of 287 nonmember schools serving about 138,000 students. The members were more likely to be middle and high schools than nonmembers were.¹⁴ This is important to point out because, among all public schools statewide, achievement levels and the pace of improvement have varied among the three levels. Elementary schools have generally outperformed middle schools, which have outperformed high schools. However, results are

not broken out by grade span because the small number of members at each level would yield results that are not as statistically meaningful as the results for the group as a whole.

The median member school served greater percentages of students from traditionally lower-achieving groups. To take just one example, in the median member school, 17% of students had parents who have not graduated from high school, and the median nonmember school had only 7%. When a multitude of factors was considered to produce SCI values, member schools had a median value of 158.5, and nonmembers had a median SCI of 167.5. This means that the typical member school faced a markedly higher level of overall challenge with respect to student test scores than did the typical nonmember school. Based on SCI values, the median member school would be predicted to score 72 points lower on the API than the median nonmember school.



The rectangular boxes on the chart show the range from the 25th percentile (the bottom of the box) to the 75th percentile (the top of the box). The line inside the box marks the 50th percentile or the median (half the schools are above this line and half are below). The small horizontal lines above and below the box mark the beginning of the “outliers”—those schools with enrollments (left chart) or with SCI values (right chart) far from the median.

After controlling for differences in enrollment and student characteristics, charters run by management organizations scored significantly higher than other charter schools.

However, after controlling for differences in enrollment and student characteristics, member schools scored significantly higher than other charter schools. The effect was +40 API points, or 40% of a standard deviation. This effect is substantial, and it holds across the AYP percent proficient measures in English and math, which apply at all school levels. (Because there are only 24 elementary, 14

middle, and 21 high member schools, the numbers of students involved in single-grade test measures are relatively small. Therefore, results such as “grade 3 math” are less reliable and not presented here. Member school performance was also examined by grade level, and the results were essentially unchanged.) The AYP percent proficient on CST in English language arts has an effect size of

+0.29, and the AYP math measure has an effect size of +0.35. These outcomes are summarized in the table below.

Many member schools have begun operating very recently so results over time are not available for these schools. In general, growth in the number of CMO/EMO member schools has been strong in recent years, and continued growth is expected.

Summary of Charter School Measures, CMO/EMO Member Schools Versus Nonmember Schools in 2006

2006 Outcome Measure	Average Score for Nonmembers (n=287)	How CMO/EMO Members' Scores Differed (n=59)	CMO/EMO Effect, After Adjusting for Enrollment and School Characteristics [£]	Effect Size (in standard units)
Base API	738.6	-8.8 API points (“-” means members scored lower)	+39.5 API points*** (“+” means members scored higher)	+0.40
AYP English, percent proficient	49.5%	-3.1 percentage points	+6.4 percentage points***	+0.29
AYP Math, percent proficient	46.4%	-1.9 percentage points	+8.2 percentage points***	+0.35

[£] How CMO/EMO members' scores would have differed from nonmembers' scores if CMO/EMO members had had the same enrollments and school characteristics as the nonmembers.

* Difference is significant at .10 level. (10% chance that difference is due to random variation.)

** Difference is significant at .05 level. (5% chance.)

*** Difference is significant at .01 level. (1% chance.)

Note: If no asterisk is present, the result is not statistically significant.

A comparison of conversions and start-ups yields mixed results

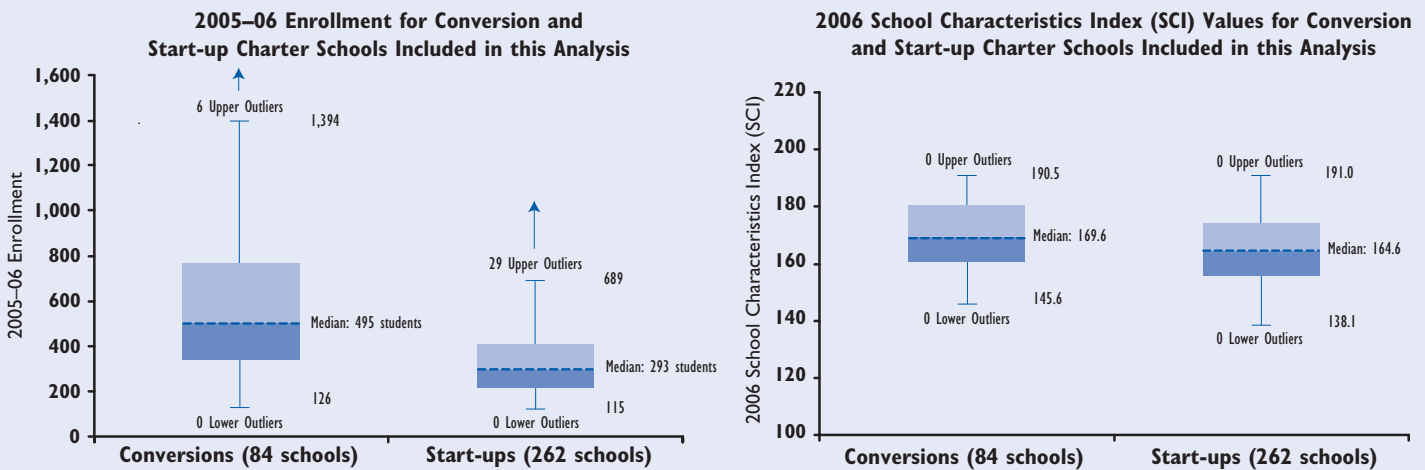
When charter schools began operating in California in 1993, most were conversions of existing schools. Today, however, a large majority are start-ups. Among the charters included in this analysis, three-quarters fit in that latter category.

In 2005–06, the two types of charters differed from each other in the kinds of students they served, but the differences were not very large. In contrast, conversions and start-ups had notable differences in their teaching staffs, with

conversions having more experienced and fully credentialed teachers. With respect to school size, conversions tended to be bigger than start-ups: the median conversion had an enrollment that was about two-thirds larger than the median start-up's enrollment. Regarding overall challenge levels, conversions tended to face a lower level of challenge, as indicated by their higher median SCI value: 169.6 versus 164.6 for start-ups. (Based on SCI values, the median conversion charter school would be predicted to

score 40 points higher on the API than the median start-up charter school.)

When considering the performance of the two types of charter schools, it is important to remember that conversions and start-ups had different compositions of elementary, middle, and high schools. For example, 11% of conversion charters were high schools, and 38% of start-ups served those grades. The performance analyses on page 17 are reported by grade level to better compare like with like.



The rectangular boxes on the chart show the range from the 25th percentile (the bottom of the box) to the 75th percentile (the top of the box). The line inside the box marks the 50th percentile or the median (half the schools are above this line and half are below). The small horizontal lines above and below the box mark the beginning of the “outliers”—those schools with enrollments (left chart) or with SCI values (right chart) far from the median.

With the exception of elementary math performance, start-up charter schools did not score significantly differently than conversion charters, after controlling for differences in enrollment and student characteristics.

With the exception of elementary math performance, start-up charter schools did not score significantly differently than conversion charters, after controlling for differences in enrollment and school characteristics. Looking across various measures yields small numbers of schools for many of the analyses, and the results are usually not statistically significant. Elementary math performance on the CST is the exception, with start-up charters scoring 11.2 scale score points lower than conversions

(for an effect size of -0.27). This lower CST performance is also reflected in the AYP measure, for which the average percentage proficient is 7.3 percentage points lower at start-up charters (effect size of -0.36). The results for elementary conversions and start-ups are summarized in the table below, but results for middle and high schools are not included because none was statistically significant.¹⁵

Similar to the results from 2006, differences in previous years were generally not

statistically significant. However, start-ups' lower CST math performance at the elementary level appears in the historical data. (In addition to the analyses of start-ups and conversions separated by grade span [elementary, middle, and high], the study team compared the performance of all start-ups to all conversions without separating them by grade but using a statistical adjustment for grade level. The results were similar.)

Summary of Start-up and Conversion Charter School Measures in 2006 (Elementary Schools Only)

2006 Outcome Measure	Average Score for Conversions	How Start-ups' Scores Differed	Start-up Effect, After Adjusting for Enrollment and School Characteristics [£]	Effect Size (in standard units)
Elementary Only, Conversion (n=62) and Start-up (n=121)				
Base API	772.8	-13.3 API points ("." means start-ups scored lower)	-9.7 API points	-0.11
AYP English, percent proficient	48.8%	+1.1 percentage points ("+" means start-ups scored higher)	+2.9 percentage points	+0.13
AYP Math, percent proficient	56.9%	-7.5 percentage points***	-7.3 percentage points***	-0.36
CST English, Grade 3—mean scale score	332.8	-1.1 scale score points	+0.9 scale score points	+0.03
CST Math, Grade 3—mean scale score	371.6	-12.9 scale score points**	-11.2 scale score points*	-0.27

[£] How start-up charter schools' scores would have differed from conversion charters if start-ups had had the same enrollments and school characteristics as the conversions.

* Difference is significant at .10 level. (10% chance that difference is due to random variation.)

** Difference is significant at .05 level. (5% chance.)

*** Difference is significant at .01 level. (1% chance.)

Note: If no asterisk is present, the result is not statistically significant.

Classroom-based charters outperformed nonclassroom-based charters, after controlling for student characteristics and enrollment

Among the charter schools represented in this report, four out of five are considered classroom-based, with the remainder meeting the State Board of Education's definition of "nonclassroom-based." A charter school is considered nonclassroom-based when at least 20% of its instructional time does not involve students on site under the direct supervision of a teacher. Schools that provide a substantial portion of their instruction through home schooling, independent study, or distance learning (instruction via Internet-connected computers) generally fit that definition, as do schools that rely heavily on community-based learning through internships and field trips.

Classroom- and nonclassroom-based charters differed substantially in the types of students they served, with nonclassroom-based students more likely to be white and

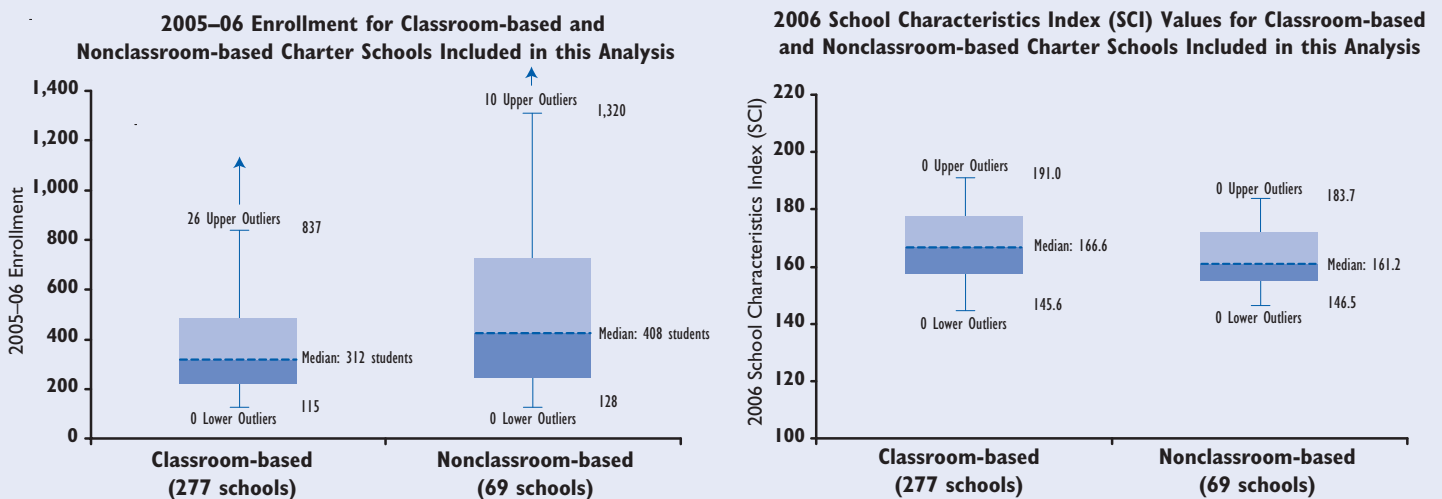
have at least one college-educated parent and less likely to be Latino or an English learner. Nonclassroom-based charters also tended to have fewer teachers with two years of experience or less. It is therefore somewhat surprising that nonclassroom-based charters had a lower median SCI value (higher overall challenge level): 161.2 versus 166.6 for classroom-based charters. (Based on SCI values, the median nonclassroom-based charter school would be predicted to score 43 points lower on the API than the median classroom-based charter school.)

Perhaps it is nonclassroom-based charters' relatively high student mobility rate, which tends to harm academic achievement, that brings down their SCI values. In the median nonclassroom-based charter, only 79% of students who were enrolled during spring

testing had been enrolled since the prior October. That compares negatively with the 95% rate in the median classroom-based charter school.

As with conversions and start-ups, classroom- and nonclassroom-based charters differ in their elementary, middle, and high school make-up and therefore their performance results are reported by grade-level type.¹⁶

It is also important to note that nonclassroom-based charters may tend to serve different types of students even when comparisons are confined to schools serving the same grade span. For example, some nonclassroom-based schools are designed for students who have not succeeded in the traditional school setting and serve as temporary transitions back into more mainstream schools. In addition, other nonclassroom-based charters are networks of home schoolers.



The rectangular boxes on the chart show the range from the 25th percentile (the bottom of the box) to the 75th percentile (the top of the box). The line inside the box marks the 50th percentile or the median (half the schools are above this line and half are below). The small horizontal lines above and below the box mark the beginning of the "outliers"—those schools with enrollments (left chart) or with SCI values (right chart) far from the median.

Among charter elementary schools, nonclassroom-based charters scored lower than classroom-based charters on the 2006 API, after adjusting for differences in enrollment and student characteristics.

Nonclassroom-based charters scored lower than classroom-based charters on the 2006 API, after adjusting for differences in enrollment and school characteristics. The effect held for elementary schools (about -19 points, or 22% of a standard deviation) as well as for high schools (about -14 points, or 14% of a standard deviation). No results are reported for middle schools because there is only one nonclassroom-based

school. The effects are small, and only the elementary result is significant at the 0.10 level. For all but one of the other performance results, nonclassroom-based charters score lower, with much larger gaps in math. For the elementary AYP indicator for English language arts, nonclassroom-based charters outscore classroom-based charters by about seven percentage points (effect size of +0.33). These

results are summarized in the table below. (In addition to analyses of classroom-based charters and nonclassroom-based charters separated by grade span [elementary, middle, and high], the study team compared the performance of all classroom-based charters to all nonclassroom-based charters without separating them by grade but using a statistical adjustment for grade level. The results were similar.)

Summary of Nonclassroom-based and Classroom-based Charter School Measures in 2006

2006 Outcome Measure	Average Score for Classroom-based Charters	How Nonclassroom-based Charters' Scores Differed	Nonclassroom-based Effect, After Adjusting for Enrollment and School Characteristics [£]	Effect Size (in standard units)
Elementary School Only, Classroom-based (n=156) and Nonclassroom-based (n=27)				
Base API	767.0	-20.0 API points ("." means that nonclassroom-based charters scored lower)	-19.3 API points*	-0.22
AYP English, percent proficient	48.5%	+6.5 percentage points*** ("+" means that nonclassroom-based charters scored higher)	+7.2 percentage points***	+0.33
AYP Math, percent proficient	53.6%	-11.3 percentage points***	-12.4 percentage points***	-0.62
CST English, Grade 3—mean scale score	332.5	-2.6 scale score points	-2.4 scale score points	-0.08
CST Math, Grade 3—mean scale score	367.2	-28.2 scale score points***	-28.5 scale score points***	-0.69
Middle School Only, Classroom-based (n=53) and Nonclassroom-based (n=1)[¥]				
High School Only, Classroom-based (n=68) and Nonclassroom-based (n=41)				
Base API	700.7	-43.9 API points**	-13.6 API points	-0.14
AYP English, percent proficient	51.1%	-7.6 percentage points**	-1.8 percentage points	-0.08
AYP Math, percent proficient	42.7%	-14.9 percentage points***	-11.3 percentage points***	-0.52
CST English, Grade 10—mean scale score	334.9	-14.8 scale score points**	-5.8 scale score points	-0.20
CAHSEE English, Grade 10—mean scale score	381.7	-8.9 scale score points**	-3.2 scale score points	-0.18
CAHSEE Math, Grade 10—mean scale score	377.1	-14.5 scale score points***	-9.6 scale score points***	-0.53
<p>£ How nonclassroom-based (NCB) charter scores would have differed from classroom-based (CB) charters' scores if NCBs had had the same enrollments and school characteristics as the CBs.</p> <p>¥ Results are not shown for middle schools because only one middle school was nonclassroom-based.</p> <p>* Difference is significant at .10 level. (10% chance that difference is due to random variation.)</p> <p>** Difference is significant at .05 level. (5% chance.)</p> <p>*** Difference is significant at .01 level. (1% chance.)</p> <p>Note: If no asterisk is present, the result is not statistically significant.</p>				

Unadjusted API Results

Basic unadjusted performance statistics allow for comparisons to previous EdSource reports

In past reports on charter school performance, EdSource did not perform regression analyses to “adjust” outcomes based on school characteristics. Basic, unadjusted API data can facilitate comparisons to those past EdSource reports, and the growth target information shows how well charter versus noncharter schools improved from 2005 to 2006.

The API is organized in two-year cycles. The first year of the cycle is the “Base” year, against which scores from the second (“Growth”) year are

compared. In the Base API, schools of the same type (elementary, middle, or high) are ranked in 10 bands, called deciles, with each decile representing 10% of schools. This means that about 30% of schools overall occupy the three high-performing deciles, 40% fall in the mid-performing deciles (4–7), and the remaining 30% are in the three low-performing deciles. Schools are ranked in two ways—against all others in the state and against the 100 schools with the most similar SCI values.

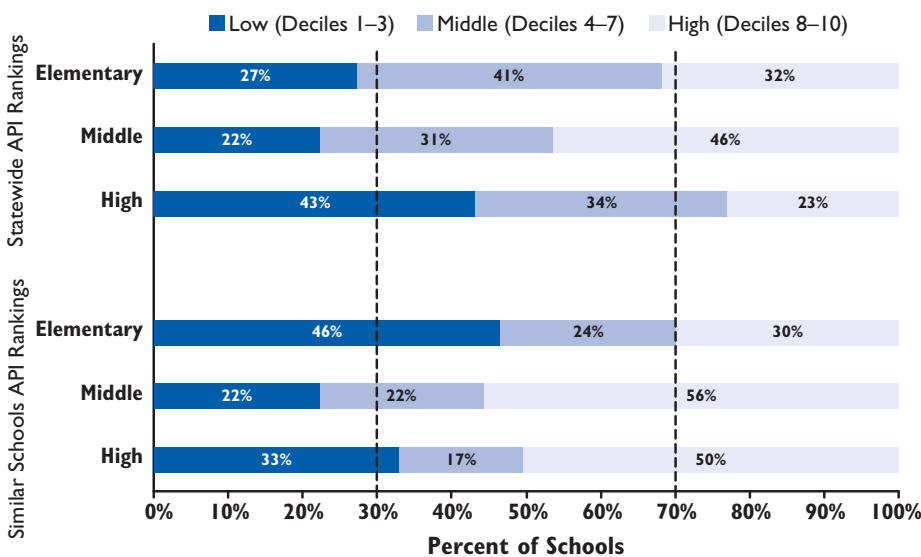
Charters' performance on the 2006 Base API Statewide and Similar Schools rankings echo the main findings in this report

Charters' Statewide Rankings show that elementary charter schools as a whole performed similarly to the entire set of California's elementary schools. The percent of schools in the low, middle, and high performance ranges were similar to the statewide distribution of 30%, 40%, and 30%, respectively. In contrast, the set of charter middle schools had better absolute performance than the state's middle schools as a whole: the distribution of charter middle schools among the low/middle/high ranges skews toward the high range. The opposite is the case with charter high schools, with their distribution skewing toward the low range. The upper set of bars in Figure 2 shows the exact percentages. The dotted lines mark the distribution for the entire state.

In contrast to the Statewide Rankings, which show schools' absolute performance, the Similar Schools Rankings take into account the overall level of challenge that schools face and rank schools' performance against those with roughly the same level of challenge (as measured by SCI values). The results are displayed in the lower set of bars in Figure 2. The similar schools results are a restatement of what was shown earlier in the regression results in that they show performance relative to schools' SCI values. Elementary charters had a disproportionate share of schools that performed relatively poorly, given their school characteristics, which pulled the group's average performance down. On the other hand, charter middle and high schools had relatively large portions of schools that scored well, which produced a positive “charter effect” on the API.

Charters' Statewide API Rankings in 2006 show that elementary charters as a whole performed similarly to noncharter elementary schools, but charter middle schools ranked higher than their noncharter counterparts. However, regular high schools outdid charter high schools.

figure 2 | Charter Schools' 2006 Base API Statewide and Similar Schools Rankings



The dotted lines show the statewide distribution of all schools—including charters—on the API Rankings, which is 30% (low), 40% (middle), and 30% (high). The upper set of bars shows the percentages of charter schools in the three ranges of the Base API Statewide Rankings. The lower set is based on the Similar Schools Rankings.

Charters performed well on the 2006 Growth API

The Growth API indicates whether schools have met state-set goals for improvement from one year to the next. In the 2005 Base API/2006 Growth API cycle, schools were expected to improve their schoolwide API scores by 5% of the difference between their Base score and 800, the state's official goal. (Schools with API scores of 800 and above were expected to keep their scores at 800+.)¹⁷ In addition, each "numerically significant subgroup" of students had a growth target that was 80% of their schools' targets. (Subgroup growth targets have since become more rigorous.¹⁸)

While Statewide Rankings show absolute performance and Similar Schools Rankings show performance relative to schools with similar levels of challenge, the percent of schools meeting API growth targets shows how groups of schools are progressing.

In the 2006 Growth API, charters overall met both their schoolwide and subgroup targets in higher percentages than noncharters. (See Figure 3.) This was true at all three grade levels. The pattern in 2006 was quite similar to what it has been in the last two API cycles, except that in 2005, charter high schools were less successful than noncharters.

When comparing the Growth API results of different types of charters, the biggest difference is between classroom-based charters and nonclassroom-based charters, with the former more likely to meet their growth targets (64% to 44%). CMO/EMO charters are also more likely than nonmembers (67% to 59%) to meet their growth targets. The difference between start-ups and conversions (61% to 59%) is the smallest.

The 2006 Similar Schools Rankings shows that elementary charters had a disproportionate share of schools that performed relatively poorly, given their student characteristics.

On the other hand, charter middle and high schools had relatively large portions of schools that scored well, which produced a positive "charter effect" on the API.

figure 3 | 2006 Growth API Results

Charter vs. Noncharter			
Type of School	Number of Schools	Number (and %) of Schools with Growth API Data	Of Those with API Data, Percent that Met 2006 Growth Targets
Overall			
Noncharter	7,122	6,995 (98%)	52%
Charter	346	318 (92%)	60%
Elementary			
Noncharter	4,965	4,874 (98%)	57%
Charter	183	163 (89%)	64%
Middle			
Noncharter	1,211	1,196 (99%)	42%
Charter	54	52 (96%)	65%
High			
Noncharter	949	928 (98%)	35%
Charter	109	103 (94%)	51%
Charters of Different Types			
Type of School	Number of Schools	Number (and %) of Schools with Growth API Data	Of Those with API Data, Percent that Met 2006 Growth Targets
CMO/EMO Member vs. Nonmember			
CMO/EMO Member	59	51 (86%)	67%
Nonmember	287	267 (93%)	59%
Conversion vs. Start-up			
Conversion	84	79 (94%)	59%
Start-up	262	239 (91%)	61%
Classroom-based vs. Nonclassroom-based			
Classroom-based	277	255 (92%)	64%
Nonclassroom-based	69	63 (91%)	44%

DATA: CALIFORNIA DEPARTMENT OF EDUCATION (CDE)

EdSource 6/07

This 2007 EdSource report replicates some analyses done previously by EdSource in its 2005 and 2006 charter performance updates, but extends and deepens the analysis

In 2005 and 2006, EdSource issued reports on California charter schools' academic performance. The reports described the performance of charters and noncharters in terms of Base API Statewide and Similar Schools rankings and the percentage of schools meeting API growth targets. EdSource also examined performance by different types of charters—conversion versus start-up and classroom- versus nonclassroom-based. Unlike the current report, neither of the prior reports used statistical regression (see pages 4–5) to control for school characteristics.

The 2005 EdSource Study

Key findings, based on 2004 performance data, included:

- At all levels—elementary, middle, and high—a greater percentage of charter schools than noncharter schools met their API growth targets.
- Charter elementary and high schools had mixed success on Base API Statewide and Similar Schools rankings.
- Charter middle schools had a strong showing on both rankings.
- A greater percentage of conversion charters met their growth targets than start-ups.
- Classroom-based charters were much more likely to meet growth targets than nonclassroom-based charters.
- Charter schools that had been established for two or more years were slightly less likely to meet their targets than newer charters.
- On both the math and English portions of the CAHSEE, charters lagged noncharters in the percentage of 10th graders who passed.

The study also compared the improvement of charter and noncharter schools on California Standards Tests in math and English, matching subsets of charter and noncharter schools. Charters generally showed greater progress than noncharters in both increasing the percentage of students scoring “proficient” and above and decreasing the percentage scoring “far below basic.” But these results may have reflected the performance of quite different sets of students.

Finally, that study provided a summary of some California- and nationally-based performance analyses done by other researchers.

The 2006 EdSource Study

This report repeated much of the previous year's analyses with 2005 data. The main findings included:

- Charter elementary schools were more likely to meet their growth targets than noncharters were, but had Base API Statewide Rankings that were similar.
- Among middle schools, charters again excelled in both meeting growth targets and Base API Statewide Rankings.
- Charter high schools were slightly less likely to meet their growth targets than noncharter high schools were and lagged noncharters in the Base API Statewide Rankings.
- Conversions were more successful in meeting API growth targets than were start-ups, and classroom-based charters outperformed their nonclassroom-based counterparts on the same measure.
- On the CAHSEE, charter 10th graders again passed the CAHSEE in lower percentages than noncharter 10th graders.

Limitations and Conclusion

This analysis has limitations

Measuring and comparing the performance of schools is always a complicated endeavor. Determining what aspects of those schools might be contributing to performance is even more challenging. But as California struggles to improve the performance of its public schools and its students—and as some look to the state's growing charter school movement to contribute—it is important to regularly and impartially examine whether, to what extent, and in what ways charters are making such a contribution.

This EdSource report compares the performance of charter schools to that of noncharters and the performance of types

of charter schools to other types. To make certain the conclusions of this work are as sound as possible, this analysis put particular emphasis on controlling for the measurable student characteristics that are most strongly related to school performance.

However, like all analyses, this one also has its limitations. For example, as has been pointed out, the report does not account for the motivation level of students, which may differ between noncharters and charters, whose students attend because their parents have chosen to send them there. (On the other hand, that choice is sometimes made because the student is not succeeding in the regular public school system.)

Nor does this analysis account for differences in schools' resources because school-level data on finances is not available. Just as traditional public schools differ in the resources they have available to them, so do charter schools, with some charters struggling with start-up funding and facilities challenges and others supported by private philanthropic contributions that allow for a longer school day and year.

In addition, this analysis does not look for differences in the academic performance of schools that may be related to how long they have been in existence. Some say that assessing the performance of a school that has operated as

a charter for only a year or two is not fair or is more an assessment of the schools that its students previously attended.

Furthermore, this analysis does not compare charter schools only to the nearby public schools serving similar grade spans, which would better speak to the choices that parents actually face in their communities. Finally, this analysis is limited to standardized measures of academic performance and does not consider other outcomes that may be important to educators and parents.

Performance comparisons are mixed, but some findings stand out as intriguing

Using statistical controls for differences in enrollment and student characteristics summarized by the SCI, this analysis of performance results for California schools on the 2006 Base API and other measures yielded several interesting findings.

In comparisons of charter to noncharter schools, charter middle schools look especially strong

As a group, charter elementary schools had lower API scores than traditional public schools, but charter middle and high schools generally scored higher. For the findings generally, the difference between charters and noncharters tended to be statistically significant, but the effect sizes were not large, especially at the elementary and high school levels.

However, among middle schools, charters outperformed noncharters on all measures by a statistically significant margin, and the effect sizes were larger. (Tests of statistical significance take into account the fact that the state has a relatively small number of charter middle schools.)

This strong performance by charter middle schools has been stable for several years. Some important questions for California include: what is happening in these charter schools, in what ways do they differ from other middle schools, and are there some lessons that emerge from these differences that could help California

● | To Learn More

Information on Charter School Laws and Policies

See the charter school section of EdSource Online for an overview, relevant data, and a list of EdSource publications related to charter schools: www.edsource.org/edu_chart.cfm

The California Department of Education (CDE) also provides a great deal of information on its website: www.cde.ca.gov/sp/cs/re/

Data About Individual Charter Schools in California

The Ed-Data Partnership website—www.ed-data.k12.ca.us—provides a wealth of data about every charter school in California, including student background, staffing information, and summary adequate yearly progress and Academic Performance Index reports. Data from as far back as 1992–93 are available.

The GreatSchools website—www.greatschools.net—provides free profiles of all California schools with performance, student, and teacher data.

Charter School Organizations

See the California Charter Schools Association's website: www.myschool.org

See the Charter Schools Development Center's website: www.cacharterschools.org

Other Research on Charter School Performance

To learn more about the quality of research on the academic performance of charter schools, as well as recommended analytic methods, go to the National Charter School Research Project's website at: www.ncsrp.org/

improve education in traditional public schools at the middle grades?

Perhaps some clues to charter middle schools' strong performance can be found in the fact that 26% of them were members of management organizations, which generally produced positive results.

Classroom-based charters and members of management organizations showed stronger performance

Classroom-based charter schools generally outperformed nonclassroom-based charters at both the elementary and high school levels. Differences in math were statistically significant and larger than most differences found in this study.

Statistically significant differences in math performance were also found between elementary conversion and start-up charters, with conversions coming out on top. Otherwise, conversions and start-ups performed fairly similarly.

In contrast, charter schools that were members of CMOs/EMOs scored higher

than nonmembers by a statistically significant margin on all three performance measures examined—API scores and AYP measures of percent proficient in math and English.

Educators and policymakers may benefit from learning more about what CMOs/EMOs are doing to achieve reasonably strong results with their students, many of whom are low-income.

The link between "autonomy" and performance bears closer examination

The question of whether and how increased school autonomy leads to improved performance is an important one that likely deserves more study based on a nuanced understanding of the concept.

For a charter school, this concept of "autonomy" can mean freedom from constraints, but it can also mean a lack of external support. With regard to resources and finances, freedom can take the form of receiving funds directly from the state rather than through the chartering agency, being able to spend "categorical"

(earmarked) dollars as the school chooses, or not having to comply with most of the state's education laws. On the other hand, "autonomy" can mean having to find and pay for facilities, professional development for staff, and administrative functions such as payroll and data reporting.

With regard to the instructional program, charter school autonomy might mean the school can choose its program and approach, and then attract students and teachers for whom it is a good fit. On the other hand, instructional autonomy could mean that the school has difficulty finding appropriate sources for teacher professional development or textbooks. And within the charter community itself,

"school autonomy" to determine an instructional program can vary widely from networks of home-schooled families with great freedom to determine what is taught to CMO/EMO members. With some CMOs/EMOs there is freedom to be different from traditional public schools but not much freedom to vary the instructional program and approach within that network.

This 2007 EdSource analysis indicates that charter schools run by management organizations tend to achieve relatively strong academic results. These schools may have the "best of both worlds" in that they have a good mix between the freedoms or flexibility that charter schools are granted

and the external support that most good districts provide for noncharter schools. These schools also likely benefit from having some level of shared vision within each management organization, an ability to attract students and teachers who subscribe to that vision, and an opportunity to share best practices with a network of schools.

As California policymakers and school reformers continue to explore the ways that charter schools can improve student achievement and spark innovation in the entire education system, the role and impact of autonomy—in both charter and noncharter schools—bears further examination. ■■

Endnotes

1 See Section 47607 of California's Education Code to learn more about the conditions and procedures of charter revocation and renewal.

2 The analytic approach of this report is informed by a study from the National Charter School Research Project (NCSRP), *Key Issues in Studying Charter Schools and Achievement* (Betts & Hill, 2006).

3 Tests for "stability" involved analyses on 2006 data as well as data at two additional points in time, based on the availability and reliability of the data. Academic Performance Index and California Standards Test scores were examined at 2006, 2004, and 2002. Adequate yearly progress and California High School Exit Exam data were examined at 2006, 2005, and 2004.

4 For more details on the criteria for inclusion, see the Technical Appendix on the EdSource website: www.edsource.org/pdf/CharterSchoolTechApp.pdf

5 More on the ASAM is available on the California Department of Education's website: www.cde.ca.gov/ta/ac/am/

6 See Technical Appendix at www.edsource.org/pdf/CharterSchoolTechApp.pdf for more information on how the California Department of Education classifies schools as elementary, middle, or high for the API.

7 Students with significant cognitive disabilities who are unable to take the California Standards Tests take the California Alternate Performance Assessment (CAPA). CAPA scores play a part in the Academic Performance Index and adequate yearly progress measures.

8 A "norm-referenced" test is one with scores that are expressed in terms of a student's performance relative to a nationally representative sample of students.

9 Using these grade-subject combinations is consistent with past EdSource charter reports, reflects policymakers' identification of these as benchmark grades, includes a direct writing sample at grade 7, allows for examination of comparable mean scale scores, and avoids complications arising from the fact that schools differ in the percentage of students enrolled in various math classes beginning with grade 8.

10 In this report, tests of statistical significance are usually based on a t-test applied to a regression coefficient.

11 Schools are usually the unit under study in this report. Thus, an effect size of 0.50, for example, indicates an effect that is about half as large as the typical variation in school-level scores. Effect sizes are often reported in the context of individual-level scores. Because our data are at the school level and may not even exist at an individual level (e.g., API), it makes sense to compare our findings to the school-level standard deviation. The reader should be cautious, however, because guidelines for interpreting effect size vary and usually are based on individual-level distributions.

12 Some people use "CMO" and "EMO" interchangeably as umbrella terms for both nonprofit and for-profit management organizations.

13 To see a list of management organizations and schools represented in this study, see the Technical Appendix on the EdSource website: www.edsource.org/pdf/CharterSchoolTechApp.pdf

14 Among member schools, 41% were elementary, 24% were middle, and 36% were high schools. In contrast, 55% of nonmember schools were elementary, 14% were middle, and 31% were high schools.

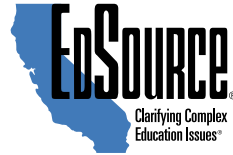
15 The 2006 results for conversion and start-up charters at all three levels (elementary, middle, and high) can be found in the Technical Appendix on the EdSource website: www.edsource.org/pdf/CharterSchoolTechApp.pdf

16 Among classroom-based charters, 56% were elementary, 19% middle, and 25% high schools. In contrast, nonclassroom-based charters had the following percentages: 39% elementary, 2% middle, and 59% high school.

17 Academic Performance Index (API) scores can range from 200 to 1,000.

18 To see how the rigor of API growth targets has been increased, go to:

www.cde.ca.gov/ta/ac/ap/documents/infoguide06b.pdf



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