2013

PORTRAIT OF THE MOVEMENT

ACCOUNTABILITY

Charter School Performance in 2011-2012
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The California Charter Schools Association (CCSA) has taken a lead role in accountability efforts

The California Charter Schools Association (CCSA) and its members have taken the lead in California and nationwide in ensuring appropriate accountability within the movement by establishing clear and transparent academic performance standards for charter schools. In 2011, CCSA released the first annual Portrait of the Movement report, which detailed a U-shaped distribution of academic performance for California’s charter schools. While very few traditional public schools (particularly those serving socioeconomically disadvantaged students) exceed their predicted levels of performance, a strikingly large number of charter schools are far outperforming traditional public schools and represent the greatest asset on the education landscape poised to be leveraged to broader impact. The report also identified that a greater concentration of charters were far underperforming, with CCSA calling on the charter community to fix the failings in the sector so that more children have the chance to attend a great school.

CCSA’s Accountability Framework & Minimum Criteria for Renewal

CCSA has invested more than four years of work into developing and refining an accountability framework with which to evaluate school performance, particularly at the time of renewal. Using a three-dimensional model that hones in on the value added by schools, as well as measures of academic status and growth. This Framework forms the basis of our Minimum Criteria for Renewal. To inform schools, authorizers and the public on school performance, CCSA publishes Academic Accountability Report Cards every year that show the performance of each charter school on the Accountability Framework and whether a given school meets CCSA’s Minimum Criteria for Renewal. CCSA encourages authorizers to use this data in making their decisions about whether to renew a school’s charter.

Annually, at the release of API data, CCSA uses the Accountability Framework to identify charter schools falling below the Minimum Criteria for Renewal. Schools in renewal that fall below this criteria are provided an opportunity to submit additional student-level, longitudinal data. We then analyze the data and determine whether or not the school remains below criteria. For those that do, CCSA takes public action in an effort to encourage the authorizers to exercise their authority to not renew the charter.

CCSA has been heartened by the extent to which our members have shown support for the ongoing accountability work of the Association, analyzing their schools’ results via Academic Accountability Report Cards provided by CCSA, and acting on results in conjunction with their governing boards, staff, and parents. This work was recognized by U.S. Secretary of Education Arne Duncan and many state and national education reform leaders within and outside the charter movement as a positive step towards strengthening the entire charter school movement.
CCSA is currently in the process of improving its accountability framework both in order to prepare for the rollout of Smarter Balanced assessments and fundamental changes to the API as directed by SB 1458, and to continue our advocacy efforts towards promoting academic accountability in California’s charter school sector.

Charter School Performance in 2011-2012

This year’s Portrait of the Movement finds a U-shaped distribution of academic performance for California’s charter schools similar to what has been presented in past years. We continue to see reasons for optimism with a modest overall improvement among charter schools when compared to all public schools in the state, among other findings. Listed below are the key findings from the most recent analysis:

• As in previous years, charter schools in 2011-12 were more likely than traditional schools to far exceed their predicted performance based on student background. Similarly, although to a lesser degree, charters were more likely to under-perform their prediction.

• A larger proportion of students were enrolled in high-performing charters than in underperforming charters. Students of certain subgroups, including low-income students, English Learners, African American students, and Latino students, were also disproportionately enrolled in high-performing charters.

• Charters in the Los Angeles Unified School District (LAUSD) and in the Oakland Unified School District (OUSD) significantly outperformed their traditional school counterparts. This is particularly encouraging given that LAUSD and OUSD educate 19% and 25% of all students in those districts, respectively.

• New 2011-12 performance data suggests that charter schools four years and older over-performed at higher levels than younger schools, suggesting that schools face considerable challenges during their early startup years. While there are no statistically significant trends, we are seeing encouraging signs that we are making incremental progress on changing the shape of the U in California.

Consistent with last year’s findings, while very few traditional public schools (particularly those serving socioeconomically disadvantaged students) exceed their predicted levels of performance, a strikingly large number of charter schools are far out-performing traditional public schools. However the persistent and disproportionately large number of under-performing charter schools continues to cause concern. We remain committed to ensuring that high-performing charter schools are recognized for their success, struggling charter schools receive support in improving their outcomes, and that persistently low-performing charter schools are closed.
CCSA's Accountability Metrics

**Annual School Performance Prediction (ASPP) and Percent Predicted API**

The ASPP is a predicted API score that controls for student background characteristics at the school level. A regression model is used to calculate a predicted API score based on demographic inputs for all California public schools, with some exclusions. Each school’s actual API is compared to its predicted API score, and a percentage is calculated representing over- or underperformance called the Percent Predicted API. Once the Percent Predicted API is calculated, all schools are ranked based on their percentage. (Percent Predicted scores above one indicate out-performance, those below one indicate underperformance.) These ranked percentages are used in the graphs below.

**Similar Students Measure (SSM)**

In addition to calculating Percent Predicted API, schools are assigned to one of five performance bands based on the degree to which they outperformed or underperformed their predicted scores: Far Below, Below, Within, Above, or Far Above. These annual categories are then combined over three years to create the Similar Students Measure (SSM). The SSM is used as one of the three pillars of CCSA’s Minimum Criteria for Renewal. Using three years of data helps to control for variation in performance across years and does not penalize schools for falling Below or Far Below in any single year. Seven SSM categories are constructed based on each school’s results over three years on ASPP: Far Below All Years, Below All Years, Below Most Years (two out of three), Within/Fluctuating (Within most years or fluctuating between bands), Above Most Years, Above All Years, and Far Above All Years. Schools are only included in the SSM if they are at least four years old.

**Finding 1:**

In the 2011-12 school year, charter schools were more likely than traditional public schools to far outperform and far underperform their predicted performance using student demographics, creating a “U-shaped” distribution of performance.

Figure 1 below shows that charter schools were more likely than traditional public schools to far outperform their predicted API scores based on student background characteristics than traditional public schools. After ranking schools based on their Percent Predicted API scores, all schools in California were split into 20 groups, each representing 5% of schools (roughly 416 per column). The 0-5% column represents the bottom 5% of all schools in California on Percent Predicted API, while the 95-100% column represents the top 5%. Statistically significant findings are represented with asterisks in the associated table, which allow us to make comparisons between groups with a high
level of confidence. We see that charter schools were four times more likely to be in the top 5% of all schools than traditional public schools on Percent Predicted API (16% compared to 4%). However, charter schools were also three times more likely to be in the bottom 5% of all schools on the distribution (12% compared to 4%).

Figure 1. Distribution of Charter and Traditional Schools on Percent Predicted API, 2011-12

<table>
<thead>
<tr>
<th>Schools</th>
<th>Percent Predicted API Ranking</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Bottom 5%</td>
<td>Bottom 10%</td>
</tr>
<tr>
<td>Charter</td>
<td>Count</td>
<td>104***</td>
</tr>
<tr>
<td></td>
<td>%</td>
<td>12%</td>
</tr>
<tr>
<td>Traditional</td>
<td>Count</td>
<td>312**</td>
</tr>
<tr>
<td></td>
<td>%</td>
<td>4%</td>
</tr>
</tbody>
</table>

* p < 0.05, ** p < 0.01, *** p < 0.001
Results on the three-year SSM metric were similar, with charter schools being disproportionately represented in the Far Above All Years and Far Below All Years categories. This means that charter schools significantly outperformed their predicted API scores or significantly underperformed their predicted API scores for three years in a row. Again, charter schools were concentrated on the edges of the distribution, creating a U-shaped distribution when compared to traditional public schools. Here, charter over-representation on the high end was twice as large as on the low end, with 8% in the Far Above All Years band and 4% of charters in the Far Below All Years band. The finding that older charter schools outperformed their predicted API scores to a larger degree than younger charter schools is also explored in this report. This over-representation on SSM at the highest levels indicates that charter schools not only outperform traditional schools on Percent Predicted API, but are also more likely to maintain significantly high levels of performance over time.

Figure 2. Charter Schools Four Years and Older and Traditional Schools Distributed on the SSM in 2009-10 — 2011-12

Charters 4+ yrs old (N=621)

<table>
<thead>
<tr>
<th>Category</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Far Below All Years</td>
<td>61</td>
</tr>
<tr>
<td>Below All Years</td>
<td>52</td>
</tr>
<tr>
<td>Below Most Years</td>
<td>326</td>
</tr>
<tr>
<td>Above Most Years</td>
<td>56</td>
</tr>
<tr>
<td>Above All Years</td>
<td>56</td>
</tr>
<tr>
<td>Far Above All Years</td>
<td>48</td>
</tr>
</tbody>
</table>

Traditional Public Schools (N=7,449)

<table>
<thead>
<tr>
<th>Category</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Far Below All Years</td>
<td>407</td>
</tr>
<tr>
<td>Below All Years</td>
<td>474</td>
</tr>
<tr>
<td>Below Most Years</td>
<td>5,644</td>
</tr>
<tr>
<td>Above Most Years</td>
<td>405</td>
</tr>
<tr>
<td>Above All Years</td>
<td>403</td>
</tr>
<tr>
<td>Within/Fluctuating</td>
<td>51</td>
</tr>
</tbody>
</table>
### Finding 2:

School-level results mask the larger impact of charter schools on students: Twice as many students were enrolled in charter schools in the top 5% on Percent Predicted API than in the bottom 5%.

Once we multiply the Percent Predicted API result for each school by the number of students tested, we see that charter schools in the top 5% of all schools enrolled twice as many students as charter schools in the bottom 5% in 2011-12 (see Figure 3). This is striking considering that traditional public schools had roughly the same number of students tested in each category. These findings show that school-level results mask the larger impact of charter schools on students. Charter schools are not only more likely to outperform their predicted API scores relative to traditional public schools, but charter schools in the top 5% accomplish this while educating about one-third more students per school than those in the bottom 5%.
Figure 3. Distribution of Charter School Students on Percent Predicted API, 2011-12

<table>
<thead>
<tr>
<th>Percent Predicted API Ranking</th>
<th>Total Students, Excluding ASAM + Small</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bottom 5%</td>
<td>18,798</td>
</tr>
<tr>
<td>Bottom 10%</td>
<td>35,390</td>
</tr>
<tr>
<td>Top 10%</td>
<td>58,607</td>
</tr>
<tr>
<td>Top 5%</td>
<td>38,028</td>
</tr>
<tr>
<td>Charter Count</td>
<td>268,288</td>
</tr>
<tr>
<td>%</td>
<td>7%</td>
</tr>
<tr>
<td>Traditional Count</td>
<td>120,612</td>
</tr>
<tr>
<td>%</td>
<td>3%</td>
</tr>
<tr>
<td>%</td>
<td>7%</td>
</tr>
<tr>
<td>%</td>
<td>7%</td>
</tr>
<tr>
<td>%</td>
<td>3%</td>
</tr>
<tr>
<td>%</td>
<td>100%</td>
</tr>
<tr>
<td>Percentage</td>
<td>100%</td>
</tr>
</tbody>
</table>
Finding 3:
Charter schools had stronger outcomes than traditional public schools with some underserved student subgroups: low-income students, English Learners, African American students, and Latino students. These student populations were concentrated in charters at the high end of Percent Predicted API. Additionally, the percentage of students in these subgroups was less predictive of API at charter schools than at traditional schools.

The concentration of students in high-performing charter schools was even more pronounced when we looked at several underserved student subgroups (see Figure 4). Low-income students, English Learners, African American students, and Latino students were highly represented at charter schools that outperformed their predicted API scores. Nearly a third of all low-income, English Learner, African American and Latino charter students attended charter schools that were among the highest performing public schools in California (top 10% as measured by percent predicted API).

Thirty-four percent of charter English Learner students were enrolled in the top tenth percentile of charter schools.

These findings are even more compelling when we look at the top 5% of all public schools in California. Here we see five or even six times more low Income, English Learner, African American, and Latino students in the highest performing charter schools than in traditional public schools. For example, 24% of charter English Learner students were enrolled in charter schools performing in the top 5% as compared to only 4% of English Learners in traditional public schools. Also, it is important to note that there is not much over-representation of charter school students in underperforming charters (e.g. those in the bottom 10% or 5% of all schools). While there are more underperforming charter schools than traditional public schools in California, they are mostly small and do not enroll high concentrations of underserved students.
Figure 4. Distribution of Students by Selected Demographic Subgroups on Percent Predicted API, 2011-12
In addition to the above subgroups showing strong representation at high-performing charters, correlation analysis showed that the percentages of students in these subgroups were less predictive of a school’s API score at charters than at traditional public schools. Figure 5 shows Pearson Correlations results, which describe the relationship between API scores and the same demographics used in Figure 4. Typically, the higher the percentage of students from these demographic groups, the lower the API score (indicated by the negative relationship). For example, the higher the percentage of low income students at a school, the lower the school’s API score. However, the promising finding here is that the negative relationship is less strong for charters – in some cases by half or even three times less strong.

There is some evidence from the literature to support the claim that charter schools in California are closing the achievement gap with low-income students and English Learners (CREDO, 2009). We found the relationship between the percentage of low-income students and API score is almost half as strong in charters, and the relationship between percentage of English Learners and API score is less
than three times as strong as in traditional public schools. There are also positive findings with African American students and Latino students, for whom charters also show weakened bonds between demographics and API scores. While these findings do not prove directly that charter schools as a whole are closing the achievement gap, they provide a strong indication that the performance of charter school students cannot be easily predicted by looking solely at income levels or race.

Many charter school students from historically disadvantaged backgrounds are far outperforming the status quo.

Finding 4:
Charter schools that were part of a replicating organization in 2012-13 were more likely than other charter schools to be high-performing.

Of the charter schools that were part of a replicating organization in 2012-13, half were in the top 5% of all schools in California on Percent Predicted API (Figure 6). Replicating charter schools were also four times as likely as charter schools that did not replicate to be in the top 5%. This is an encouraging trend as an increasing number of charter schools consider replication, these schools are more likely to demonstrate success on Percent Predicted API while taking the initiative to increase the scale of their impact on students.

CCSA supports the replication of high-performing charter schools and is continually looking
for opportunities to remove barriers impeding the growth and expansion of high impact schools. Recent research by the Center for Research and Education Outcomes (2012) indicates that charter schools that are high performing early on are likely to remain high performing over time. By replicating the most impactful practices of their programs, these schools can add competitive pressure to the status quo.

Figure 6. Charter Schools that were Part of an Organization that Replicated in 2012-13

<table>
<thead>
<tr>
<th>Charter Schools</th>
<th>Percent Predicted API</th>
<th>All Schools, Excluding ASAM + Small</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Bottom 5%</td>
<td>Bottom 10%</td>
</tr>
<tr>
<td>Replicating Charters</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Count</td>
<td>1**</td>
<td>4**</td>
</tr>
<tr>
<td>%</td>
<td>1%</td>
<td>5%</td>
</tr>
<tr>
<td>Other Charters</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Count</td>
<td>103</td>
<td>163</td>
</tr>
<tr>
<td>%</td>
<td>13%</td>
<td>20%</td>
</tr>
</tbody>
</table>

* p < 0.05, ** p < 0.01, *** p < 0.001
**Finding 5:**
Charter schools that were part of a CMO or Network were more likely than freestanding charters to be represented at the highest levels of performance.

Charter schools can be divided into three basic groups based on the number of schools operating under one management umbrella: Single charter school operations are referred to as “freestanding” charter schools, pairings of two schools are referred to as “networks,” and three or more charter schools are charter management organizations (CMOs). In line with the findings above, Figure 7 shows that networks and CMOs in California were substantially more likely to show high performance on Percent Predicted API than freestanding charter schools. CMOs in particular were three times more likely than freestanding charters were to be in the top 5% of all schools. In fact, CMO charters made up more than half of the representation of any charter schools in the top 5%, thereby contributing the majority of charter schools performing at the highest level on the distribution.

*Figure 7. Charter Schools by Management Type on Percent Predicted API in 2011-12*
Charter schools in the Los Angeles Unified School District and in the Oakland Unified School District outperformed their traditional public school counterparts on Percent Predicted API.

About a third of charter schools in both LAUSD and OUSD are performing in the top 5% of all schools in California.

Finding 6:

Two major urban school districts in California that posted significantly positive results with their charter schools were the Los Angeles Unified School District (LAUSD) and the Oakland Unified School District (OUSD). Figure 8 highlights a large concentration of charter schools in both districts represented in the top 5% of all schools in California. The tables below illustrate that about a third of charter schools in both LAUSD and OUSD are performing in the top 5% of all schools in California. Not only did their charter schools outperform similar traditional schools across the state, but they also outperformed similar traditional schools within their own districts. We see that five times as many charter schools in LAUSD and seven times as many charter schools in OUSD performed...
in the top 5% as their traditional school counterparts did. In these urban districts, charter schools are far outperforming their predicted API scores compared to traditional schools serving similar demographics.

Figure 8. Charter Schools in LAUSD and OUSD on Percent Predicted API in 2011-12

<table>
<thead>
<tr>
<th>Schools</th>
<th>Percent Predicted API</th>
<th>All Schools, Excluding ASAM + Small</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Bottom 5%</td>
<td>Bottom 10%</td>
</tr>
<tr>
<td>LAUSD Charter</td>
<td>Count</td>
<td>%</td>
</tr>
<tr>
<td>Charter</td>
<td>9</td>
<td>5%</td>
</tr>
<tr>
<td>Traditional</td>
<td>38</td>
<td>6%</td>
</tr>
<tr>
<td>OUSD Charter</td>
<td>Count</td>
<td>%</td>
</tr>
<tr>
<td>Charter</td>
<td>2</td>
<td>7%</td>
</tr>
<tr>
<td>Traditional</td>
<td>21</td>
<td>24%</td>
</tr>
<tr>
<td>Total</td>
<td>50</td>
<td>27%</td>
</tr>
</tbody>
</table>
**Finding 7:**
Charter schools four years and older were more likely than newer charter schools to be high-performing on Percent Predicted API over the past two years.

Charter schools that were four years and older showed a somewhat more positive distribution on Percent Predicted API in 2011-12 and in 2010-11 compared to younger charter schools, as shown in Figure 9. Charter schools that were less than four years old showed a fairly equal representation at the high and low ends of the distribution. This meant that the over-representation of charter schools at the high end of the distribution primarily consisted of schools four years and older, since charter schools overall showed a higher representation in the top 5% than in the bottom 5%. As shown in the table below, charter schools four years and older were significantly less likely to be represented in the bottom 5% compared to younger charters.

This is a relatively new finding, and one that only holds statistical significance for newer charter schools over the past two school years.

*Figure 9. Charter Schools Four Years and Older on Percent Predicted API in 2011-12*
Further investigation into the finding above revealed that younger charter schools had disproportionately small enrollment sizes (see Figure 10). There were fewer than 100 students at 35% of charter schools less than four years old compared to only 14% of charter schools four years and older. Small charter schools were twice as likely as larger charter schools to be in the bottom 5% and bottom 10% on the statewide distribution of Percent Predicted API in 2011-12. That new charter schools were more likely to be small and lower performing in 2011-12 and 2010-11 (these relationships were strong in both years) than in previous years suggests that the confluence of challenges related to start-up and small enrollment may be related to negative outcomes on ASPP.

### Finding 8:
Charter schools that closed within the last four years have been likely to be low-performing.

CCSA has analyzed charter school closures over the past four years and found that charter schools that close tend to be low-performing. Figure 11 shows that the majority of charters that closed in 2011-12 were in the bottom 10% on Percent Predicted API, compared to only 18% of open charter schools. These findings provide some indication that charter school closures are coinciding in many cases with low performance.
Figure 11. Charter School Closures in 2011-12 Compared to Open Charters by Percent Predicted API

<table>
<thead>
<tr>
<th>Charters</th>
<th>Total, Excluding ASAM + Small with API data</th>
<th>Bottom 5%</th>
<th>Bottom 10%</th>
<th>Top 10%</th>
<th>Top 5%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Open Charters 2011-12</td>
<td>851</td>
<td>96 (11.3%)</td>
<td>155 (18.2%)</td>
<td>195 (22.9%)</td>
<td>134 (15.7%)</td>
</tr>
<tr>
<td>Closed Charters 2011-12</td>
<td>23</td>
<td>10 (43.5%)</td>
<td>14 (60.9%)</td>
<td>2 (8.7%)</td>
<td>2 (8.7%)</td>
</tr>
</tbody>
</table>

Figure 12 shows the distribution of charter school closures over the past four years. Closed charters in the bottom 25% are included here to show that the majority of closed charters have performed towards the left side of the shape of the U, and nearly half have been in the bottom 10%. The relative consistency in closures tending to be low-performing in recent years is striking and provides greater evidence that more low-performing than high-performing charter schools are closing.

More low-performing than high-performing charter schools are closing.

Figure 12. Charter School Closures by Percent Predicted API, 2008-09 through 2011-12

<table>
<thead>
<tr>
<th>Year Closed</th>
<th>Closed</th>
<th>Closed, Non-ASAM &amp; Have Percent Predicted</th>
<th>Closed Charters in Bottom 10%</th>
<th>Closed Charters in Bottom 25%</th>
<th>Closed Charters in Top 10%</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008-09</td>
<td>30</td>
<td>20</td>
<td>10 (50.0%)</td>
<td>12 (60.0%)</td>
<td>1 (5.0%)</td>
</tr>
<tr>
<td>2009-10</td>
<td>16</td>
<td>9</td>
<td>3 (33.3%)</td>
<td>3 (33.3%)</td>
<td>2 (22.2%)</td>
</tr>
<tr>
<td>2010-11</td>
<td>30</td>
<td>17</td>
<td>7 (41.2%)</td>
<td>10 (58.8%)</td>
<td>2 (11.8%)</td>
</tr>
<tr>
<td>2011-12</td>
<td>29</td>
<td>23</td>
<td>14 (60.9%)</td>
<td>16 (69.6%)</td>
<td>2 (8.7%)</td>
</tr>
<tr>
<td>Total 2008-09 - 2011-12</td>
<td>105</td>
<td>69</td>
<td>34 (49.3%)</td>
<td>41 (59.4%)</td>
<td>7 (10.1%)</td>
</tr>
</tbody>
</table>

Note: Academic performance in the year prior to closure. For example, if a school closed in the 2011-12 school year, performance data from 2010-11 was used.

While we do see some modest progress in the U-shape of charter performance, there has not been a statistically significant trend towards increased performance of charter schools over time (see Figure
That said, given that 2011-12 had the lowest percentage of charters in the bottom 5% and the highest percentage of charters in the top 5% of performance in the last five years, we are cautiously optimistic this portends a promising trend.

Figure 13. Distribution of Charter Schools on Percent Predicted API, 2007-08 through 2011-12

<table>
<thead>
<tr>
<th>School Year</th>
<th>Bottom 5%</th>
<th>Bottom 10%</th>
<th>Top 10%</th>
<th>Top 5%</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011-12</td>
<td>11.9%</td>
<td>19.1%</td>
<td>22.7%</td>
<td>15.7%</td>
</tr>
<tr>
<td>2010-11</td>
<td>12.4%</td>
<td>17.9%</td>
<td>22.4%</td>
<td>15.6%</td>
</tr>
<tr>
<td>2009-10</td>
<td>13.4%</td>
<td>19.1%</td>
<td>21.4%</td>
<td>14.9%</td>
</tr>
<tr>
<td>2008-09</td>
<td>13.5%</td>
<td>19.3%</td>
<td>20.8%</td>
<td>14.9%</td>
</tr>
<tr>
<td>2007-08</td>
<td>15.4%</td>
<td>21.3%</td>
<td>21.5%</td>
<td>15.3%</td>
</tr>
<tr>
<td>Total Change</td>
<td>-3.5%</td>
<td>-2.2%</td>
<td>+1.2%</td>
<td>+0.4%</td>
</tr>
</tbody>
</table>

CCSA’s Minimum Criteria for Renewal

In 2010-11, CCSA called for the non-renewal of 10 charter schools that did not meet any of the three Minimum Criteria for Renewal for charter schools at least four years old:

1) an API score of at least 700;
2) a cumulative growth on the API of at least 50 points over the previous three years, and;
3) a SSM band of at least Within/Fluctuating for two out of the most recent three years

Of these 10, most either closed or improved significantly. In 2011-12, 23 schools fell below CCSA’s minimum criteria, but only one school was in renewal in the 2012-13 year and was likely to qualify for ASAM status. Although CCSA is therefore not calling for the closure of any charter schools in the 2012-13 school year, CCSA continues to be a leading voice on academic accountability in the charter school movement. CCSA is working with its members to improve its accountability metrics by seeking greater access to student-level data, working with districts across California that have developed their own accountability frameworks, and preparing for the transition to Smarter Balanced assessments and the reinvention of the API system according to SB 1458.
Summary of Additional Findings

Few other categories of schools or subcategories of charter schools in particular produced significant findings in this analysis (see Appendix A for additional figures). Charter high schools slightly outperformed traditional public high schools on Percent Predicted API, but charter elementary and charter middle schools performed similarly to the overall distribution of charter schools. Classroom-based charters tended to outperform nonclassroom-based charters both on average Percent Predicted API and in their representation at the ends of the U-shaped distribution. Small charter schools (those with fewer than 100 students tested) had findings similar to non classroom-based charters. Conversion charter schools tended to perform similarly to traditional public schools on Percent Predicted API. Fully autonomous charter schools were more likely to be represented in the top percentiles on Percent Predicted API than non-autonomous charter schools. Finally, CCSA members were 70% more likely to be in the top 5% on Percent Predicted API than non-members, $2(2, N = 873) = 9.69, p = .01$.

Conclusion

The academic performance of California’s charter school sector has shown some indications of improvement over the past five years. CCSA's data analysis highlights the importance of pursuing a dual strategy of replicating success and intervening to close low-performing charters. Charter schools continue to be over-represented at the highest levels of performance on CCSA's Percent Predicted API, partly as a result of high-performing charters replicating their models across the state. Charter Management Organizations (CMOs) in particular have shown high levels of performance as they have grown their base in California. However, the persistence of a U-shaped distribution presents a clear challenge. In response to this challenge, CCSA has taken a public stance with its annual Public Call for Non-Renewal to advocate for the closure of chronically underperforming charter schools. This year’s analysis of charter school performance revealed that charter schools in their first years of operation are more likely to underperform than charters four years and older. These younger charters are also more likely than older charters to have low enrollments. These findings suggest that new start-up charters in California may be faced with increasing challenges that limit success in the first critical years of operation. These data trends are being used to inform CCSA's accountability initiatives, which are currently being updated in preparation for the rollout of Smarter Balanced assessments and an increased focus from the state on college and career readiness.
Definitions of School Type Variables

Site Type:

Non classroom-based
Schools where less than 80% of instructional time is offered at the school site when students are “engaged in educational activities required of those pupils and are under immediate supervision and control of an employee of the charter school who possesses a valid teaching certificate” (EC 47612.5).

Classroom-based
Schools where at least 80% of instructional time is offered at the school site.

Start Type:

Conversion
Schools that converted from a traditional public school into a charter school

Start-up
Schools that started organically without converting from an existing school

Management Model (CCSA Definition):

CMO School
School that is part of a charter management organization (CMO), which is an organization that operates three or more schools linked by a common philosophy and centralized governance or operations.

Network School
School that is part of a network, which is a group of schools linked by a common philosophy but not centralized governance or operations. Networks also include entities that would otherwise fit the definition of CMO but have fewer than three schools.

Freestanding
Freestanding schools include both start-up single-site schools and traditional district schools that have converted to charters that are not part of a network or CMO affiliation.

Replication Schools (CCSA Definition):

Replication Schools
Schools that are operated by a charter management organization (CMO) that opened a school in the following fall (i.e. in this case, the fall of the 2012-13 school year.)
APPENDIX A: School Typology Analysis:
Percent Predicted API and Distribution of Performance on Percent Predicted API

Autonomy (CCSA Definition)

**Autonomous Charters**
Schools that appoint their board of directors, do not use the local school district’s collective bargaining agreement, are directly funded and are usually incorporated as a 501(c)3.

**Non-autonomous Charters**
Schools that either have the majority of their board appointed by their authorizer or are under a school district’s collective bargaining agreement, are indirectly funded, and are not incorporated as a 501(c)3.

**Semi-autonomous Charters**
Schools that appoint their own board and are incorporated as a 501(c)3. In addition to these characteristics, a semi-autonomous charter school either uses their authorizing district’s collective bargaining agreement and is directly funded, or is indirectly funded and does not use the district’s collective bargaining agreement.

**Funding Type:**

**Indirect**
Schools that are funded indirectly through their district. This is used as a proxy for describing charters that are more dependent and have less autonomy from their local district.

**Direct**
Schools that are funded directly through the state. This is used as a proxy for describing charters that are more independent and have more autonomy from their local district.

**Size:**

**Not Small**
Schools that have at least 100 valid test scores included in their API score

**Small**
Schools that have less than 100 valid test scores included in their API score
APPENDIX A: School Typology Analysis:
Percent Predicted API and Distribution of Performance on Percent Predicted API

Student Family Income:

**Low-income**
Schools where 50% or more of students are reported eligible for the federal Free/Reduced Price Lunch program

**Not low-income**
Schools where less than 50% of students are reported eligible for the federal Free/Reduced Price Lunch program

Charter Age:

**< 4 Years Old**
Charter schools that have been in operation for less than four years

**4+ Years Old**
Charter schools that have been in operation for four years or longer

Member Status:

**Member**
Active member of the California Charter Schools Association

**Non-member**
Not an active member of the California Charter Schools Association

Grade Span:

**Elementary**
Schools that have a majority of students in the elementary grade span

**Middle**
Schools that have a majority of students in the middle school grade span

**High**
Schools that have a majority of students in the high school grade span
T-tests: One Sample

A one-sample t-test is used to determine whether a sample mean differs from a theoretical underlying distribution. These t-tests examine if the mean of Percent Predicted API is significantly different from 1. A significant result means that charter type is significantly over-performing (i.e., API above predicted, mean >1) or significantly below predicted (i.e., API below predicted, mean <1). If the mean Percent Predicted API was significantly over or under 1, it is bolded.

Table 1: One Sample T-test of Site Type

<table>
<thead>
<tr>
<th>Percent Predicted API</th>
<th>Mean</th>
<th>Std Dev.</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non Classroom-Based</td>
<td>.989</td>
<td>.081</td>
<td>-1.810</td>
</tr>
<tr>
<td>Classroom-Based</td>
<td>1.007</td>
<td>.084</td>
<td>2.288*</td>
</tr>
</tbody>
</table>

* p < 0.05, ** p < 0.01, *** p < 0.001

Table 2: One Sample T-test of Start Type

<table>
<thead>
<tr>
<th>Percent Predicted API</th>
<th>Mean</th>
<th>Std Dev.</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conversion</td>
<td>1.009</td>
<td>.05</td>
<td>2.077*</td>
</tr>
<tr>
<td>Startup</td>
<td>1.003</td>
<td>.088</td>
<td>.817</td>
</tr>
</tbody>
</table>

* p < 0.05, ** p < 0.01, *** p < 0.001

Table 3: One Sample T-test of Management Model

<table>
<thead>
<tr>
<th>Percent Predicted API</th>
<th>Mean</th>
<th>Std Dev.</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMO</td>
<td>1.036</td>
<td>.083</td>
<td>6.553***</td>
</tr>
<tr>
<td>Freestanding</td>
<td>.99</td>
<td>.079</td>
<td>-2.938**</td>
</tr>
<tr>
<td>Network</td>
<td>1.002</td>
<td>.085</td>
<td>0.205</td>
</tr>
</tbody>
</table>

* p < 0.05, ** p < 0.01, *** p < 0.001
Table 4: One Sample T-test of CMO Replications

<table>
<thead>
<tr>
<th>Percent Predicted API</th>
<th>Mean</th>
<th>Std Dev.</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Did not Replicate</td>
<td>.997</td>
<td>.081</td>
<td>-1.048</td>
</tr>
<tr>
<td>Replicated</td>
<td>1.073</td>
<td>.082</td>
<td>7.757***</td>
</tr>
</tbody>
</table>

* p < 0.05, ** p < 0.01, *** p < 0.001

Table 5: One Sample T-test of Charters by Autonomy Status

<table>
<thead>
<tr>
<th>Percent Predicted API</th>
<th>Mean</th>
<th>Std Dev.</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Autonomous</td>
<td>1.004</td>
<td>.085</td>
<td>1.253</td>
</tr>
<tr>
<td>Semi-autonomous</td>
<td>1.00</td>
<td>.090</td>
<td>-0.003</td>
</tr>
<tr>
<td>Non-autonomous</td>
<td>1.003</td>
<td>.079</td>
<td>0.484</td>
</tr>
</tbody>
</table>

* p < 0.05, ** p < 0.01, *** p < 0.001

Table 6: One Sample T-test of Funding Type

<table>
<thead>
<tr>
<th>Percent Predicted API</th>
<th>Mean</th>
<th>Std Dev.</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indirect from the district</td>
<td>1.002</td>
<td>.077</td>
<td>0.449</td>
</tr>
<tr>
<td>Direct from the state</td>
<td>1.004</td>
<td>.086</td>
<td>1.227</td>
</tr>
</tbody>
</table>

* p < 0.05, ** p < 0.01, *** p < 0.001

Table 7: One Sample T-test of Charter Size

<table>
<thead>
<tr>
<th>Percent Predicted API</th>
<th>Mean</th>
<th>Std Dev.</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not Small</td>
<td>1.007</td>
<td>.075</td>
<td>2.502*</td>
</tr>
<tr>
<td>Small School (T &amp; S)</td>
<td>.990</td>
<td>.108</td>
<td>-1.247</td>
</tr>
</tbody>
</table>

* p < 0.05, ** p < 0.01, *** p < 0.001
Table 8: One Sample T-test of Charters with 50%+ Free/Reduced Price Lunch Students

<table>
<thead>
<tr>
<th>Percent Predicted API</th>
<th>Mean</th>
<th>Std Dev.</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>50% and Over FRL</td>
<td>1.019</td>
<td>.0906</td>
<td>4.443***</td>
</tr>
</tbody>
</table>

*p < 0.05, ** p < 0.01, *** p < 0.001

Table 9: One Sample T-test of Charter Age

<table>
<thead>
<tr>
<th>Percent Predicted API</th>
<th>Mean</th>
<th>Std Dev.</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 4 Years Old</td>
<td>.996</td>
<td>.090</td>
<td>-.779</td>
</tr>
<tr>
<td>4+ Years Old</td>
<td>1.007</td>
<td>.080</td>
<td>2.143*</td>
</tr>
</tbody>
</table>

*p < 0.05, ** p < 0.01, *** p < 0.001

Table 10: One Sample T-test of CCSA Member Status

<table>
<thead>
<tr>
<th>Percent Predicted API</th>
<th>Mean</th>
<th>Std Dev.</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-Member</td>
<td>.998</td>
<td>.087</td>
<td>-0.417</td>
</tr>
<tr>
<td>Active Member</td>
<td>1.007</td>
<td>.082</td>
<td>1.925</td>
</tr>
</tbody>
</table>

*p < 0.05, ** p < 0.01, *** p < 0.001

Table 11: One Sample T-test of Grade Span: Charter vs. Non-Charter

<table>
<thead>
<tr>
<th>Percent Predicted API</th>
<th>Mean</th>
<th>Std Dev.</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elementary Charter</td>
<td>.998</td>
<td>.075</td>
<td>-0.650</td>
</tr>
<tr>
<td>Non-Charter</td>
<td>1.000</td>
<td>.047</td>
<td>-0.093</td>
</tr>
<tr>
<td>Middle Charter</td>
<td>1.010</td>
<td>.075</td>
<td>1.487</td>
</tr>
<tr>
<td>Non-Charter</td>
<td>.998</td>
<td>.047</td>
<td>-1.297</td>
</tr>
<tr>
<td>High Charter</td>
<td>1.010</td>
<td>.098</td>
<td>1.804</td>
</tr>
<tr>
<td>Non-Charter</td>
<td>.994</td>
<td>.050</td>
<td>-3.804***</td>
</tr>
</tbody>
</table>

*p < 0.05, ** p < 0.01, *** p < 0.001
APPENDIX A: School Typology Analysis: 
Percent Predicted API and Distribution of Performance on Percent Predicted API

Pearson Chi-square

The Pearson chi-square test is used to determine whether the differences between observed and expected frequencies are statistically significant. Chi-square results listed at the bottom of each table indicate whether there is a relationship between the groups of schools being compared and their distribution across percentiles. For each charter type disaggregation, differences are shown first for the bottom 5th percentile and top 5th percentile, and then for the bottom 10th percentile and top 10th percentile, because we look at both breakdowns throughout the report. The “All Others” column includes all schools that are not part of the top or bottom percentiles marked. Cells are labeled with asterisks based on the level of confidence associated with one group of schools being over- or under-represented in a percentile than the comparison group.

Sample Interpretation:

In Table 12, the counts of non classroom-based charters are labeled with asterisks and bolded in the bottom 10th percentile, and the percentage associated with that count is more than the corresponding percentage for classroom-based charters. That means that with statistical significance, non classroom-based charters were more likely to be in the bottom 10th percentile (28% vs. 17%) than classroom-based charters. However, as the counts for the top 10th percentile are not asterisked and bolded, the difference in the percent of non classroom-based and classroom-based charters in the top 10th percentile is not statistically significant.

Table 12: Pearson Chi-Square of Site Type

<table>
<thead>
<tr>
<th></th>
<th>Bottom 5th Percentile</th>
<th>Top 5th Percentile</th>
<th>All Others</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Non Classroom-Based</strong></td>
<td>Count</td>
<td>27</td>
<td>19</td>
<td>120</td>
</tr>
<tr>
<td></td>
<td>(%)</td>
<td>16%</td>
<td>11%</td>
<td>72%</td>
</tr>
<tr>
<td><strong>Classroom-Based</strong></td>
<td>Count</td>
<td>77</td>
<td>118</td>
<td>512</td>
</tr>
<tr>
<td></td>
<td>(%)</td>
<td>11%</td>
<td>17%</td>
<td>72%</td>
</tr>
<tr>
<td>Chi-Square</td>
<td></td>
<td></td>
<td>5.615 (df=2, N=873)</td>
<td></td>
</tr>
</tbody>
</table>

Significance .060

*p < 0.05, ** p < 0.01, *** p < 0.001
## APPENDIX A: School Typology Analysis:  
Percent Predicted API and Distribution of Performance on Percent Predicted API

<table>
<thead>
<tr>
<th></th>
<th>Bottom 10th Percentile</th>
<th>Top 10th Percentile</th>
<th>All Others</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Non Classroom-Based</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Count</td>
<td>46*</td>
<td>31</td>
<td>89</td>
<td>166</td>
</tr>
<tr>
<td>(%)</td>
<td>28%</td>
<td>19%</td>
<td>54%</td>
<td>100%</td>
</tr>
<tr>
<td><strong>Classroom-Based</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Count</td>
<td>121</td>
<td>167</td>
<td>419</td>
<td>707</td>
</tr>
<tr>
<td>(%)</td>
<td>17%</td>
<td>24%</td>
<td>59%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Chi-Square 10.078 (df=2, N=873)  
Significance .006

* p < 0.05, ** p < 0.01, *** p < 0.001

### Table 13: Pearson Chi-Square of Start Type

<table>
<thead>
<tr>
<th></th>
<th>Bottom 5th Percentile</th>
<th>Top 5th Percentile</th>
<th>All Others</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Conversion</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Count</td>
<td>6*</td>
<td>12*</td>
<td>119*</td>
<td>137</td>
</tr>
<tr>
<td>(%)</td>
<td>4%</td>
<td>9%</td>
<td>87%</td>
<td>100%</td>
</tr>
<tr>
<td><strong>Startup</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Count</td>
<td>98</td>
<td>125</td>
<td>513</td>
<td>736</td>
</tr>
<tr>
<td>(%)</td>
<td>13%</td>
<td>17%</td>
<td>70%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Chi-Square 17.418 (df=2, N=873)  
Significance .000

* p < 0.05, ** p < 0.01, *** p < 0.001

<table>
<thead>
<tr>
<th></th>
<th>Bottom 10th Percentile</th>
<th>Top 10th Percentile</th>
<th>All Others</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Conversion</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Count</td>
<td>10**</td>
<td>17*</td>
<td>110***</td>
<td>137</td>
</tr>
<tr>
<td>(%)</td>
<td>7%</td>
<td>12%</td>
<td>80%</td>
<td>100%</td>
</tr>
<tr>
<td><strong>Startup</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Count</td>
<td>157</td>
<td>181</td>
<td>398</td>
<td>736</td>
</tr>
<tr>
<td>(%)</td>
<td>21%</td>
<td>25%</td>
<td>54%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Chi-Square 33.09 (df=2, N=873)  
Significance .000

* p < 0.05, ** p < 0.01, *** p < 0.001
Table 14: Pearson Chi-Square of Management Model

<table>
<thead>
<tr>
<th></th>
<th>Bottom 5th Percentile</th>
<th>Top 5th Percentile</th>
<th>All Others</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMO</td>
<td>Count</td>
<td>15*</td>
<td>71***</td>
<td>146</td>
</tr>
<tr>
<td></td>
<td>(%)</td>
<td>6%</td>
<td>31%</td>
<td>63%</td>
</tr>
<tr>
<td>Freestanding</td>
<td>Count</td>
<td>72</td>
<td>45***</td>
<td>397</td>
</tr>
<tr>
<td></td>
<td>(%)</td>
<td>14%</td>
<td>9%</td>
<td>77%</td>
</tr>
<tr>
<td>Network</td>
<td>Count</td>
<td>17</td>
<td>21</td>
<td>89</td>
</tr>
<tr>
<td></td>
<td>(%)</td>
<td>13%</td>
<td>17%</td>
<td>70%</td>
</tr>
<tr>
<td>Chi-Square</td>
<td></td>
<td>61.224 (df=4, N=873)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Significance</td>
<td></td>
<td>.000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* p < 0.05, ** p < 0.01, *** p < 0.001

<table>
<thead>
<tr>
<th></th>
<th>Bottom 10th Percentile</th>
<th>Top 10th Percentile</th>
<th>All Others</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMO</td>
<td>Count</td>
<td>24**</td>
<td>88***</td>
<td>120</td>
</tr>
<tr>
<td></td>
<td>(%)</td>
<td>10%</td>
<td>38%</td>
<td>52%</td>
</tr>
<tr>
<td>Freestanding</td>
<td>Count</td>
<td>116</td>
<td>80***</td>
<td>318</td>
</tr>
<tr>
<td></td>
<td>(%)</td>
<td>23%</td>
<td>16%</td>
<td>62%</td>
</tr>
<tr>
<td>Network</td>
<td>Count</td>
<td>27</td>
<td>30</td>
<td>70</td>
</tr>
<tr>
<td></td>
<td>(%)</td>
<td>21%</td>
<td>24%</td>
<td>55%</td>
</tr>
<tr>
<td>Chi-Square</td>
<td></td>
<td>51.222 (df=4, N=873)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Significance</td>
<td></td>
<td>.000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* p < 0.05, ** p < 0.01, *** p < 0.001
## APPENDIX A: School Typology Analysis:

### Percent Predicted API and Distribution of Performance on Percent Predicted API

<table>
<thead>
<tr>
<th>Did not Replicate</th>
<th>Count</th>
<th>Bottom 5th Percentile</th>
<th>Top 5th Percentile</th>
<th>All Others</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(%)</td>
<td>13%</td>
<td>12%</td>
<td>75%</td>
<td>100%</td>
</tr>
<tr>
<td>Replicated</td>
<td>Count</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1**</td>
<td>38***</td>
<td>37*</td>
<td>76</td>
</tr>
<tr>
<td></td>
<td>(%)</td>
<td>1%</td>
<td>50%</td>
<td>49%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Chi-Square: 76.747 (df=2, N=873)

Significance: .000

* p < 0.05, ** p < 0.01, *** p < 0.001

<table>
<thead>
<tr>
<th>Did not Replicate</th>
<th>Count</th>
<th>Bottom 10th Percentile</th>
<th>Top 10th Percentile</th>
<th>All Others</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(%)</td>
<td>20%</td>
<td>19%</td>
<td>60%</td>
<td>100%</td>
</tr>
<tr>
<td>Replicated</td>
<td>Count</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>4**</td>
<td>45***</td>
<td>27**</td>
<td>76</td>
</tr>
<tr>
<td></td>
<td>(%)</td>
<td>5%</td>
<td>59%</td>
<td>36%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Chi-Square: 64.696 (df=2, N=873)

Significance: .000

* p < 0.05, ** p < 0.01, *** p < 0.001
## Table 16: Pearson Chi-Square of Autonomy Status

<table>
<thead>
<tr>
<th></th>
<th>Bottom 5th Percentile</th>
<th>Top 5th Percentile</th>
<th>All Others</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Autonomous</strong></td>
<td>Count</td>
<td>75</td>
<td>111</td>
<td>423</td>
</tr>
<tr>
<td></td>
<td>(%)</td>
<td>12%</td>
<td>18%</td>
<td>69%</td>
</tr>
<tr>
<td><strong>Semi-autonomous</strong></td>
<td>Count</td>
<td>7</td>
<td>7</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>(%)</td>
<td>16%</td>
<td>16%</td>
<td>68%</td>
</tr>
<tr>
<td><strong>Non-autonomous</strong></td>
<td>Count</td>
<td>22</td>
<td>19**</td>
<td>179</td>
</tr>
<tr>
<td></td>
<td>(%)</td>
<td>10%</td>
<td>9%</td>
<td>81%</td>
</tr>
<tr>
<td><strong>Chi-Square</strong></td>
<td></td>
<td></td>
<td></td>
<td>14.1  (df=4, N=873)</td>
</tr>
<tr>
<td><strong>Significance</strong></td>
<td></td>
<td></td>
<td></td>
<td>.007</td>
</tr>
</tbody>
</table>

* p < 0.05, ** p < 0.01, *** p < 0.001

<table>
<thead>
<tr>
<th></th>
<th>Bottom 10th Percentile</th>
<th>Top 10th Percentile</th>
<th>All Others</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Autonomous</strong></td>
<td>Count</td>
<td>122</td>
<td>151</td>
<td>336</td>
</tr>
<tr>
<td></td>
<td>(%)</td>
<td>20%</td>
<td>25%</td>
<td>55%</td>
</tr>
<tr>
<td><strong>Semi-autonomous</strong></td>
<td>Count</td>
<td>9</td>
<td>12</td>
<td>23</td>
</tr>
<tr>
<td></td>
<td>(%)</td>
<td>20%</td>
<td>27%</td>
<td>52%</td>
</tr>
<tr>
<td><strong>Non-autonomous</strong></td>
<td>Count</td>
<td>36</td>
<td>35*</td>
<td>149</td>
</tr>
<tr>
<td></td>
<td>(%)</td>
<td>16%</td>
<td>16%</td>
<td>68%</td>
</tr>
<tr>
<td><strong>Chi-Square</strong></td>
<td></td>
<td></td>
<td></td>
<td>11.894 (df=4, N=873)</td>
</tr>
<tr>
<td><strong>Significance</strong></td>
<td></td>
<td></td>
<td></td>
<td>.018</td>
</tr>
</tbody>
</table>

* p < 0.05, ** p < 0.01, *** p < 0.001
## Table 17: Pearson Chi-Square of Funding Type

<table>
<thead>
<tr>
<th></th>
<th>Bottom 5th Percentile</th>
<th>Top 5th Percentile</th>
<th>All Others</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Indirect from the district</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Count</td>
<td>23</td>
<td><em>21</em>*</td>
<td>200</td>
<td>244</td>
</tr>
<tr>
<td>(%)</td>
<td>9%</td>
<td>9%</td>
<td>82%</td>
<td>100%</td>
</tr>
<tr>
<td><strong>Direct from the state</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Count</td>
<td>81</td>
<td>116</td>
<td>432</td>
<td>629</td>
</tr>
<tr>
<td>(%)</td>
<td>13%</td>
<td>18%</td>
<td>69%</td>
<td>100%</td>
</tr>
<tr>
<td><strong>Chi-Square</strong></td>
<td></td>
<td>16.882 (df=2, N=873)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Significance</strong></td>
<td></td>
<td>.000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* p < 0.05, ** p < 0.01, *** p < 0.001

<table>
<thead>
<tr>
<th></th>
<th>Bottom 10th Percentile</th>
<th>Top 10th Percentile</th>
<th>All Others</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Indirect from the district</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Count</td>
<td>38</td>
<td><em>40</em></td>
<td><em>166</em></td>
<td>244</td>
</tr>
<tr>
<td>(%)</td>
<td>16%</td>
<td>16%</td>
<td>68%</td>
<td>100%</td>
</tr>
<tr>
<td><strong>Direct from the state</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Count</td>
<td>129</td>
<td>158</td>
<td>342</td>
<td>629</td>
</tr>
<tr>
<td>(%)</td>
<td>21%</td>
<td>25%</td>
<td>54%</td>
<td>100%</td>
</tr>
<tr>
<td><strong>Chi-Square</strong></td>
<td></td>
<td>13.778 (df=2, N=873)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Significance</strong></td>
<td></td>
<td>.001</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* p < 0.05, ** p < 0.01, *** p < 0.001
### Table 18: Pearson Chi-Square of Charter Age

<table>
<thead>
<tr>
<th></th>
<th>Bottom 5th Percentile</th>
<th>Top 5th Percentile</th>
<th>All Others</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>&lt; 4 Years Old</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Count</td>
<td>41*</td>
<td>44</td>
<td>167</td>
<td>252</td>
</tr>
<tr>
<td>(%)</td>
<td>16%</td>
<td>17%</td>
<td>66%</td>
<td>100%</td>
</tr>
<tr>
<td><strong>4+ Years Old</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Count</td>
<td>63</td>
<td>93</td>
<td>465</td>
<td>621</td>
</tr>
<tr>
<td>(%)</td>
<td>10%</td>
<td>15%</td>
<td>75%</td>
<td>100%</td>
</tr>
<tr>
<td>Chi-Square</td>
<td></td>
<td>8.185 (df=2, N=873)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Significance</td>
<td></td>
<td>.017</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* p < 0.05, ** p < 0.01, *** p < 0.001

<table>
<thead>
<tr>
<th></th>
<th>Bottom 10th Percentile</th>
<th>Top 10th Percentile</th>
<th>All Others</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>&lt; 4 Years Old</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Count</td>
<td>59</td>
<td>59</td>
<td>134</td>
<td>252</td>
</tr>
<tr>
<td>(%)</td>
<td>23%</td>
<td>23%</td>
<td>53%</td>
<td>100%</td>
</tr>
<tr>
<td><strong>4+ Years Old</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Count</td>
<td>108</td>
<td>139</td>
<td>374</td>
<td>621</td>
</tr>
<tr>
<td>(%)</td>
<td>17%</td>
<td>22%</td>
<td>60%</td>
<td>100%</td>
</tr>
<tr>
<td>Chi-Square</td>
<td></td>
<td>5.013 (df=2, N=873)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Significance</td>
<td></td>
<td>.082</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* p < 0.05, ** p < 0.01, *** p < 0.001
## Table 19: Pearson Chi-Square of Charter Size

<table>
<thead>
<tr>
<th></th>
<th>Bottom 5th Percentile</th>
<th>Top 5th Percentile</th>
<th>All Others</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Not Small</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Count</td>
<td>65*</td>
<td>110</td>
<td>521</td>
<td>696</td>
</tr>
<tr>
<td>(%)</td>
<td>9%</td>
<td>16%</td>
<td>75%</td>
<td>100%</td>
</tr>
<tr>
<td><strong>Small School (T &amp; S)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Count</td>
<td>39***</td>
<td>27</td>
<td>111</td>
<td>177</td>
</tr>
<tr>
<td>(%)</td>
<td>22%</td>
<td>15%</td>
<td>63%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Chi-Square: 21.992 (df=2, N=873)  
Significance: .000

*p < 0.05, ** p < 0.01, *** p < 0.001

<table>
<thead>
<tr>
<th></th>
<th>Bottom 10th Percentile</th>
<th>Top 10th Percentile</th>
<th>All Others</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Not Small</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Count</td>
<td>111</td>
<td>159</td>
<td>426</td>
<td>696</td>
</tr>
<tr>
<td>(%)</td>
<td>16%</td>
<td>23%</td>
<td>61%</td>
<td>100%</td>
</tr>
<tr>
<td><strong>Small School (T &amp; S)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Count</td>
<td>56***</td>
<td>39</td>
<td>82*</td>
<td>177</td>
</tr>
<tr>
<td>(%)</td>
<td>32%</td>
<td>22%</td>
<td>46%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Chi-Square: 23.57 (df=2, N=873)  
Significance: .000

*p < 0.05, ** p < 0.01, *** p < 0.001
### Table 20: Pearson Chi-Square of Charters with => 50% and < 50% Free/Reduced Price Lunch Students

<table>
<thead>
<tr>
<th></th>
<th>Bottom 5th Percentile</th>
<th>Top 5th Percentile</th>
<th>All Others</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>50% and Over FRL</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Count</td>
<td>59</td>
<td>144***</td>
<td>297*</td>
<td>470</td>
</tr>
<tr>
<td>(%)</td>
<td>13%</td>
<td>24%</td>
<td>63%</td>
<td>100%</td>
</tr>
<tr>
<td><strong>Under 50% FRL</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Count</td>
<td>45</td>
<td>23***</td>
<td>335*</td>
<td>403</td>
</tr>
<tr>
<td>(%)</td>
<td>11%</td>
<td>6%</td>
<td>83%</td>
<td>100%</td>
</tr>
<tr>
<td>Chi-Square</td>
<td>59.825 (df=2, N=873)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Significance</td>
<td>.000</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* p < 0.05, ** p < 0.01, *** p < 0.001
### Table 21: Pearson Chi-Square of CCSA Member Status

<table>
<thead>
<tr>
<th></th>
<th>Bottom 5th Percentile</th>
<th>Top 5th Percentile</th>
<th>All Others</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Non-Member</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Count</td>
<td>42</td>
<td>31*</td>
<td>217</td>
<td>290</td>
</tr>
<tr>
<td>(%)</td>
<td>14%</td>
<td>11%</td>
<td>75%</td>
<td>100%</td>
</tr>
<tr>
<td><strong>Active Member</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Count</td>
<td>62</td>
<td>106</td>
<td>415</td>
<td>583</td>
</tr>
<tr>
<td>(%)</td>
<td>11%</td>
<td>18%</td>
<td>71%</td>
<td>100%</td>
</tr>
<tr>
<td>Chi-Square</td>
<td>9.69 (df=2, N=873)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Significance</td>
<td>.008</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* p < 0.05, ** p < 0.01, *** p < 0.001

<table>
<thead>
<tr>
<th></th>
<th>Bottom 10th Percentile</th>
<th>Top 10th Percentile</th>
<th>All Others</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Non-Member</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Count</td>
<td>68</td>
<td>54</td>
<td>168</td>
<td>290</td>
</tr>
<tr>
<td>(%)</td>
<td>23%</td>
<td>19%</td>
<td>58%</td>
<td>100%</td>
</tr>
<tr>
<td><strong>Active Member</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Count</td>
<td>99</td>
<td>144</td>
<td>340</td>
<td>583</td>
</tr>
<tr>
<td>(%)</td>
<td>17%</td>
<td>25%</td>
<td>58%</td>
<td>100%</td>
</tr>
<tr>
<td>Chi-Square</td>
<td>7.395 (df=2, N=873)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Significance</td>
<td>.025</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* p < 0.05, ** p < 0.01, *** p < 0.001
## Table 22: Pearson Chi-Square of Grade Span: Charter vs. Non-Charter

<table>
<thead>
<tr>
<th></th>
<th>Bottom 5th Percentile</th>
<th>Top 5th Percentile</th>
<th>All Others</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Elementary</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Charter</td>
<td>Count: 57***</td>
<td>53***</td>
<td>351***</td>
<td>461</td>
</tr>
<tr>
<td></td>
<td>(%) 12%</td>
<td>11%</td>
<td>76%</td>
<td>100%</td>
</tr>
<tr>
<td>Non-Charter</td>
<td>Count: 212*</td>
<td>203*</td>
<td>4,811</td>
<td>5,226</td>
</tr>
<tr>
<td></td>
<td>(%) 4%</td>
<td>4%</td>
<td>92%</td>
<td>100%</td>
</tr>
<tr>
<td><strong>Middle</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Charter</td>
<td>Count: 9*</td>
<td>22***</td>
<td>89*</td>
<td>120</td>
</tr>
<tr>
<td></td>
<td>(%) 8%</td>
<td>18%</td>
<td>74%</td>
<td>100%</td>
</tr>
<tr>
<td>Non-Charter</td>
<td>Count: 42</td>
<td>41*</td>
<td>1,109</td>
<td>1,192</td>
</tr>
<tr>
<td></td>
<td>(%) 4%</td>
<td>3%</td>
<td>93%</td>
<td>100%</td>
</tr>
<tr>
<td><strong>High</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Charter</td>
<td>Count: 38***</td>
<td>62***</td>
<td>192***</td>
<td>292</td>
</tr>
<tr>
<td></td>
<td>(%) 13%</td>
<td>21%</td>
<td>66%</td>
<td>100%</td>
</tr>
<tr>
<td>Non-Charter</td>
<td>Count: 58</td>
<td>35***</td>
<td>938</td>
<td>1,031</td>
</tr>
<tr>
<td></td>
<td>(%) 6%</td>
<td>3%</td>
<td>91%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Chi-Square: Elementary: 128.177 (df=2, N=5,687); Middle: 59.051 (df=2, N=1,312); High: 132.828 (df=2, N=1,323)

Significance: Elementary: .000; Middle: .000; High: .000

* p < 0.05, ** p < 0.01, *** p < 0.001

<table>
<thead>
<tr>
<th></th>
<th>Bottom 10th Percentile</th>
<th>Top 10th Percentile</th>
<th>All Others</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Elementary</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Charter</td>
<td>Count: 93***</td>
<td>87***</td>
<td>281***</td>
<td>461</td>
</tr>
<tr>
<td></td>
<td>(%) 20%</td>
<td>19%</td>
<td>61%</td>
<td>100%</td>
</tr>
<tr>
<td>Non-Charter</td>
<td>Count: 450*</td>
<td>462</td>
<td>4,314</td>
<td>5,226</td>
</tr>
<tr>
<td></td>
<td>(%) 9%</td>
<td>9%</td>
<td>83%</td>
<td>100%</td>
</tr>
<tr>
<td><strong>Middle</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Charter</td>
<td>Count: 16</td>
<td>27***</td>
<td>77*</td>
<td>120</td>
</tr>
<tr>
<td></td>
<td>(%) 13%</td>
<td>23%</td>
<td>64%</td>
<td>100%</td>
</tr>
<tr>
<td>Non-Charter</td>
<td>Count: 104</td>
<td>97</td>
<td>991</td>
<td>1,192</td>
</tr>
<tr>
<td></td>
<td>(%) 9%</td>
<td>8%</td>
<td>83%</td>
<td>100%</td>
</tr>
<tr>
<td><strong>High</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Charter</td>
<td>Count: 58***</td>
<td>84***</td>
<td>150***</td>
<td>292</td>
</tr>
<tr>
<td></td>
<td>(%) 20%</td>
<td>29%</td>
<td>51%</td>
<td>100%</td>
</tr>
<tr>
<td>Non-Charter</td>
<td>Count: 111</td>
<td>75***</td>
<td>845*</td>
<td>1,031</td>
</tr>
<tr>
<td></td>
<td>(%) 11%</td>
<td>7%</td>
<td>82%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Chi-Square: Elementary: 127.929 (df=2, N=5,687); Middle: 31.147 (df=2, N=1,312); High: 130.515 (df=2, N=1,323)

Significance: Elementary: .000; Middle: .000; High: .000

* p < 0.05, ** p < 0.01, *** p < 0.001
APPENDIX B: School Typology Analysis: Status/Growth Quadrants

Pearson Chi-square

The Pearson chi-square test is used to determine whether the differences between observed and expected frequencies are statistically significant. Chi-square results listed at the bottom of each table indicate whether there is a relationship between the groups of schools being compared and their distribution across quadrants. Within each table, cells are labeled with asterisks based on the level of confidence associated with one group of schools being over- or under-represented in a quadrant than the comparison group. All the tables below only include charters four years and older.

Sample Interpretation:

In Table 23, the counts of non-classroom-based charters are labeled with asterisks across three of the four quadrants, indicating that there was a difference between the distribution of non-classroom-based and classroom-based charters for those three quadrants. By looking at the percentages associated with those cells, we see that non-classroom-based charters were more likely to be in the below average status/below average growth quadrant than classroom-based charters (43% versus 20%) and less likely to be in the above average status/above average growth category than classroom-based charters (16% versus 32%). The other cells with significance can be interpreted similarly.

Table 23: Pearson Chi-square of Site Type

<table>
<thead>
<tr>
<th></th>
<th>Below Average Status, Below Average Growth</th>
<th>Below Average Status, Above Average Growth</th>
<th>Above Average Status, Below Average Growth</th>
<th>Above Average Status, Above Average Growth</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non Classroom-Based</td>
<td>Count</td>
<td>50***</td>
<td>42</td>
<td>6***</td>
<td>18**</td>
</tr>
<tr>
<td></td>
<td>(%)</td>
<td>43%</td>
<td>36%</td>
<td>5%</td>
<td>16%</td>
</tr>
<tr>
<td>Classroom-Based</td>
<td>Count</td>
<td>99*</td>
<td>128</td>
<td>114</td>
<td>163</td>
</tr>
<tr>
<td></td>
<td>(%)</td>
<td>20%</td>
<td>25%</td>
<td>23%</td>
<td>32%</td>
</tr>
<tr>
<td>Chi-Square</td>
<td></td>
<td>49.587 (df=3, N=620)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Significance</td>
<td></td>
<td>.000</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* p < 0.05, ** p < 0.01, *** p < 0.001
### APPENDIX B: School Typology Analysis: Status/Growth Quadrants

#### Table 24: Pearson Chi-square of Start Type

<table>
<thead>
<tr>
<th>Status/Growth Quadrants for 2012</th>
<th>Below Average Status, Below Average Growth</th>
<th>Below Average Status, Above Average Growth</th>
<th>Above Average Status, Below Average Growth</th>
<th>Above Average Status, Above Average Growth</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conversion</td>
<td>Count</td>
<td>17</td>
<td>18*</td>
<td>26</td>
<td>45*</td>
</tr>
<tr>
<td></td>
<td>(%)</td>
<td>16%</td>
<td>17%</td>
<td>25%</td>
<td>42%</td>
</tr>
<tr>
<td>Startup</td>
<td>Count</td>
<td>132</td>
<td>152</td>
<td>94</td>
<td>136</td>
</tr>
<tr>
<td></td>
<td>(%)</td>
<td>26%</td>
<td>30%</td>
<td>18%</td>
<td>26%</td>
</tr>
<tr>
<td>Chi-Square</td>
<td></td>
<td>17.949 (df=3, N=620)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Significance</td>
<td></td>
<td>.000</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* p < 0.05, ** p < 0.01, *** p < 0.001

#### Table 25: Pearson Chi-square of Management Model

<table>
<thead>
<tr>
<th>Status/Growth Quadrants for 2012</th>
<th>Below Average Status, Below Average Growth</th>
<th>Below Average Status, Above Average Growth</th>
<th>Above Average Status, Below Average Growth</th>
<th>Above Average Status, Above Average Growth</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMO</td>
<td>Count</td>
<td>42</td>
<td>53</td>
<td>27</td>
<td>41</td>
</tr>
<tr>
<td></td>
<td>(%)</td>
<td>26%</td>
<td>33%</td>
<td>17%</td>
<td>25%</td>
</tr>
<tr>
<td>Freestanding</td>
<td>Count</td>
<td>84</td>
<td>93</td>
<td>74</td>
<td>118</td>
</tr>
<tr>
<td></td>
<td>(%)</td>
<td>23%</td>
<td>25%</td>
<td>20%</td>
<td>32%</td>
</tr>
<tr>
<td>Network</td>
<td>Count</td>
<td>23</td>
<td>24</td>
<td>19</td>
<td>22</td>
</tr>
<tr>
<td></td>
<td>(%)</td>
<td>26%</td>
<td>27%</td>
<td>22%</td>
<td>25%</td>
</tr>
<tr>
<td>Chi-Square</td>
<td></td>
<td>6.216 (df=6, N=620)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Significance</td>
<td></td>
<td>.399</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* p < 0.05, ** p < 0.01, *** p < 0.001
APPENDIX B: School Typology Analysis: Status/Growth Quadrants

Table 26: Pearson Chi-square of Autonomy Status

<table>
<thead>
<tr>
<th></th>
<th>Below Average Status, Below Average Growth</th>
<th>Below Average Status, Above Average Growth</th>
<th>Above Average Status, Below Average Growth</th>
<th>Above Average Status, Above Average Growth</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Autonomous</td>
<td>Count</td>
<td>110</td>
<td>128</td>
<td>70</td>
<td>118</td>
</tr>
<tr>
<td></td>
<td>(%)</td>
<td>26%</td>
<td>30%</td>
<td>16%</td>
<td>28%</td>
</tr>
<tr>
<td>Semi-autonomous</td>
<td>Count</td>
<td>6</td>
<td>8</td>
<td>9</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>(%)</td>
<td>18%</td>
<td>24%</td>
<td>26%</td>
<td>32%</td>
</tr>
<tr>
<td>Non-autonomous</td>
<td>Count</td>
<td>33</td>
<td>34</td>
<td>41</td>
<td>52</td>
</tr>
<tr>
<td></td>
<td>(%)</td>
<td>21%</td>
<td>21%</td>
<td>26%</td>
<td>33%</td>
</tr>
<tr>
<td>Chi-Square</td>
<td></td>
<td>12.46 (df=6, N=620)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Significance</td>
<td></td>
<td>.052</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* p < 0.05, ** p < 0.01, *** p < 0.001

Table 27: Pearson Chi-square of Funding Type

<table>
<thead>
<tr>
<th></th>
<th>Below Average Status, Below Average Growth</th>
<th>Below Average Status, Above Average Growth</th>
<th>Above Average Status, Below Average Growth</th>
<th>Above Average Status, Above Average Growth</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indirect from the district</td>
<td>Count</td>
<td>32</td>
<td>38</td>
<td><strong>49</strong></td>
<td>60</td>
</tr>
<tr>
<td></td>
<td>(%)</td>
<td>18%</td>
<td>21%</td>
<td><strong>27%</strong></td>
<td>34%</td>
</tr>
<tr>
<td>Direct from the state</td>
<td>Count</td>
<td>117</td>
<td>132</td>
<td>71</td>
<td>121</td>
</tr>
<tr>
<td></td>
<td>(%)</td>
<td>27%</td>
<td>30%</td>
<td>16%</td>
<td>27%</td>
</tr>
<tr>
<td>Chi-Square</td>
<td></td>
<td>17.459 (df=3, N=620)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Significance</td>
<td></td>
<td>.001</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* p < 0.05, ** p < 0.01, *** p < 0.001
### Table 28: Pearson Chi-square of School Size: Charter vs. Non-Charter

#### Status/Growth Quadrants for 2012

<table>
<thead>
<tr>
<th>Not Small</th>
<th>Below Average Status, Below Average Growth</th>
<th>Below Average Status, Above Average Growth</th>
<th>Above Average Status, Below Average Growth</th>
<th>Above Average Status, Above Average Growth</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Charter Count</td>
<td>121</td>
<td>134</td>
<td>111*</td>
<td>164</td>
<td>530</td>
</tr>
<tr>
<td>(%)</td>
<td>23%</td>
<td>25%</td>
<td>21%</td>
<td>31%</td>
<td>100%</td>
</tr>
<tr>
<td>Non-Charter Count</td>
<td>1,653</td>
<td>1,776</td>
<td>1,825</td>
<td>1,883</td>
<td>7,137</td>
</tr>
<tr>
<td>(%)</td>
<td>23%</td>
<td>25%</td>
<td>26%</td>
<td>26%</td>
<td>100%</td>
</tr>
<tr>
<td>Chi-Square</td>
<td>8.081 (df=3, N=7,667)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Significance</td>
<td>.044</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* *p < 0.05, **p < 0.01, ***p < 0.001

#### Status/Growth Quadrants for 2012

<table>
<thead>
<tr>
<th>Small Schools</th>
<th>Below Average Status, Below Average Growth</th>
<th>Below Average Status, Above Average Growth</th>
<th>Above Average Status, Below Average Growth</th>
<th>Above Average Status, Above Average Growth</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Charter</td>
<td>28</td>
<td>36*</td>
<td>9</td>
<td>17</td>
<td>90</td>
</tr>
<tr>
<td>(%)</td>
<td>31%</td>
<td>40%</td>
<td>10%</td>
<td>19%</td>
<td>100%</td>
</tr>
<tr>
<td>Non-Charter</td>
<td>90</td>
<td>58</td>
<td>58</td>
<td>60</td>
<td>266</td>
</tr>
<tr>
<td>(%)</td>
<td>34%</td>
<td>22%</td>
<td>22%</td>
<td>23%</td>
<td>100%</td>
</tr>
<tr>
<td>Chi-Square</td>
<td>13.98 (df=3, N=356)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Significance</td>
<td>.003</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* *p < 0.05, **p < 0.01, ***p < 0.001
## APPENDIX B: School Typology Analysis: Status/Growth Quadrants

Table 29: Pearson Chi-square of Schools with => 50% and < 50% Free/Reduced Price Lunch: Charter vs. Non-Charter

<table>
<thead>
<tr>
<th>Status/Growth Quadrants for 2012</th>
<th>Under 50% FRL</th>
<th>50% And Over FRL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Below Average Status, Below Average Growth</td>
<td>Above Average Status, Below Average Growth</td>
</tr>
<tr>
<td>Charter</td>
<td>57***</td>
<td>82***</td>
</tr>
<tr>
<td>(%)</td>
<td>20%</td>
<td>29%</td>
</tr>
<tr>
<td>Non-Charter</td>
<td>166*</td>
<td>1,365</td>
</tr>
<tr>
<td>(%)</td>
<td>6%</td>
<td>51%</td>
</tr>
<tr>
<td>Chi-Square</td>
<td>145.915 (df=3, N=2,940)</td>
<td>6.893 (df=3, N=5,083)</td>
</tr>
<tr>
<td>Significance</td>
<td>.000</td>
<td>.075</td>
</tr>
</tbody>
</table>

* p < 0.05, ** p < 0.01, *** p < 0.001
Table 30: Pearson Chi-square of Grade Span: Charter vs. Non-Charter

<table>
<thead>
<tr>
<th></th>
<th>Below Average Status, Below Average Growth</th>
<th>Below Average Status, Above Average Growth</th>
<th>Above Average Status, Below Average Growth</th>
<th>Above Average Status, Above Average Growth</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elementary</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Charter</td>
<td>66</td>
<td>59</td>
<td>88</td>
<td>113*</td>
<td>326</td>
</tr>
<tr>
<td></td>
<td>20%</td>
<td>18%</td>
<td>27%</td>
<td>35%</td>
<td>100%</td>
</tr>
<tr>
<td>Non-Charter</td>
<td>1,252</td>
<td>969</td>
<td>1,561</td>
<td>1,428</td>
<td>5,210</td>
</tr>
<tr>
<td></td>
<td>24%</td>
<td>19%</td>
<td>30%</td>
<td>27%</td>
<td>100%</td>
</tr>
<tr>
<td>Chi-Square</td>
<td>8.594                                     (df=3, N=5536)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Significance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.035</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Below Average Status, Below Average Growth</th>
<th>Below Average Status, Above Average Growth</th>
<th>Above Average Status, Below Average Growth</th>
<th>Above Average Status, Above Average Growth</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Middle</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Charter</td>
<td>15</td>
<td>16*</td>
<td>14</td>
<td>34</td>
<td>79</td>
</tr>
<tr>
<td></td>
<td>19%</td>
<td>20%</td>
<td>18%</td>
<td>43%</td>
<td>100%</td>
</tr>
<tr>
<td>Non-Charter</td>
<td>235</td>
<td>399</td>
<td>190</td>
<td>357</td>
<td>1,181</td>
</tr>
<tr>
<td></td>
<td>20%</td>
<td>34%</td>
<td>16%</td>
<td>30%</td>
<td>100%</td>
</tr>
<tr>
<td>Chi-Square</td>
<td>8.185                                     (df=3, N=1260)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Significance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.042</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Below Average Status, Below Average Growth</th>
<th>Below Average Status, Above Average Growth</th>
<th>Above Average Status, Below Average Growth</th>
<th>Above Average Status, Above Average Growth</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Charter</td>
<td>68</td>
<td>95</td>
<td>18</td>
<td>34</td>
<td>215</td>
</tr>
<tr>
<td></td>
<td>32%</td>
<td>44%</td>
<td>8%</td>
<td>16%</td>
<td>100%</td>
</tr>
<tr>
<td>Non-Charter</td>
<td>256</td>
<td>466</td>
<td>132</td>
<td>158</td>
<td>1,012</td>
</tr>
<tr>
<td></td>
<td>25%</td>
<td>46%</td>
<td>13%</td>
<td>16%</td>
<td>100%</td>
</tr>
<tr>
<td>Chi-Square</td>
<td>5.996                                     (df=3, N=1227)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Significance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.112</td>
</tr>
</tbody>
</table>

*p < 0.05, ** p < 0.01, *** p < 0.001