



# Differences by Design?

STUDENT COMPOSITION IN CHARTER SCHOOLS WITH DIFFERENT ACADEMIC MODELS



**NAT MALKUS AND JENN HATFIELD**

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# Executive Summary

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The charter school movement is premised on the idea that, if independent operators create differentiated and innovative schooling options, families will benefit from making meaningful choices among those options that reflect their preferences. Charters are freed from many of the constraints traditional public schools face, allowing them to implement distinct academic models, school cultures, or curricular focuses that appeal to a subset of families. The consistent growth of charter schools, which now constitute one in 14 public schools nationwide, provides some evidence of the popularity of these options. However, it has been difficult to gauge how much differentiation there is in charter school models nationwide and how substantive it is.

This paper attempts to shed light on these questions. Looking at charter schools across the nation, we use the content on charter schools' websites to identify their academic models. Nearly half of charter schools had a specialized academic model, and these were further divided into a dozen specific categories. These nonexclusive categories included no-excuses schools, schools focused on arts or STEM education, and schools focused on vocational education.

Simply categorizing schools offers some insight into charter schools' differentiation, but it tells little about whether the categories of schools differ meaningfully from one another and from traditional public schools (TPSs) near them. To examine the substance of these

differences, we looked at the student composition of charter schools with each academic model. Student compositions of charters with a given academic model that differ systematically from those of charters with other models or from those of the TPSs near them suggest meaningful differentiation, even if parents' preferences for specific schooling options are not tightly aligned to demographics.

The data show that charter academic models have substantive differences in student composition. Charters in each category have student compositions that are internally consistent. They are located in areas with distinct demographic contexts, with some models concentrated in relatively advantaged areas and others concentrated in relatively disadvantaged areas. Within a given academic model, charters display student compositions that differ from the TPSs located nearest them, and in many cases these patterns of differences are uniform. Across academic models, these patterns of differences are more distinct, suggesting that these models differ in meaningful ways that attract different kinds of students.

These data provide new information about the charter sector across the United States. While they are far from the last word on parents' preferences and student compositions, they are consistent with the theory that distinct schooling options provide families with meaningful educational choice.

# Differences by Design? Student Composition in Charter Schools with Different Academic Models

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NAT MALKUS AND JENN HATFIELD

The premise behind the charter school movement is that allowing independent groups, instead of public school districts, to operate public schools will promote differentiated and innovative options for families. Because charter school operators are freed from many of the constraints facing traditional public schools (TPSs), they can design unique instructional models, school cultures, or curricula that may appeal to some but not all families. From there, families can choose the schools that best fit their children's needs. The rapid expansion of charter schools, which now constitute more than one in 14 public schools nationwide, is a testament to the popularity of those choices.

All families want their children to attend good schools, but families define a good school differently. In 2013, the Thomas B. Fordham Institute examined these preferences in *What Parents Want: Education Preferences and Trade-Offs*.<sup>1</sup> This survey asked more than 2,000 parents what they valued in educational choices. The responses indicated that all families valued a strong academic program, but beyond that they valued different things. Some families placed a premium on career and technical education, while some prioritized a diverse student body. Some looked for a focus on music or the arts, while others preferred a focus on citizenship.

Matching varied preferences requires differentiated school options, and charter schools are one avenue for creating them. Charter operators can design many different academic models, such as arts, no excuses (which have strict expectations for student behavior and discipline), and STEM (which focus on science, technology, engineering, and mathematics). In 2015, the AEI report

*Measuring Diversity in Charter Schools* outlined 14 different models to encompass all charter schools in 17 metro areas.<sup>2</sup> The following year, the National Alliance for Public Charter Schools applied these models to all charters nationwide.<sup>3</sup>

Because many charter schools intentionally provide more specialized options than TPSs, they often attract a different subset of families. As a result, there can be dramatic differences in student composition between charter schools and TPSs. In 2016, the AEI report *Differences on Balance: National Comparisons of Charter and Traditional Public Schools* detailed how often and by how much the student composition of charter schools differed from neighboring TPSs.<sup>4</sup> The report revealed that the students in charter schools often differed substantially, in terms of student poverty, race, disability, and other measures, from those in nearby TPSs, but not in uniform ways.

In this paper, we examine the student compositions in charter schools with different academic models. Specifically, we compare student compositions across charter school models and between charter schools with a given model and the TPSs near them. These comparisons answer three questions:

- Are charters with different academic models located in different demographic contexts, as measured by the types of students attending those charters and their neighboring TPSs?
- How does the student composition of charters with a given academic model differ from those of their neighboring TPSs?

- How uniform are the patterns of differences between charters with a given academic model and their neighboring TPSs?

The answers to these questions provide new information about differentiation in the charter sector. While none of these data support causal relationships, they can show whether differences in student compositions across charter academic models are consistent with the theory of action behind the charter school movement. They can also provide a more granular look at how charter schools' compositions differ from those of their neighboring TPSs.

The remainder of the report is divided into three sections. The next section overviews the methods and data used to classify charter schools into academic models and to compare charter schools to their neighboring TPSs. The following section presents our findings. The concluding section discusses what these findings tell us about the charter school sector and how they can inform public discussion around charter schools.

## Methods

In comparing charter schools with different academic models to their neighboring TPSs, we faced two analytic challenges. The first challenge was to classify charter schools based on their academic models. The second challenge was to identify TPSs that would provide meaningful comparisons for charter schools in each classification. For each of these challenges, we drew on previous AEI research, as described below.

### Classifying Charter Schools' Academic Models.

The data on charter academic models include all current charter schools that were open in the 2012–13 school year and come from the National Alliance for Public Charter Schools, which used the methodology Michael McShane and Jenn Hatfield developed in their 2015 report *Measuring Diversity in Charter School Offerings*. Charter schools were classified into academic models based on the content of their websites.

Charter schools could be either general schools—which strive to provide a high-quality education but do

not indicate any particular specialization or focus—or specialized schools, of which there are 12 types.<sup>5</sup> The types of specialized schools are not mutually exclusive; for example, a single charter school could be both a no-excuses and a STEM school. The following explains the types of specialized charter schools.<sup>6</sup>

- Arts charter schools include those that focused on fine or performing arts or that used an arts-immersion model.
- Classical charter schools are those that described themselves as such, or whose website described using the Socratic method or the Trivium method, another classical instructional approach.
- Credit-recovery charter schools are designed to meet the needs of students who have previously dropped out of school, have been engaged with the criminal justice system, are parents, or otherwise need to recover credits to meet graduation requirements.
- International/foreign language charter schools require students to spend significant time learning a foreign language. They sometimes also spend considerable time teaching students about other cultures. Charters were coded as international/foreign language if they identified themselves as such or offered language-immersion programs.
- Military charter schools are those with a military focus—for example, they might drill as military units would or wear uniforms. A stand-alone JROTC program is not sufficient. Few of these schools were identified in the data, and their results can be found in Appendix A.
- No-excuses charter schools are highly structured schools with strict disciplinary systems and high expectations for student behavior and performance. Charters were coded as no excuses if their websites described them as such, if they mentioned classroom management systems associated with no-excuses schools, or if they were part

of well-known no-excuses charter school networks (e.g., KIPP).

- Progressive charter schools are those whose websites described them as such or as project-based or inquiry-based. Charters were also coded as progressive if they were a Waldorf, Rudolf Steiner, or Montessori school, or if their pedagogical approach was characterized as child- or learner-centered.
- Public policy charter schools focus on civic engagement, political knowledge, public policy, law, or social justice. Few of these schools were identified in the data, and their results can be found in Appendix A.
- Purposefully diverse charter schools explicitly promote diversity as a goal. Because few of these schools were identified in the data, their results should be interpreted with caution. Those results can be found in Appendix A.
- Single-sex charter schools either serve one sex exclusively or offer single-sex instruction in some grades or classes.
- STEM charter schools include those whose websites stated they were focused on STEM or one of its component subjects.
- Vocational charter schools emphasize career-based and hands-on skills as integral to their whole school program. A single vocational course or extracurricular is not sufficient.

**Comparing Student Composition of Charter Schools and TPSs.** To compare the student composition of charter schools to those of their neighboring TPSs, we used the same approach as previous AEI reports that examined all charter schools nationally<sup>7</sup> and by state.<sup>8</sup> The data are drawn from three sources for the 2011–12 school year.

The primary data source is the 2011–12 Common Core of Data (CCD) from the National Center for Education Statistics, which includes information on each school's

charter school status, location (longitude and latitude), student demographics, and percentage of students eligible to receive reduced-price meals.<sup>9</sup>

Second, for comparable measures of average student academic achievement, we used *EDFacts'* school-level data on the percentage of students scoring proficient or above on state reading and mathematics assessments. Because proficiency cutoffs differ by state, we standardized proficiency percentages in each state and then across states for a comparable measure. All student proficiency data are reported in standard deviation (SD) units with a mean for all schools of zero.

Third, we used data from the US Department of Education's Office of Civil Rights' 2011–12 Civil Rights Data Collection (CRDC) on the percentages of students with disabilities, students who are English-language learners, and students who have been suspended.

TPS comparison groups were created for each charter school using three criteria. The first was distance. Assuming that students in the closest TPSs are the most likely to attend a given charter school, we considered the closest five to be the neighboring TPSs for each charter school. TPSs located more than 30 miles from a charter school (typically in rural areas) were considered too far away to be a matched neighbor and were excluded.

The second criterion was the charter school's relationship to the school district in which it was located. Charter schools authorized by a school district were only matched to TPSs in the same district, based on the assumption that these charters could only draw students from that district. Charter schools authorized by an entity other than the school district were allowed to match with any TPS in the state.

The third criterion was grade range. Neighboring TPSs need to serve the same grade range as charters to be comparable. Charters were first matched to five TPSs using the same grade ranges (elementary, middle, or high school), and those that had fewer than five matching TPSs were then matched to additional TPSs that spanned multiple grade ranges.

Not all charter schools could be matched to five neighboring TPSs or to the academic model data. Of the 4,280 charter schools<sup>10</sup> that could be matched to five neighboring TPSs using the CCD, about 3,800 are included in these analyses.<sup>11</sup> Of these 3,800 schools,

not all had complete data on all data elements. Charter schools reporting zero students eligible for free or reduced-price meals were excluded based on data-quality concerns. In addition, not all schools could be matched to CRDC records or *EDFacts* data.

To maximize the number of schools included for each model, we present on each measure for which the charter and its five matched neighbors had complete data. We report the number of charter schools with data on each measure in the corresponding figures.

## Findings

For each charter school model, we present findings in two parts. The first part examines the average characteristics of charter schools and their neighboring TPSs. The characteristics measured include student poverty,<sup>12</sup> the percentages of students who are black, white, and Hispanic; and the percentages of students who are classified as special education or limited English proficient (LEP). We also report data on suspension rates and student proficiency; however, we urge caution in interpreting these data because they are shaped by the students attending and the disciplinary and educational processes occurring in schools.

The differences in the average measures for charters and their neighbors indicate what kinds of students may be over- or underrepresented in charters with a given specialization. For each specialization, we also include averages for all neighboring specialized charters as a point of reference across models. In addition, we include the average characteristics of neighboring schools, which are important indicators of the demographic contexts for the geographic area in which charters with a given academic model are located.

While averages are informative, they do not fully capture the differences between charters and their neighbors. Charters' student compositions often differ substantially from those in neighboring TPSs, but not in uniform ways. For instance, many charters serve more poor students than their neighbors, but about the same number serve fewer. In this case, charters and their neighbors may have similar averages that obscure substantive differences.

To examine how often, in what direction, and by how much charters differ from neighboring TPSs, the second part of our findings examines the distribution of differences between charters and their neighbors. We report on these differences for each measure as “substantially lower” when charter schools serve less than the average of their neighboring TPSs by 20 or more percentage points, “somewhat lower” when charter schools serve 5–19 points less, “similar” when neighboring TPSs serve within  $\pm 5$  percentage points, “somewhat higher” when charter schools serve 5–19 points more, and “substantially higher” when charter schools serve 20+ percentage points more.<sup>13</sup>

We present these findings first for all general and specialized charter schools and then for each specialized model in turn.

**General and Specialized Charter Schools.** Charter schools with general and specialized academic models have average student compositions that are relatively similar to each other and to each group's neighboring TPSs. On almost every measure in Table 1, all four of these groups differ more from all TPSs than from each other.

For instance, student poverty is similar for both groups of charters and their neighboring TPSs (between 56 percent and 62 percent), and all four groups have higher rates of poor students than all TPSs (50 percent). This is largely because charters, and therefore their neighbors, are predominantly located in urban areas with relatively high poverty rates. Accordingly, Table 1 suggests that charters are located in areas with fewer white students and more black, Hispanic, and LEP students than TPSs. Charters and their neighbors also have uniformly higher average suspension rates and lower proficiency rates.

Despite these similarities, there are important differences between charters and their neighboring TPSs. Both groups of charter schools enroll higher percentages of black and proficient students and lower percentages of poor, special education, and LEP students than their neighboring TPSs. Because charters and their neighbors are from the same vicinities, these differences cannot be attributed to their location.

Figures 1 and 2 examine how often and by how much charters with general and specialized academic models

**Table 1. Student Composition in Charter Schools, Their Neighboring TPSs, and All Public Schools**

	<b>General Charter Schools</b>	<b>Neighboring TPSs</b>	<b>Specialized Charter Schools</b>	<b>Neighboring TPSs</b>	<b>All Public Schools</b>
Student Poverty	59%	62%	56%	59%	50%
Black Students	28%	24%	29%	24%	15%
White Students	34%	35%	35%	35%	56%
Hispanic Students	29%	33%	29%	32%	20%
Special Education Students	12%	15%	13%	15%	15%
LEP Students	10%	15%	10%	15%	9%
Suspension Rates	7%	8%	8%	8%	5%
Student Proficiency	-0.26	-0.37	-0.19	-0.37	0.00

Note: Table includes charter schools that were matched to five neighboring TPSs with full data for a given measure. Sample sizes can be found in the matching figures. Proficiency is standardized with a mean of 0 and SD of 1.

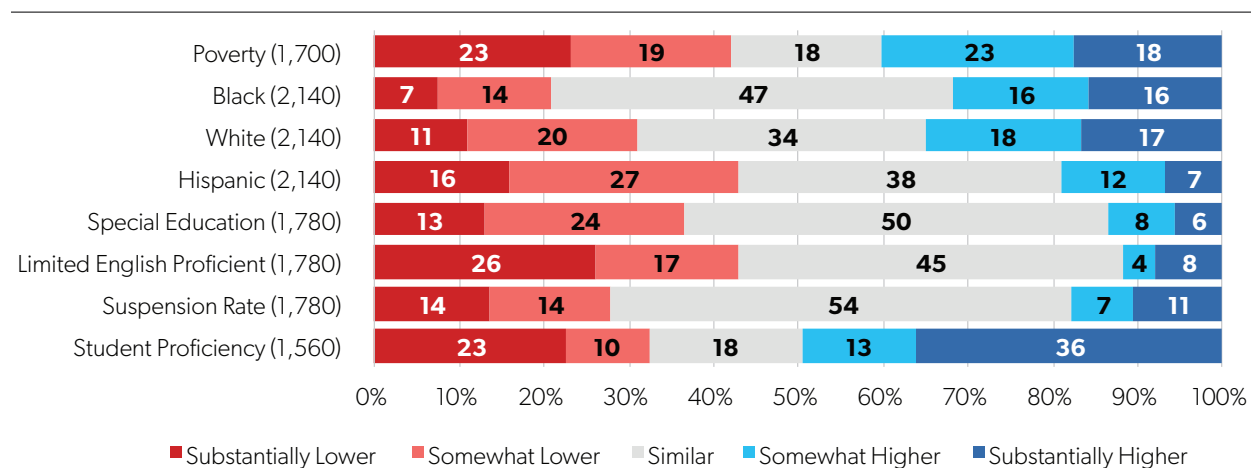
Source: National Center for Education Statistics CCD, 2011–12; ED Facts, 2011–12; and CRDC, 2011–12.

differ from their neighboring TPSs. Figure 1 shows that 23 percent of general charter schools have substantially (at least 20 percentage points) lower poverty rates compared to their neighboring TPSs.<sup>14</sup> It also shows that 18 percent of general charter schools have substantially

higher poverty rates, while comparatively few have similar amounts.

This pattern of differences shows that general charter school student populations frequently differ from those in neighboring TPSs, but not in a uniform way.

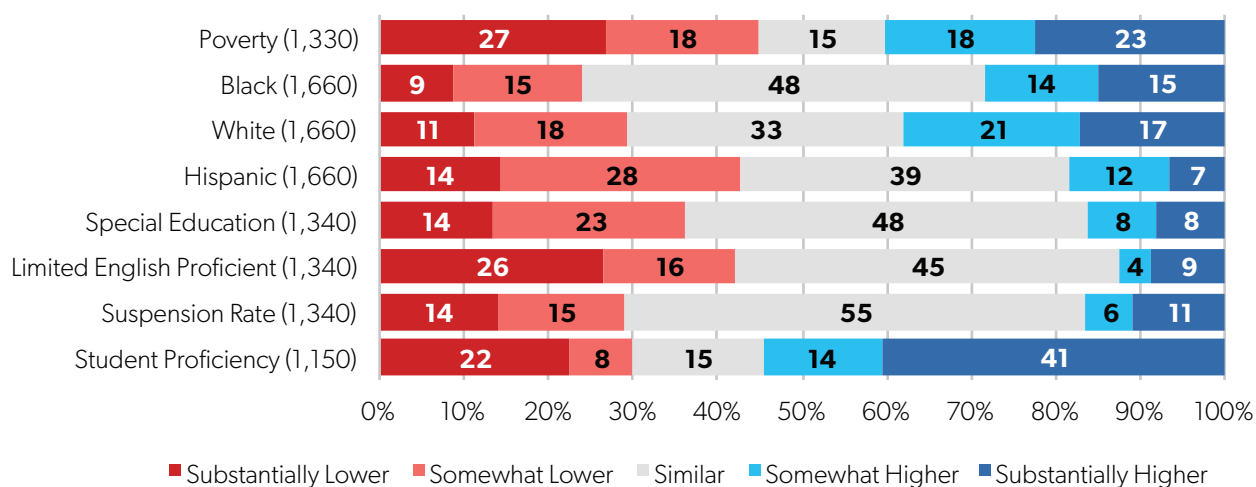
**Figure 1. Distribution of Differences in Student Characteristics in General Charter Schools**



Note: For poverty and race metrics, “substantial” differences are 20+ percentage points, “somewhat” differences are 6–19 points, and “similar” differences are within 5 points. For special education and LEP metrics, “substantial” differences are 15+ percentage points rather than 20+. For special education, LEP, and suspension rates, “substantial” differences are 10+ percentage points, and differences described as “somewhat” are 5–10 points. Student proficiency is defined as the average of math and reading proficiency rates. It is standardized with a mean of 0 and SD of 1. “Substantial” differences are 0.6+ SDs, differences described as “somewhat” are 0.25–0.6 SD, and “similar” differences are within 0.25 SDs. The number of schools per category are listed in parentheses.

Source: National Center for Education Statistics CCD, 2011–12; ED Facts, 2011–12; and US Department of Education, Office of Civil Rights, CRDC, 2011–12.



**Figure 2. Distribution of Differences in Student Characteristics in Specialized Charter Schools**

Note: For a full definition of “substantial,” “somewhat,” and “similar” differences for each metric, please see the note under Figure 1.  
 Source: National Center for Education Statistics CCD, 2011–12; ED*Facts*, 2011–12; and CRDC, 2011–12.

The other metrics are less balanced: more general charter schools serve higher proportions of black, white, and proficient students than their neighboring TPSs, compared to the percentage serving lower proportions. In addition, more general charter schools serve lower proportions of Hispanic, special education, and LEP students and have lower suspension rates than their neighboring TPSs, compared to the percentage serving higher proportions.

The patterns of differences in Figure 2, which include all charters with specialized academic models, are quite similar to those with general academic models in Figure 1. However, unlike the general charters, specialized charters can be broken down further by their academic models, affording a view into how much and how uniformly charters with a given academic model differ from their neighbors.

The differences in Figure 2 for all specialized charters serve as a useful baseline to compare specific models because their differences are similar to those of general charter schools and because they are the average

of specific models. Therefore, they show which models appear to be preferred by specific groups.

Hispanic students, students with disabilities, and LEP students are underrepresented in all specialized charters. The severity of their underrepresentation in charters with a given academic model should be gauged by whether they are substantially different from those in all specialized charters. This is not because underrepresentation in these measures is unimportant, but because it may more appropriately be attributed to charters generally rather than to a given academic model.

The following section looks at charters by academic model. First, we examine average characteristics of charters with a given academic model and their neighbors, compared to the averages for all TPSs that neighbor specialized charter schools. These comparisons shed light on the local contexts of charters with specific academic models. Then we look at the distribution of differences for charters with a given model and their neighbors to see whether, and how uniformly, those charters have different student compositions than their neighbors.



**Table 2. Student Composition in Arts Charter Schools, Their Neighboring TPSs, and All Specialized Charter Schools' Neighboring TPSs**

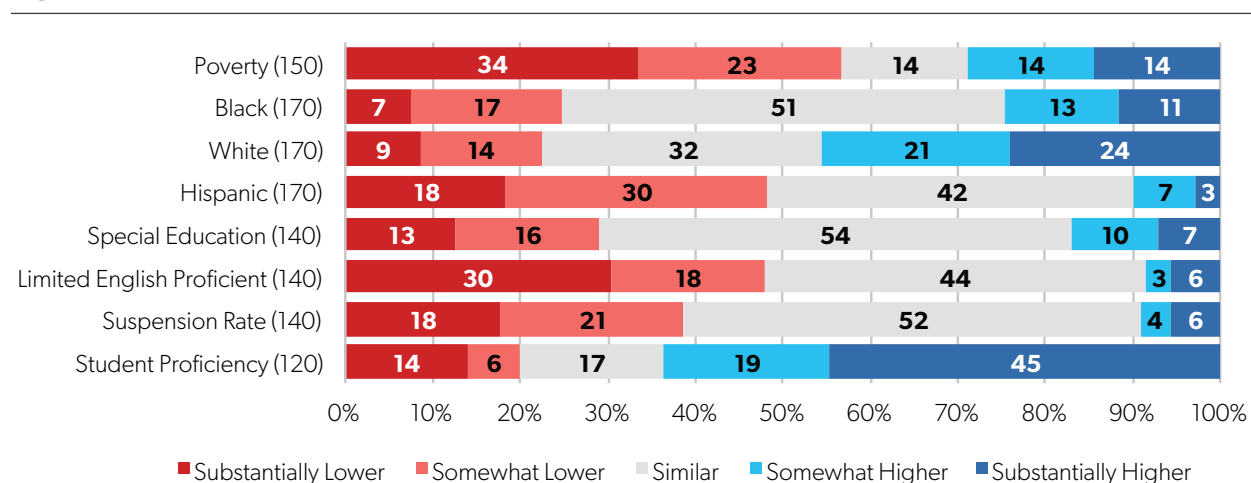
	Arts Charter Schools	Neighboring TPSs	Neighboring TPSs of All Specialized Charter Schools
Student Poverty	55%	64%	59%
Black Students	29%	28%	24%
White Students	40%	32%	35%
Hispanic Students	24%	33%	32%
Special Education Students	14%	15%	15%
LEP Students	7%	14%	15%
Suspension Rates	5%	9%	8%
Student Proficiency	0.07	-0.49	-0.37

Source: National Center for Education Statistics CCD, 2011–12; EDFacts, 2011–12; and CRDC, 2011–12.

### Arts Charter Schools

The average characteristics of neighboring TPSs indicate the kind of areas in which arts charters are located. TPSs that neighbor arts charters have more poor and black students and somewhat fewer white and proficient students than neighbors of all specialized charter schools (Table 2). Arts charters serve far more white students and fewer poor, Hispanic, and LEP students than their neighboring TPSs. Arts charters also have much lower suspension rates and far higher proficiency rates.

Figure 3 shows that arts charters tend to attract fewer poor students and more white students than those in all specialized charters. It also reveals much more uniform differences for Hispanic and LEP students than those in all specialized charters. While 34 percent of arts charter schools serve substantially fewer poor students, 14 percent serve substantially more poor students. In addition, 24 percent of arts charters serve substantially more white students, while 9 percent serve substantially fewer. Arts charters also serve substantially more white students, while 9 percent serve substantially fewer.

**Figure 3. Distribution of Differences in Student Characteristics in Arts Charter Schools**

Note: For a full definition of “substantial,” “somewhat,” and “similar” differences for each metric, please see the note under Figure 1.  
Source: National Center for Education Statistics CCD, 2011–12; EDFacts, 2011–12; and CRDC, 2011–12.

In comparison, arts charters have much more uniform differences for Hispanic and LEP students: nearly half of arts charters serve fewer of these students than their neighbors, while few serve more. Suspension rates and student proficiency have the most pronounced

differences, with three times as many arts charters having substantially lower than having higher suspension rates and three times as many having substantially higher than having lower proficiency rates.

**Table 3. Student Composition in Classical Charter Schools, Their Neighboring TPSs, and All Specialized Charter Schools’ Neighboring TPSs**

	Classical Charter Schools	Neighboring TPSs	Neighboring TPSs of All Specialized Charter Schools
Student Poverty	31%	49%	59%
Black Students	17%	14%	24%
White Students	59%	48%	35%
Hispanic Students	16%	31%	32%
Special Education Students	10%	14%	15%
LEP Students	5%	14%	15%
Suspension Rates	4%	5%	8%
Student Proficiency	0.55	-0.06	-0.37

Source: National Center for Education Statistics CCD, 2011–12; ED*Facts*, 2011–12; and CRDC, 2011–12.

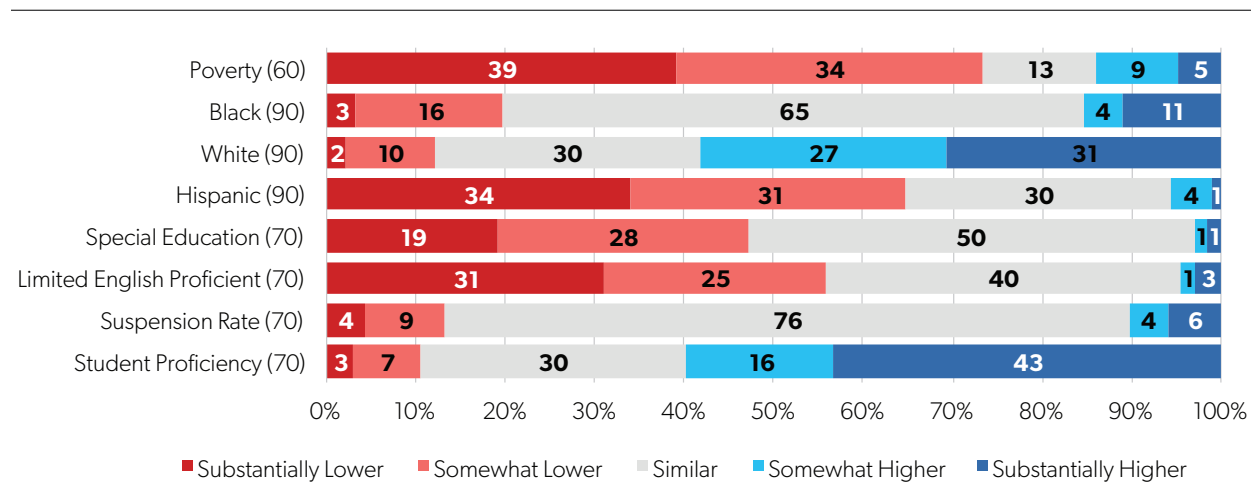
**Classical Charter Schools**

Classical charter schools are located in areas with more advantaged students. On average, their neighboring TPSs enroll fewer poor and black students, more white students, and more proficient students than all specialized charter schools (Table 3). On many of these measures, classical charters differ even further from their neighbors, having far more white and proficient students and many fewer poor, Hispanic, special education, and LEP students.

The differences between classical charters and their neighboring TPSs are more uniform than any other

charter academic model and far more uniform than all specialized charters (Figure 4). Compared to their neighboring TPSs, roughly one in three classical charters has substantially fewer poor, Hispanic, and LEP students, and one in five has substantially fewer special education students. Few classical charters serve relatively more of these students. A similar imbalance can be seen for white and proficient students, but in the opposite direction. These patterns show not only that classical charters are located in relatively advantaged locales but also how uniformly they enroll more advantaged students than their neighbors.

**Figure 4. Distribution of Differences in Student Characteristics in Classical Charter Schools**



Note: For a full definition of “substantial,” “somewhat,” and “similar” differences for each metric, please see the note under Figure 1. Source: National Center for Education Statistics CCD, 2011–12; ED*Facts*, 2011–12; and Civil Rights Data Collection, 2011–12.

**Table 4. Student Composition in Credit-Recovery Charter Schools, Their Neighboring TPSs, and All Specialized Charter Schools' Neighboring TPSs**

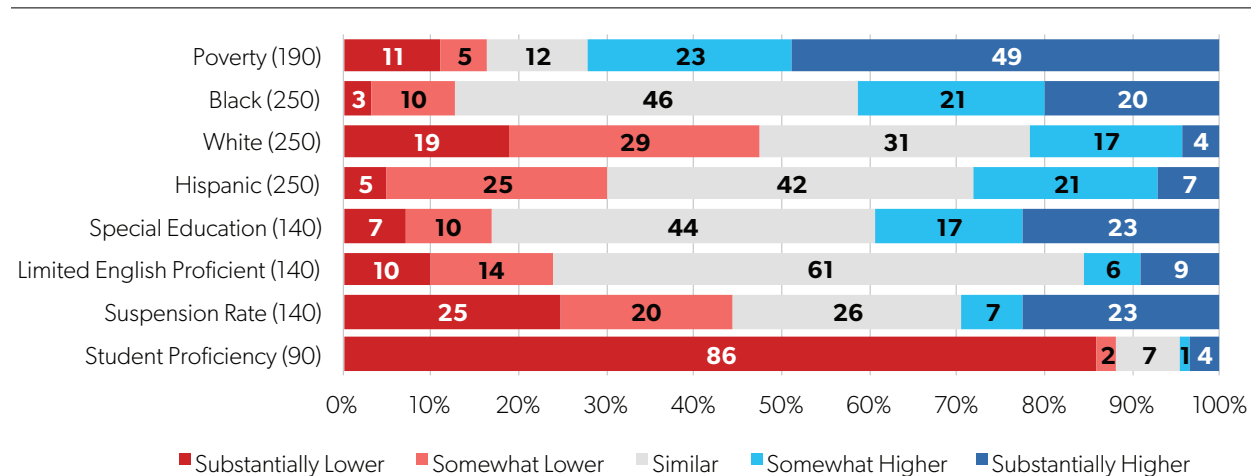
	Credit-Recovery Charter Schools	Neighboring TPSs	Neighboring TPSs of All Specialized Charter Schools
Student Poverty	62%	54%	59%
Black Students	31%	23%	24%
White Students	28%	38%	35%
Hispanic Students	36%	32%	32%
Special Education Students	18%	15%	15%
LEP Students	8%	8%	15%
Suspension Rates	17%	12%	8%
Student Proficiency	-2.20	-0.45	-0.37

Source: National Center for Education Statistics CCD, 2011–12; ED Facts, 2011–12; and CRDC, 2011–12.

### Credit-Recovery Charter Schools

Neighboring TPSs' characteristics show that credit-recovery charters are located in areas similar to all specialized charter schools (Table 4), with small differences in the number of LEP and proficient students. As might be expected given their focus on serving students who need to make up credits, students in credit-recovery charter schools differ substantially from those in neighboring TPSs. Credit-recovery charters serve more poor, black, Hispanic, and special education students and fewer white students. Not surprisingly, they have much higher suspension rates and lower proficiency rates.

The distribution of differences between credit-recovery schools shows mixed patterns. Credit-recovery charters disproportionately serve fewer white students and more poor, black, and special education students than their neighbors. Their Hispanic and LEP percentages and suspension rates are far more balanced than they are for all specialized charters. Credit-recovery charters' proficiency rates are almost uniformly substantially lower than those of their neighbors, as would be expected given that they purposefully serve low-performing students.

**Figure 5. Distribution of Differences in Student Characteristics in Credit-Recovery Charter Schools**

Note: For a full definition of "substantial," "somewhat," and "similar" differences for each metric, please see the note under Figure 1.  
Source: National Center for Education Statistics CCD, 2011–12; ED Facts, 2011–12; and CRDC, 2011–12.

**Table 5. Student Composition in International Charter Schools, Their Neighboring TPSs, and All Specialized Charter Schools' Neighboring TPSs**

	International Charter Schools	Neighboring TPSs	Neighboring TPSs of All Specialized Charter Schools
Student Poverty	57%	65%	59%
Black Students	15%	22%	24%
White Students	27%	25%	35%
Hispanic Students	45%	42%	32%
Special Education Students	9%	14%	15%
LEP Students	27%	23%	15%
Suspension Rates	4%	6%	8%
Student Proficiency	-0.19	-0.43	-0.37

Source: National Center for Education Statistics CCD, 2011–12; ED Facts, 2011–12; and CRDC, 2011–12.

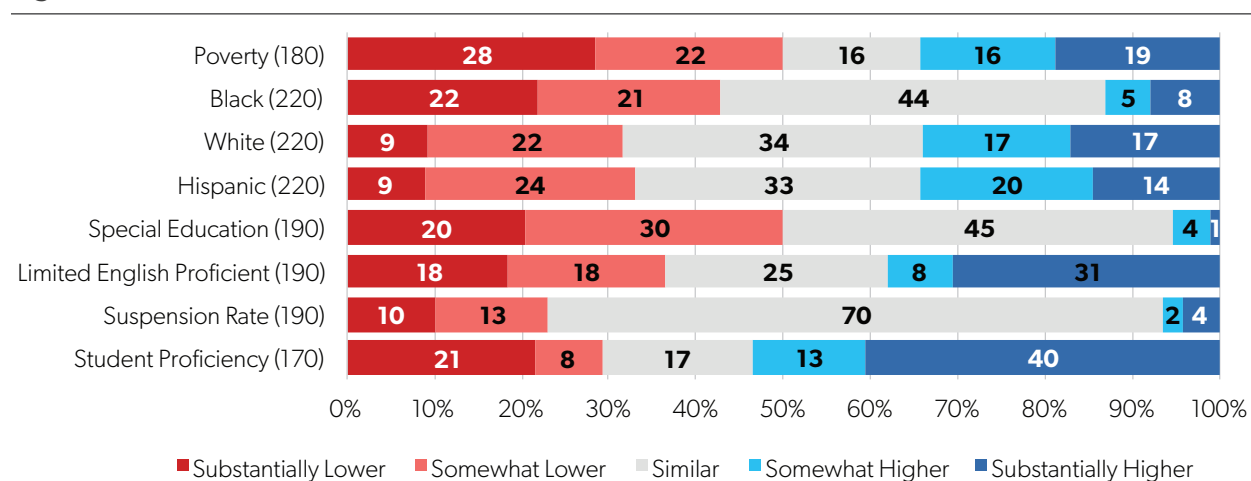
### International Charter Schools

Based on the characteristics of their neighbors, international charter schools are located in areas with higher poverty, fewer white students, and more Hispanic and LEP students compared to all specialized charter schools (Table 5). International charters have fewer poor, black, and special education students and more Hispanic, LEP, and proficient students than their neighboring TPSs.

The distribution of differences between international charters and their neighbors shows that, for many measures, international charters have less uniform

differences than all specialized charters. International charters have both substantially higher and substantially lower percentages of poor, Hispanic, and white students than their neighbors (Figure 6).

Relative to all specialized charters, far more international charters serve higher proportions of Hispanic students. The differences are much less balanced in terms of the percentage of special education students, of which international charters uniformly serve fewer, and to a lesser extent the percentage of black students, suspension rates, and proficiency rates.

**Figure 6. Distribution of Differences in Student Characteristics in International Charter Schools**

Note: For a full definition of “substantial,” “somewhat,” and “similar” differences for each metric, please see the note under Figure 1.  
Source: National Center for Education Statistics CCD, 2011–12; ED Facts, 2011–12; and CRDC, 2011–12.

**Table 6. Student Composition in No-Excuses Charter Schools, Their Neighboring TPSs, and All Specialized Charter Schools**

	No-Excuses Charter Schools	Neighboring TPSs	Neighboring TPSs of All Specialized Charter Schools
Student Poverty	76%	67%	59%
Black Students	55%	43%	24%
White Students	7%	17%	35%
Hispanic Students	33%	33%	32%
Special Education Students	12%	15%	15%
LEP Students	11%	16%	15%
Suspension Rates	13%	12%	8%
Student Proficiency	-0.17	-1.02	-0.37

Source: National Center for Education Statistics CCD, 2011–12; ED*FACTS*, 2011–12; and CRDC, 2011–12.

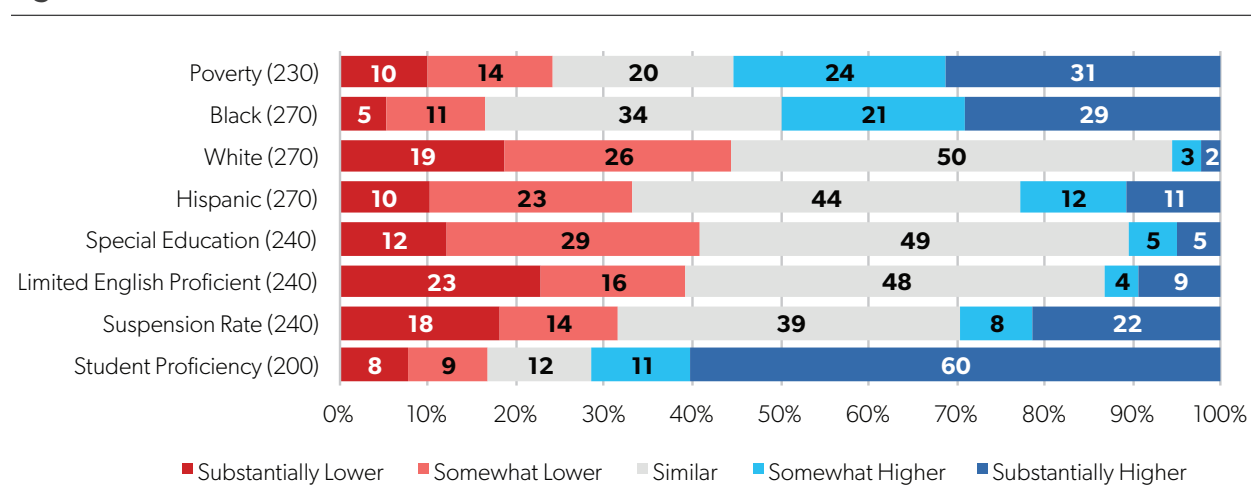
**No-Excuses Charter Schools**

The average characteristics of the TPSs that neighbor no-excuses charters suggest that no-excuses schools are located in relatively urban and disadvantaged areas. Compared to neighbors of all specialized charters, those of no-excuses charters serve more poor, black, and Hispanic students; have higher suspension rates; serve fewer white students; and have far lower proficiency rates (Table 6). However, no-excuses charters stand apart from their neighbors in these same areas, having more poor and black students and fewer white, special education, and LEP students. Proficiency rates show the

most pronounced differences, with no-excuses charters performing far better than not only their neighbors (-0.17 vs. -1.02) but also the neighbors of all specialized charters (-0.37).

The distribution of differences between no-excuses charter schools and their neighbors is more uniform than for all specialized charters. No-excuses charters frequently have more poor, black, and proficient students and fewer white students than their neighbors. These consistent differences indicate that no-excuses schools appeal strongly to poor and black families. No-excuses charters have distributions of differences in Hispanic,

**Figure 7. Distribution of Differences in Student Characteristics in No-Excuses Charter Schools**



Note: For a full definition of “substantial,” “somewhat,” and “similar” differences for each metric, please see the note under Figure 1. Source: National Center for Education Statistics CCD, 2011–12; ED*FACTS*, 2011–12; and CRDC, 2011–12.

special education, and LEP student populations similar to those for all specialized charter schools. Despite their association with strict discipline, about as many

no-excuses charters have lower suspension rates than their neighbors as have higher rates.



**Table 7. Student Composition in Progressive Charter Schools, Their Neighboring TPSs, and All Specialized Charter Schools’ Neighboring TPSs**

	Progressive Charter Schools	Neighboring TPSs	Neighboring TPSs of All Specialized Charter Schools
Student Poverty	44%	58%	59%
Black Students	16%	20%	24%
White Students	53%	41%	35%
Hispanic Students	22%	30%	32%
Special Education Students	13%	14%	15%
LEP Students	7%	15%	15%
Suspension Rates	4%	5%	8%
Student Proficiency	0.10	-0.11	-0.37

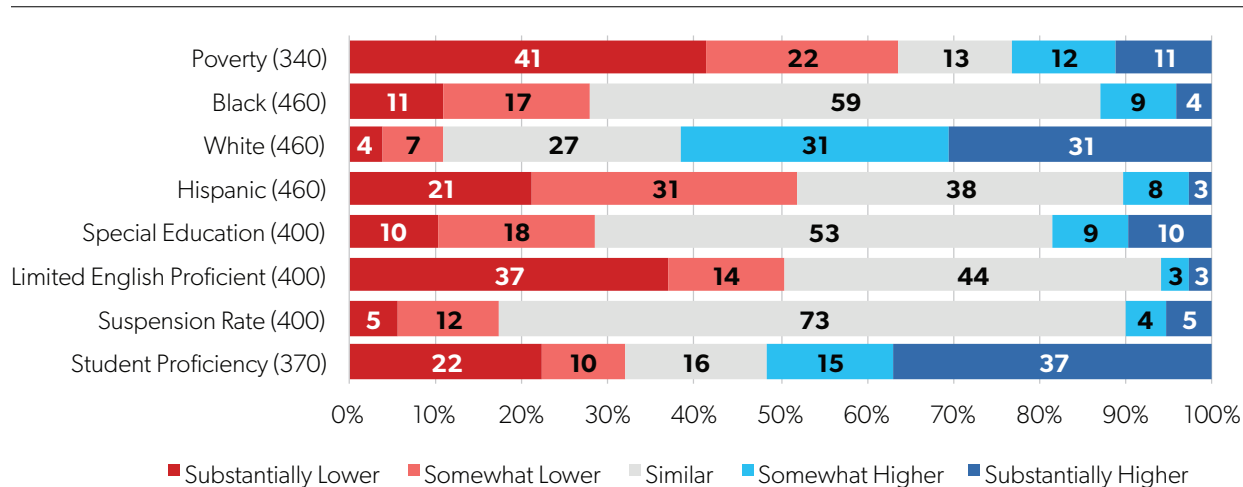
Source: National Center for Education Statistics CCD, 2011–12; EDFacts, 2011–12; and CRDC, 2011–12.

**Progressive Charter Schools**

Based on the characteristics of their neighbors, progressive charter schools, which make up the largest percentage of specialized charter schools of any model, are located in areas with higher percentages of black and proficient students and lower percentages of white students (Table 7). Progressive charter schools differ markedly from their neighbors in serving fewer poor, Hispanic, and LEP students and more white and proficient students.

Progressive schools are more uniform in how they differ from neighboring schools than many other specialized charter school models. The percentages of progressive charters that serve fewer poor, Hispanic, and LEP students are much larger than the percentages that serve more, while the reverse is true for white and proficient students (Figure 8). Progressive charters are more balanced regarding special education students. These patterns suggest that progressive charters generally serve fewer historically disadvantaged students than their neighboring TPSs do.

**Figure 8. Distribution of Differences in Student Characteristics in Progressive Charter Schools**



Note: For a full definition of “substantial,” “somewhat,” and “similar” differences for each metric, please see the note under Figure 1.  
 Source: National Center for Education Statistics CCD, 2011–12; EDFacts, 2011–12; and CRDC, 2011–12.

**Table 8. Student Composition in Single-Sex Charter Schools, Their Neighboring TPSs, and All Specialized Charter Schools’ Neighboring TPSs**

	Single-Sex Charter Schools	Neighboring TPSs	Neighboring TPSs of All Specialized Charter Schools
Student Poverty	65%	68%	59%
Black Students	56%	42%	24%
White Students	17%	25%	35%
Hispanic Students	24%	27%	32%
Special Education Students	14%	17%	15%
LEP Students	7%	10%	15%
Suspension Rates	13%	11%	8%
Student Proficiency	-0.38	-1.01	-0.37

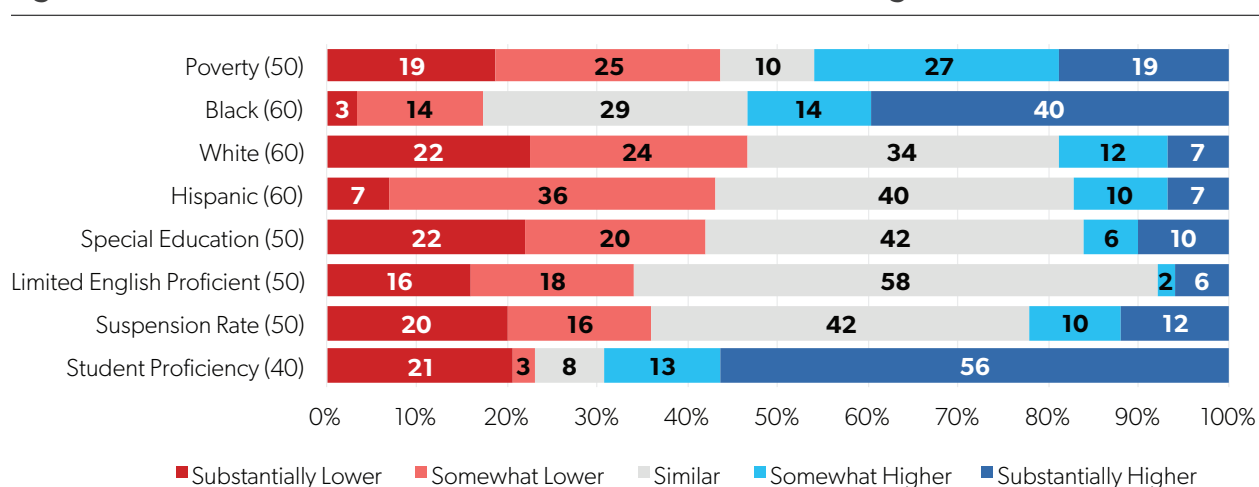
Source: National Center for Education Statistics CCD, 2011–12; ED*FACTS*, 2011–12; and CRDC, 2011–12.

**Single-Sex Charter Schools**

Single-sex charter schools and their neighbors have higher proportions of poor and black students and lower proportions of white, Hispanic, and proficient students compared to all specialized charter schools (Table 8). They also have markedly higher suspension rates. Compared to their neighbors, the most prominent differences for single-sex charter schools are their higher average percentage of black students and lower percentage of white students. Single-sex charters also serve relatively fewer special education and LEP students, and they also have substantially higher proficiency rates than their neighbors.

The distribution of differences between single-sex charter schools and their neighbors shows that black families clearly prefer single-sex charters (Figure 9). In contrast, single-sex charters enroll fewer white students than their neighboring TPSs do. Compared to all specialized charters, slightly more single-sex charters serve fewer special education students, and slightly more serve more LEP and Hispanic students. Another notable difference is that more than half of single-sex charters had substantially higher proficiency rates than their neighbors, while one in five had significantly lower rates.

**Figure 9. Distribution of Differences in Student Characteristics in Single-Sex Charter Schools**



Note: For a full definition of “substantial,” “somewhat,” and “similar” differences for each metric, please see the note under Figure 1. Source: National Center for Education Statistics CCD, 2011–12; ED*FACTS*, 2011–12; and CRDC, 2011–12.

**Table 9. Student Composition in STEM Charter Schools, Their Neighboring TPSs, and All Specialized Charter Schools' Neighboring TPSs**

	STEM Charter Schools	Neighboring TPSs	Neighboring TPSs of All Specialized Charter Schools
Student Poverty	57%	60%	59%
Black Students	33%	29%	24%
White Students	30%	31%	35%
Hispanic Students	27%	32%	32%
Special Education	11%	15%	15%
Limited English Proficient	9%	14%	15%
Suspension Rates	7%	10%	8%
Student Proficiency	0.02	-0.48	-0.37

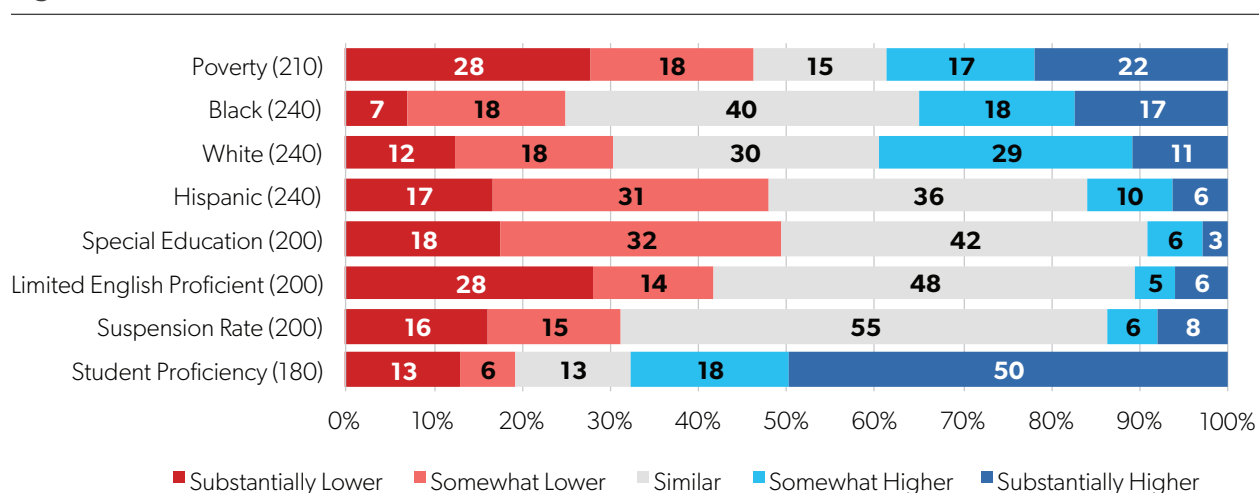
Source: National Center for Education Statistics CCD, 2011–12; ED Facts, 2011–12; and CRDC, 2011–12.

### STEM Charter Schools

Based on the characteristics of their neighboring TPSs, STEM charter schools are located in similar areas to all specialized charter schools. Compared to all TPSs neighboring specialized charters, STEM charters' neighboring TPSs have slightly more black students and slightly fewer Hispanic and proficient students (Table 9). Compared to their own neighbors, STEM charters have slightly fewer poor, Hispanic, special education, and LEP students and slightly more black students. The sharpest difference is for proficiency, in which STEM charters are

half a standard deviation over their TPS neighbors and one-third over all TPSs neighboring specialized charters.

STEM charter school students do not differ uniformly from their neighbors in terms of poor, black, and white students served. However, more STEM charters serve relatively fewer Hispanic, special education, and LEP students than all specialized charters (Figure 10). Twice as many STEM charters have substantially lower suspension rates than their neighbors as have higher rates, and far more STEM charters have substantially higher proficiency.

**Figure 10. Distribution of Differences in Student Characteristics in STEM Charter Schools**

Note: For a full definition of “substantial,” “somewhat,” and “similar” differences for each metric, please see the note under Figure 1.  
Source: National Center for Education Statistics CCD, 2011–12; ED Facts, 2011–12; and CRDC, 2011–12.

**Table 10. Student Composition in Vocational Charter Schools, Their Neighboring TPSs, and All Specialized Charter Schools’ Neighboring TPSs**

	Vocational Charter Schools	Neighboring TPSs	Neighboring TPSs of All Specialized Charter Schools
Student Poverty	54%	55%	59%
Black Students	26%	23%	24%
White Students	34%	34%	35%
Hispanic Students	32%	34%	32%
Special Education Students	15%	15%	15%
LEP Students	5%	11%	15%
Suspension Rates	12%	12%	8%
Student Proficiency	-0.67	-0.42	-0.37

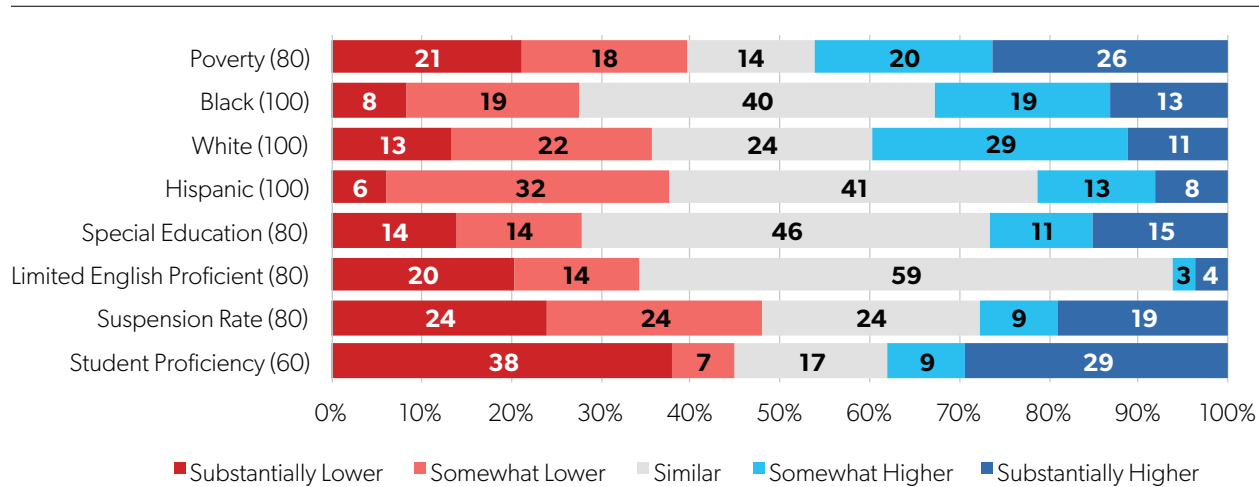
Source: National Center for Education Statistics CCD, 2011–12; EDFacts, 2011–12; and CRDC, 2011–12.

**Vocational Charter Schools**

Based on the averages of their neighboring TPSs, vocational charters are located in areas with student compositions that are similar to those of all specialized charter schools but with slightly lower proportions of poor and LEP students (Table 10). Vocational charters are also similar to their neighboring TPSs, although they enroll slightly more black students and lower percentages of LEP and proficient students.

The distribution of differences between vocational charter schools and their neighbors shows more balance than most other charter models, with similar percentages serving higher and lower proportions of poor, black, white, Hispanic, and special education students (Figure 11). However, vocational charters often serve similar or lower proportions of LEP students, but seldom more. Two in three vocational charter schools have proficiency rates that differ substantially from their neighboring TPSs, with most having lower proficiency.

**Figure 11. Distribution of Differences in Student Characteristics in Vocational Charter Schools**



Note: For a full definition of “substantial,” “somewhat,” and “similar” differences for each metric, please see the note under Figure 1. Source: National Center for Education Statistics CCD, 2011–12; EDFacts, 2011–12; and CRDC, 2011–12.

## What These Results Tell Us About Charter School Models

Differentiation between charter schools' academic models is integral to the movement's ability to meet families' preferences. These data reflect the variety of options in this sector. Although the method for identifying charters' academic models is relatively simplistic, the charters in each model show patterns of differences with their neighboring TPSs, and those patterns differ across academic models.

If the method for identifying charter models were ineffective and the categories were not meaningful, then the differences associated with them would seem more haphazard, providing more noise than signal. The signals that show that these categories capture different academic models can be seen to varying degrees in different models' demographic contexts, in their differences from their neighbors, and in the uniformity of those differences.

Different charter models also seem to be located in different demographic contexts, based on the makeup of their neighboring TPSs. For instance, no-excuses charter schools are predominantly found in areas with more poor, black, and low-performing students. On the other hand, classical charter schools are predominantly found in areas with fewer poor students and more white students than other models. Only some models have markedly distinct demographic contexts, and there appears to be no systematic association between the context a model is located in and the differences in student composition from their neighbors.

Beyond their context, charter schools' effective differentiation is perhaps more clearly reflected in each specialized model's differentiation within those contexts, as different models serve different kinds of students than their neighboring TPSs. Most academic models also appear to have a pattern of differences from their neighboring TPSs, which are distinct from the patterns for all specialized charter schools and for other charter academic models. No-excuses charter schools enroll more black and poor students than their neighboring TPSs. Classical charters enroll disproportionately more white and nonpoor students, compared not only to all public schools but also specifically to their neighboring TPSs.

International charters enroll distinctly more Hispanic students than the TPSs around them. The list goes on.

Some charter models' patterns of differences are more uniform than others. For instance, the patterns of differences for no-excuses, classical, and progressive charters are more uniform, while those of STEM charters are more balanced, reflecting the patterns of all specialized charter schools. The more uniform models likely reflect strong associations between student characteristics and families' preferences for specific academic models. However, it is impossible to say whether models with less uniform differences are less uniform because of a weak overlap between the available measures of student composition and parental preferences or because the model itself does not effectively differentiate between schooling options.

Finally, there are some measures on which most charter models show a similar pattern of differences as their neighbors. Most charter models have more schools serving fewer special education and LEP students and more proficient students than serving the opposite. Two points should be made about these patterns.

First, the patterns for special education and LEP populations reflect differences that generalize across charter schools. Charters generally are not attracting these students, not serving them well, or purposefully avoiding them. Which of these explanations seems more plausible often depends on one's beliefs about charters, because plausible explanations have been offered for such differences,<sup>15</sup> but these data do not provide insight into which explanation is most determinative.

Second, higher proficiency rates do not necessarily mean charters are more effective schools. While proficiency rates are generally higher in charter schools than in their neighboring TPSs, it is impossible to determine from these data whether this is due to charters' effectiveness, charters' lower proportions of historically low-performing student groups (special education and LEP student in particular), or unobservable factors (such as parental engagement) that may increase proficiency rates. Quasi-experimental evidence does suggest that some charter schools produce significant learning gains,<sup>16</sup> particularly for some kinds of charters operating

in specific areas, but our data do not provide additional evidence of that.

### What These Results Mean for the Debate over Charter Schools

The debate over charter schools has grown increasingly polarized over the past few years. The findings presented here offer new data to inform the polemic.

The opposition's central plank focuses on what critics believe to be unfair student selectivity. Charter laws generally do not allow overt selectivity; they usually have no restrictions on who may apply and have admission by random lottery if there are more applicants than available seats.

Opponents counter that charters can be selective within these constraints,<sup>17</sup> and more than a few cases have been documented.<sup>18</sup> Many critics allege that charters “cream-skim”—they attract more advantaged students and screen or counsel out disadvantaged students, who are more expensive to educate. If charters are successful cream-skimmers, they enjoy an unfair advantage over TPSs, which are required to educate all students.

Determining whether the differences between charter and TPS student compositions are due to preference matching or cream-skimming is no easy task. To shed light on the issue, the report *Differences on Balance* took a national look at how often, in what direction, and by how much the student composition of charter schools differed from their neighboring TPSs. That report revealed that charter school students often differed substantially from those in nearby TPSs, but not in uniform ways.

Although plausible, the cream-skimming argument does not square well with these national findings, which show that many charters serve more advantaged students than their neighboring TPSs, but about as many serve historically disadvantaged students. If charter schools generally operated selectively, one would expect to see more uniform differences, with most charters serving more advantaged students than their neighbors. Therefore, the differences between charter and TPS student compositions appear to be designed to meet specific preferences rather than to cream-skim.

The question that follows from the nationwide analysis is whether these balanced differences might be imbalanced at a more granular level. One possible level is states, which have varied charter laws and authorizers. Therefore, some might have charter sectors that serve more advantaged students, while others serve fewer advantaged students than their neighbors. A follow-up report *Unlike Their Neighbors: Charter School Student Composition Across States* examined these differences across states and found that most states' charter portfolios were relatively balanced, although a few specific states were pointedly not.<sup>19</sup> On the whole, state variation was not uniform enough to explain why some charters served more disadvantaged students and others less.

Charters' academic models are a better prospect for explaining the balance in differences at the national level because they have more uniform differences than do states. Charter academic models have some pronounced and uniform differences in their composition relative to that of their neighbors, which appear to explain some of the overall variation among charter schools.

As a first step at describing the compositional variation across models, this paper does not attempt to measure how much of that variation can be explained by academic model. Doing so would require a more robust approach to identifying charter models, differentiating neighboring schools, and addressing other potential explanations of compositional variation. However, the theory behind charters suggests that academic models might explain such differences, and these results are consistent with that theory.

The interesting question becomes, assuming that academic models do explain much of that variation, what should we conclude about the charter sector? For many charter supporters, these differences are in line with a properly functioning charter sector. The fact that differentiation in academic models exists, and that it reflects families' varied preferences, is circumstantial evidence that, to some degree, these choices are improving the match between school offerings and family preference.

For critics confident in charters' alleged cream-skimming, this evidence presents a quandary. The data on some charter academic models appear to support the cream-skimming theory, especially for progressive and

classical charters. However, the data on other models, such as no-excuses and international charters, fly in the face of it. Would it then follow that no-excuses charters serve the public good because they serve more disadvantaged students, and progressive models are bad, or regressive, because they do not? Such a conclusion would only be warranted if the purpose of charters were explicitly to serve the disadvantaged. While advocates' rhetoric often alludes to charters' capacity to help disadvantaged students, it is not central to every charter school's theory of action, nor to the goals and impulses behind the movement as a whole.

Our findings cannot demonstrate that charters function as advertised, but the differences between charter academic models are consistent with the theory behind charters. States and charter authorizers retain the responsibility to cultivate a healthy diversity of charter

options and promote equitable access to them. We hope that these findings shed light on the role that charter academic models play in designing schools that fit families' varied preferences, and therefore in developing a robust charter sector for all students.

### About the Authors

**Nat Malkus** is a research fellow in education policy studies at AEI, where he specializes in K–12 education. Specifically, he applies quantitative data to education policy. His work focuses on school finance, charter schools, school choice, and the future of standardized testing.

**Jenn Hatfield** is a research associate in education policy studies at AEI.



# Appendix A

Three categories of charter schools are not included in the main body of this paper because they had fewer than 30 schools with complete data that could be matched to five neighboring schools. We include the data on military, public policy, and purposefully diverse charter

schools but caution that the data are insufficient for making generalizations. Sample sizes are rounded to the nearest 10, per disclosure rules, and all categories had 10 or more schools.

**Table A1. Student Composition in Military Charter Schools, Their Neighboring TPSs, and the Distribution of Differences Between Them**

	<b>Military Charter Schools</b>	<b>Military Charters' Neighboring TPSs</b>	<b>All Specialized Charters' Neighboring TPSs</b>		
<b>Averages</b>					
Student Poverty	51%	56%		59%	
Black Students	37%	35%		24%	
White Students	35%	34%		35%	
Hispanic Students	23%	22%		32%	
Special Education	18%	17%		15%	
LEP Students	8%	8%		15%	
Suspension Rates	14%	17%		8%	
Student Proficiency	-0.44	-0.43		-0.37	
	<b>Substantially Lower</b>	<b>Somewhat Lower</b>	<b>Similar</b>	<b>Somewhat Higher</b>	<b>Substantially Higher</b>
<b>Distribution of Differences</b>					
Student Poverty (10)	40	20	0	20	20
Black Students (10)	15	23	38	8	15
White Students (10)	15	15	23	31	15
Hispanic Students (10)	0	38	38	15	8
Special Education (10)	0	20	50	30	0
LEP Students (10)	10	20	60	0	10
Suspension Rate (10)	20	20	30	10	20
Student Proficiency (10)	20	20	10	10	40

Note: As there are fewer than 30 observations, interpret these data with caution. For a full definition of “substantial,” “somewhat,” and “similar” differences for each metric, please see the note under Figure 1.

Source: National Center for Education Statistics CCD, 2011–12; EDFacts, 2011–12; and CRDC, 2011–12.

**Table A2. Student Composition in Public Policy Charter Schools, Their Neighboring TPSs, and the Distribution of Differences Between Them**

	<b>Public Policy Charter Schools</b>	<b>Public Policy Charters' Neighboring TPSs</b>	<b>All Specialized Charters' Neighboring TPSs</b>		
<b>Averages</b>					
Student Poverty	54%	55%		59%	
Black Students	39%	29%		24%	
White Students	34%	35%		35%	
Hispanic Students	22%	31%		32%	
Special Education	14%	17%		15%	
Limited English Proficient	6%	15%		15%	
Suspension Rates	12%	7%		8%	
Student Proficiency	-0.07	-0.39		-0.37	
	<b>Substantially Lower</b>	<b>Somewhat Lower</b>	<b>Similar</b>	<b>Somewhat Higher</b>	<b>Substantially Higher</b>
<b>Distribution of Differences</b>					
Student Poverty (20)	29	10	33	14	14
Black Students (30)	4	16	40	24	16
White Students (30)	12	12	44	20	12
Hispanic Students (30)	16	44	28	8	4
Special Education (20)	26	16	32	21	5
LEP Students (20)	37	16	42	0	5
Suspension Rate (20)	0	11	47	11	32
Student Proficiency (10)	8	15	15	23	38

Note: As there are fewer than 30 observations, interpret these data with caution. For a full definition of "substantial," "somewhat," and "similar" differences for each metric, please see the note under Figure 1.

Source: National Center for Education Statistics CCD, 2011–12; ED Facts, 2011–12; and Civil Rights Data Collection, 2011–12.

**Table A3. Student Composition in Purposefully Diverse Charter Schools, Their Neighboring TPSs, and the Distribution of Differences Between Them**

	<b>Purposefully Diverse Charter Schools</b>	<b>Purposefully Diverse Charters' Neighboring TPSs</b>	<b>All Specialized Charters' Neighboring TPSs</b>		
<b>Averages</b>					
Student Poverty	59%	69%		59%	
Black Students	21%	27%		24%	
White Students	33%	25%		35%	
Hispanic Students	34%	34%		32%	
Special Education	10%	15%		15%	
LEP Students	26%	26%		15%	
Suspension Rates	4%	7%		8%	
Student Proficiency	-0.17	-0.53		-0.37	
	<b>Substantially Lower</b>	<b>Somewhat Lower</b>	<b>Similar</b>	<b>Somewhat Higher</b>	<b>Substantially Higher</b>
<b>Distribution of Differences</b>					
Student Poverty (10)	44	19	13	6	19
Black Students (20)	15	25	35	20	5
White Students (20)	5	35	10	25	25
Hispanic Students (20)	15	10	45	15	15
Special Education (20)	13	25	63	0	0
LEP Students (20)	44	6	25	0	25
Suspension Rate (20)	13	13	69	0	6
Student Proficiency (20)	21	0	14	21	43

Note: As there are fewer than 30 observations, interpret these data with caution. For a full definition of "substantial," "somewhat," and "similar" differences for each metric, please see the note under Figure 1.

Source: National Center for Education Statistics CCD, 2011–12; ED Facts, 2011–12; and CRDC, 2011–12.

# Notes

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1. Dara Zeehandelaar and Amber M. Winkler, “What Parents Want: Education Preferences and Trade-Offs,” Thomas B. Fordham Institute, August 2013, [http://edex.s3-us-west-2.amazonaws.com/publication/pdfs/20130827\\_What\\_Parents\\_Want\\_Education\\_Preferences\\_and\\_Trade\\_Offs\\_FINAL.pdf](http://edex.s3-us-west-2.amazonaws.com/publication/pdfs/20130827_What_Parents_Want_Education_Preferences_and_Trade_Offs_FINAL.pdf).

2. Michael Q. McShane and Jenn Hatfield, *Measuring Diversity in Charter School Offerings*, American Enterprise Institute, July 21, 2015, <https://www.aei.org/publication/measuring-diversity-in-charter-school-offerings/>.

3. National Alliance for Public Charter Schools, “The Health of the Charter Public School Movement: A State-by-State Analysis,” March 2016, [http://www.publiccharters.org/wp-content/uploads/2016/03/Health-of-the-Movement\\_2016.pdf](http://www.publiccharters.org/wp-content/uploads/2016/03/Health-of-the-Movement_2016.pdf).

4. Nat Malkus, *Differences on Balance: National Comparisons of Charter and Traditional Public Schools*, American Enterprise Institute, August 16, 2016, <http://www.aei.org/publication/differences-on-balance-national-comparisons-of-charter-and-traditional-public-schools/>.

5. There is one other category of schools not represented in these analyses. We have excluded hybrid and online schools because the concept of neighboring schools is not applicable to this model and because there are insufficient data on these schools nationwide to produce these analyses.

6. For a fuller explanation of this coding method, see McShane and Hatfield, *Measuring Diversity in Charter School Offerings*.

7. Malkus, *Differences on Balance*.

8. Nat Malkus, *Unlike Their Neighbors: Charter School Student Composition Across States*, American Enterprise Institute, October 26, 2016, <http://www.aei.org/spotlight/unlike-their-neighbors-charter-schools/>.

9. This paper includes data from universe surveys in which all relevant units are included in the data collection. Thus, all statements about differences in this report are directly supported by the data. As a result, there is no sampling error, and observed differences are reported as true.

10. On our primary data source, the CCD data file, all Louisiana charter schools were identified as “other/alternative schools.” Although this is likely due to identification errors, Louisiana charters were dropped from this analysis because regular charter schools could not be separated from alternative charter schools.

11. For a full explanation of which charter schools could be matched to five neighboring schools, see Malkus, *Differences on Balance*, Appendix A.

12. Poverty is measured here as the percentage of students reporting free and reduced-priced lunch.

13. For the percentages of LEP and special education students, who have lower average percentages than poverty or race categories, and for suspension rates, the substantially lower and higher schools differed by 10 percentage points instead of 20. Categories of difference for student proficiency were defined as “substantially lower” when charter schools score 0.6 SDs below their neighboring TPSs, “somewhat lower” when charter schools score 0.25 to 0.59 SDs below, “similar” when charter schools are within +/- 0.25 SDs, “somewhat higher” when charter schools score 0.25 to 0.59 SDs higher, and “substantially higher” when charter schools score 0.6 SDs or more higher.

14. Schools that reported zero students eligible for free and reduced-price meals are not included in these figures due to data-reporting concerns. See Malkus, *Differences on Balance*, Appendix A.

15. Malkus, *Differences on Balance*.

16. For example, see Center for Research on Education Outcomes, “National Charter School Study,” June 25, 2013, <http://credo.stanford.edu/documents/NCSS%202013%20Executive%20Summary.pdf>; Caroline M. Hoxby, Sonali Murarka, and Jenny Kang, “How New York City’s Charter Schools Affect Achievement,” National Bureau of Economic Research, September 2009, <http://users.nber.org/~schools/charterschoolseval/>; Atilla Abdulkadiroğlu et al., “Accountability and Flexibility in Public Schools: Evidence from Boston’s Charters and Pilots,” *Quarterly Journal of Economics* 126 (2011): 699–748, <http://qje.oxfordjournals.org/content/126/2/699.full.pdf>; and KIPP Foundation, “Mathematica Study on KIPP Middle Schools,” 2015, [www.kipp.org/mathematica](http://www.kipp.org/mathematica).

17. Kevin G. Welner, “The Dirty Dozen: How Charter Schools Influence Student Enrollment,” *Teachers College Record*, April 2013, <http://nepc.colorado.edu/files/welner-charter-enrollment-teachers-college-record.pdf>.
18. Victor Leung and Roxanne H. Alejandre, “Unequal Access: How Some California Charter Schools Illegally Restrict Enrollment,” *Public Advocates and American Civil Liberties Union of Southern California*, August 1, 2016, [https://www.aclusocal.org/sites/default/files/field\\_documents/report-unequal-access-080116.pdf](https://www.aclusocal.org/sites/default/files/field_documents/report-unequal-access-080116.pdf).
19. Nat Malkus, “N.C. Charters Serve Wealthier Kids Overall,” *Charlotte Observer*, November 19, 2016, <http://www.charlotteobserver.com/opinion/op-ed/article115740253.html>.

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