STRATEGIC DATA PROJECT

SDP FELLOWSHIP CAPSTONE REPORT

# Exploring Community Perceptions: Are charter schools in Atlanta successful due to student and/or teacher selection?


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**Strategic Data Project (SDP) Fellowship Capstone Reports**

SDP Fellows compose capstone reports to reflect the work that they led in their education agencies during the two-year program. The reports demonstrate both the impact fellows make and the role of SDP in supporting their growth as data strategists. Additionally, they provide recommendations to their host agency and will serve as guides to other agencies, future fellows, and researchers seeking to do similar work. *The views or opinions expressed in this report are those of the authors and do not necessarily reflect the views or position of the Center for Education Policy Research at Harvard University.*

## Agency Context

In October 2013, Atlanta Public Schools (APS) partnered with the Strategic Data Project Fellowship. APS enrolled two fellows—Gayle Burnett and Rubye Sullivan—in the two-year fellowship designed to become part of a growing network of data strategists working within educational agencies to improve student outcomes. APS serves approximately 50,000 students annually within the city bounds of Atlanta. The majority of the students are eligible for free or reduced-lunch, and district leadership is working intentionally, through the strategic application of data, to improve outcomes for all of the students served in the district. APS issues more approvals for charter schools than any other district in the state of Georgia. Additionally, the portfolio of charter schools is managed closely using performance data that is also used to inform the closing of ineffective charter schools. As such, many of the charter schools that remain within the bounds of Atlanta have emerged as leaders in improving student outcomes.

## Framing the Problem

Charter schools operate with additional flexibility when compared with non-charter, district-run schools. Atlanta Public Schools (APS) manages 106 learning sites including 17 district-approved charter schools. Charter school enrollment in APS has grown from 9.3% of the overall student population in 2013 to 10.5% of the overall student population in 2014 and is expected to reach 15% by 2016. Multiple efforts to encourage collaboration between charter and non-charter schools are underway. Many of the 17 charter schools in APS outperform their non-charter counterparts in student learning outcomes and can serve as innovation hot-spots wherein specific practices are studied and then replicated in similar, non-charter schools.

Many opponents of charter schools nationally rally behind the belief that charter schools tend to outperform their non-charter counterparts based on cherry picking: selecting students with higher prior performance, less behavior concerns, better attendance records, and no need for special education or English learner services (New York Times, 2014). Additionally, opponents attribute the success of some charters to their practice of lemon dropping—removing students with low academic performance, chronic behavior and attendance concerns,

or the need for special education or English learner services. Expressions of these concerns are also common in the APS community whenever there is a discussion of the success of any charter school. The argument that student selectivity practices cause charter school success can limit the district's opportunity to examine and learn from innovative practices occurring in APS charter schools.

While community focus is often placed upon charter school student selection and retention mechanisms, Atlanta's charter school opponents give little attention to the other primary classroom variable—the teacher. Georgia law allows charter schools to waive broad areas of teaching requirements. Differences in licensure, experience and college degrees between charter school teachers and teachers working in district-managed schools are well-documented within the Georgia Department of Education's data collection reports. Given that, one might reasonably expect to find charter schools cherry-picking and lemon-dropping within the Atlanta teacher population. This report uses data to closely examine these assumptions about charter school success in an effort to demonstrate the learning opportunities that successful charter schools can offer the district.

The purpose of this report is to examine the concepts of lemon-dropping and cherry-picking within APS charter schools. The following research questions guide this report:

1. Are the students entering charter schools in APS comparable to the students entering non-charter schools in APS?
2. How does the experience of the teaching force in charter schools compare to the teaching force of non-charters in APS?
3. Are charter school students less likely to experience high switch rates, or mobility, when compared to the students of non-charter schools in APS?
4. Are charter schools in APS more effective in improving short-term outcomes for students in Atlanta?

Once we are able to identify which schools, if any, are either cherry-picking or lemon-dropping students to boost their school performance, these practices can be corrected. On the other hand, if charter schools are selecting the best Atlanta teachers and deliberately letting go of those that are less effective, greater focus on strategies for the retention of highly effective

teachers might be instituted. Additionally, charter schools that are successful without the use of student selectivity practices can be studied to determine the specific practices of the schools. This can translate into increased student learning so that these practices can be replicated in other schools across the city.

## Literature Review

Charter school effectiveness has been studied since the advent of school choice in 1992. These studies have varied in both methodology and their definition of effectiveness. The majority of the literature defines effectiveness based on short-term outcomes such as test scores (Angrist et al., 2011; Tuttle et al., 2013; Dobbie & Fryer, 2011) while some more recent studies begin to include long-term effects such as college-going (Booker, Gill, Sass & Zimmer, 2014; Deming et al., 2013; Bettinger et al., 2012). Commonly-used methodological approaches include quasi-experimental methods with longitudinal data (Zimmer, Gill, Booker, Lavertu, & Witte, 2012; Ferguson et al., 2012) and experimental models using data from admission lotteries (Abdulkadiroglu et al., 2011). The findings are largely mixed, but there is consistent evidence that some types of charter schools "significantly and substantially improve their students' test scores" (e.g., the no excuses model or KIPP-like models )(Booker et al., 2014, p. 2). Methodological limitations are present in any study, but all studies examining school effectiveness in an era of school choice must consider selection bias. Students who attend charter schools "differ in a number of ways from the general pool of public school students, a fact that may bias naïve comparisons."(Abdulkadiroglu et al., 2011, p. 702).

Title 20 of the Georgia Code, similar to laws in other states, allows charter schools to waive teacher certification, tenure, compensation and other rules to which non-charter schools must comply. These legal differences lead to differences in the teaching force of charter schools when compared to those in district-managed schools. For instance, nationally, charter school teachers tend to be younger, less experienced and hold fewer certifications or licenses than their counterparts (Abdulkadiroglu et al., 2011, p. 705). Teacher attrition rates, voluntary and involuntary, are higher among charter school teachers than those placed in traditional settings. In 2004–05, 15% of charter school teachers left their school involuntarily while that

was true for only 6% of teachers in traditional public school settings. This difference could stem from having fewer regulatory barriers to dismissal (Smith & Stuit, 2009) as compared to traditional public schools bound by the labor laws associated with teacher tenure.

The impacts of mobility, regardless of the type of school attended, include lower test performance and greater likelihood of dropping out of school ( New York City Independent Budget Office, 2014; Finch, Lapsley & Baker-Boudissa, 2009). When considering charter school mobility across the country, there were mixed outcomes regarding the differing rates of mobility between charter and traditional public schools. In Indiana, more than half of the students who enrolled in charter schools left before completing the offered grade levels. For these students, low test scores were a good predictor of which students would exit (Finch et al., 2009). In Michigan, 55% of charter school first graders changed schools during 2008. Of those moving, 40% returned to traditional school settings. Less than 30% of students in traditional settings changed schools during the same time period (Mao & Landauer-Menchick, 2014). However, in NYC the rate of student mobility in charter schools (30%) was somewhat lower than that of students attending nearby traditional schools (39%) (New York City Independent Budget Office, 2014). Based on these statistics/findings, it is easy to understand why there might be a common perception that charter schools engage in lemon-dropping.

In this project, we sought to understand if these findings are consistent within APS. We intentionally began with selection bias to address both the common perception held within the community and the methodological concerns. By addressing selection bias both contextually and methodologically, our goal was to demonstrate the potential of studying highly effective charter schools so that our traditional schools will be open to understanding and replicating the effective practices employed by our charters. The implications of this project may affect district policy, teacher recruitment and retention, and instructional programming.

## Methodology and Results

This project represents APS's first attempt to leverage data in order to understand the effectiveness of charter schools, and to replicate effective practices for the benefit all of our city's students. Results from the four research questions were determined through an

examination of APS administrative data housed in the student information system, assessment data files, and the human resources data system. The first three questions required descriptive analyses while the fourth question required inferential statistics, specifically multivariate regression. The results are presented according to the research questions posed at the onset of this project.

The first research question focuses on the comparability of charter and non-charter student populations. This question examines the assumption that charter schools serve a different student population, one that can explain their increased effectiveness when compared to non-charters. To better understand what types of differences may exist between charter and non-charter student populations, data from the student information system were extracted for multiple student subgroups and translated into percentages of the overall population. Table 1 illustrates the results.

**Table 1.** Students served by charter versus non-charter schools in Atlanta Public Schools.

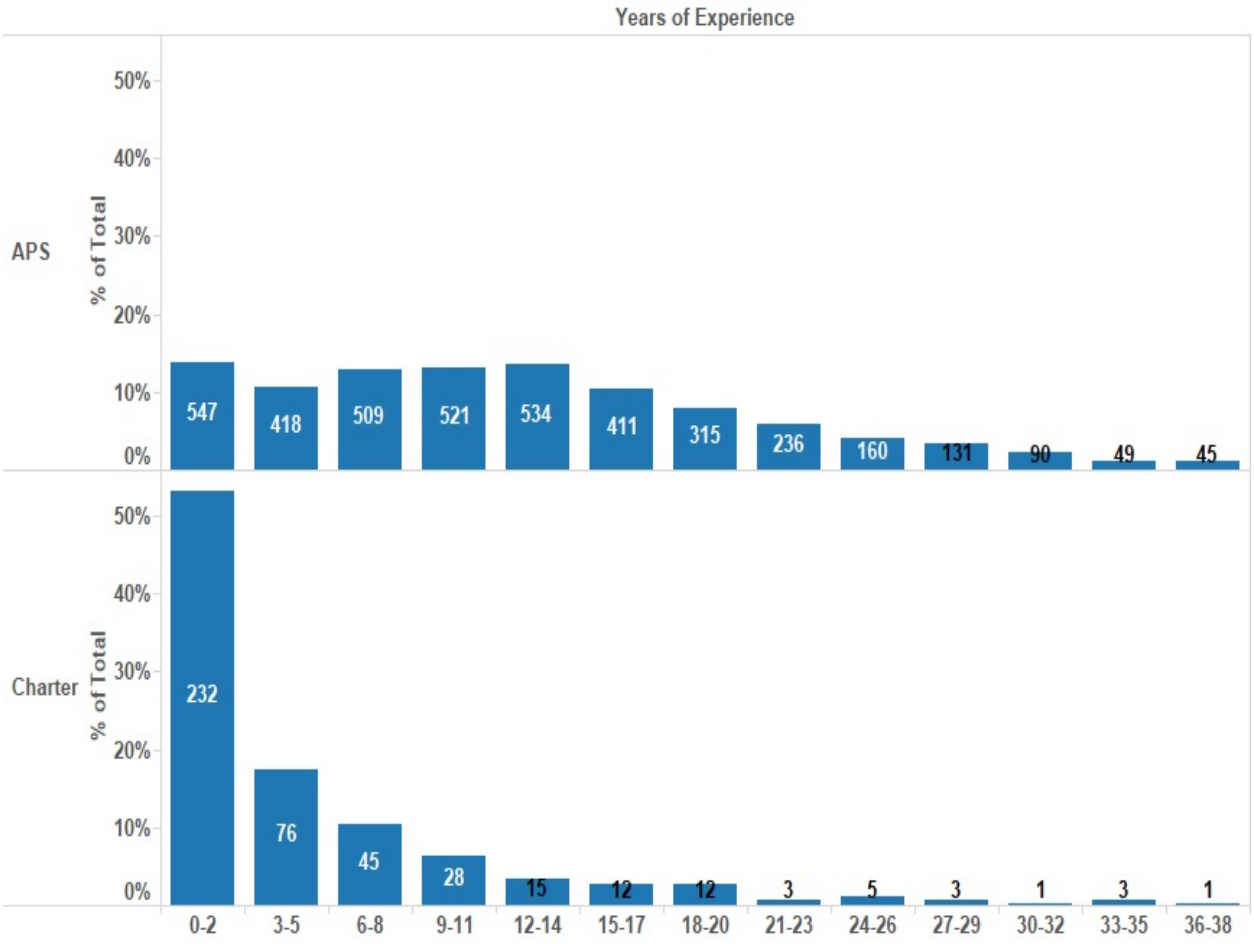
| | Non-Charter | % | Charter | % |
|---|---|---|---|---|
| **Total** | 41,383 | | 5,104 | |
| **Male** | 20,882 | 50.46% | 2,479 | 48.57% |
| **Female** | 20,501 | 49.54% | 2,625 | 51.43% |
| **Black** | 31,164 | 75.31% | 4,119 | 80.70% |
| **White** | 6,165 | 14.90% | 713 | 13.97% |
| **Hispanic** | 2,564 | 6.20% | 63 | 1.23% |
| **Multiracial** | 799 | 1.93% | 172 | 3.37% |
| **Asian/Pacific Islanders** | 494 | 1.19% | 30 | 0.59% |
| **American Indian/Alaskan** | 127 | 0.31% | 4 | 0.08% |
| **Eligible for free or reduced-price lunch** | 28,705 | 69.36% | 3,215 | 62.99% |
| **Students With Disabilities** | 4,010 | 9.69% | 352 | 6.90% |
| **Limited English Proficiency Status** | 1,447 | 3.50% | 18 | 0.35% |

In general, the student subgroups are similar (within five percentage points) except for eligibility for free or reduced-price lunch, (charter: 63%, non-charter: 69%) and Hispanic (charter: 1%, non-charter: 6%). After examining the demographic data of specific schools within the APS charter network, it appears that three of the 17 charter schools are skewing the free or reduced-priced lunch eligibility numbers/percentages by serving fewer students in this group. The remaining 14 charter schools serve students that range between 70 and 100 percent of students eligible for free or reduced-price lunch.

The second research question turns the focus from students to teachers. In this exploration, we wanted to determine the key differences in the teaching staff at the charters versus non-charters. In the early stages, we hoped this question would include metrics of teacher effectiveness, but as we got into the data systems, we noted key differences in the data

available regarding teacher effectiveness in the charter schools. Given this lack of data availability, we turned our attention to teacher experience. Figure 1 illustrates the distribution of teacher experience for charters versus non-charters.

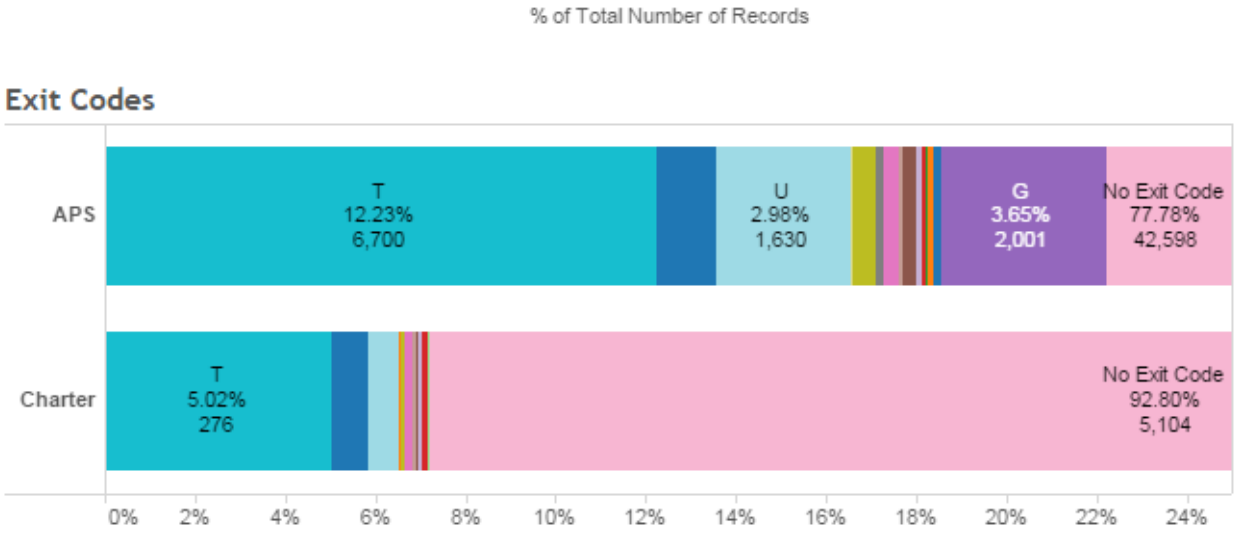
**Figure 1.** Distribution of teacher experience for charter schools versus non-charter schools.




The average years of experience for a charter school teacher is 4.6 while the average for a non-charter teacher in APS is 12.7. Figure 1 illustrates this difference. Over 50% of charter school teachers have less than three years of experience compared to only 13% of teachers in non-charter schools. This finding supports other studies' finding that nationally, charter school teachers tend to be less experienced than non-charter school teachers (Abdulkadiroglu et al., 2011). This finding drives us to better understand the processes and instructional practices in place in our charters that are resulting in more effective outcomes.

The third research question turns back to our students and examines data related to student mobility. The question asks whether charter school students experience a lower switch rate than our traditional school students. To address this question, we extracted exit codes from our student information system. These exit codes provide detail as to why students withdraw from a school and are required by the system when schools input a withdrawal date. Students with "No Exit Code" indicate that these students have not exited their school.

**Figure 2.** Percent of students withdrawing from a school for charter schools and non-charter schools.




Switch rates are designed to illustrate the average number of school switches, or changes, a student makes within one year. District policy allows charter school students to remain enrolled in the charter school as long as they remain within the district, even if moving across neighborhoods. Non-charter school students are required to switch schools when they move across neighborhoods. As a result, 93% of charter school students did not experience a switch in 2012–13 compared to 78% of non-charter school students. School attendance zone policy therefore contributes to an increase in student mobility for non-charter school students.

The fourth and final research question is related to the effectiveness of our charter schools in improving short-term outcomes, assessment outcomes specifically, for our students. We use multivariate regression wherein the outcome variable, the 2014 reading score on the state assessment, is standardized to ease the interpretation of the coefficients. By

standardizing to z scores, the coefficients represent effect size. Table 2 details the regression results for middle school reading using three models. In model 1, we created a variable indicating whether a student was a charter school student and then regressed charter school enrollment and the prior year's reading score on the 2014 reading score. In model 2, we included additional control variables in an attempt to isolate the charter school effect by considering what could be selection bias. The additional controls are the prior year's math scores, free lunch status, and special education status. Finally, in model 3, we included school random effects. This additional input allows us to control for the across school variation. Considering the adjusted R-squared, model 2 explains much of the variance in student reading outcomes–66% of the variance in school reading outcomes can be explained by charter enrollment, prior scores in reading and math, free lunch status, and special education status.

**Table 2.** Middle school reading regression results

| Control Variable | Model 1 | Model 2 | Model 3 |
|---|---|---|---|
| Charter | 0.085 | 0.075 | 0.133 |
| | (0.000) | (0.000) | (0.056) |
| Reading 2013 | 0.789 | 0.547 | 0.532 |
| | (0.000) | (0.000) | (0.000) |
| Math 2013 | | 0.269 | 0.258 |
| | | (0.000) | (0.000) |
| Free Lunch | | -0.198 | -0.128 |
| | | (0.000) | (0.000) |
| Special Education | | -0.212 | -0.216 |
| | | (0.000) | (0.000) |
| School Random Effects | No | No | Yes |
| Adj R-Squared | 0.61 | 0.659 | 0.658 |

Charter schools show positive effects on reading outcomes across all three models. In model three, the effects are positive but borderline significant (0.056) when we introduce school random effects. Model 2 explains most of the variance in student reading outcomes when compared to the other two models. The results suggest that our charter schools are more effective in improving reading outcomes in our middle schools. The effect size in model 2 for charter schools (0.075) can be translated into standard deviations given that we normalized the assessment scores used in the model. As such, the effect of being enrolled in a charter school in APS on reading outcomes in the middle grades is an increase of approximately .08 standard deviations. This effect size is in line with other research studies around charter school effect and can also be roughly compared to the effect size of having a teacher that is in the 86th percentile of effectiveness versus the bottom 50th percentile of effectiveness. Our next steps include replicating this analysis at other grade levels and for different subjects. Additionally, we plan to run a school fixed effects model to investigate heterogeneity in charter outcomes. Given that all of our charter schools are not as equally effective, this approach will allow the model to take variability across charter schools into consideration.

## Conclusion

Charter schools across the United States have shown mixed results in student achievement, and there has been a good deal of reporting regarding ways in which charter schools might "game the system," (New York Times, 2014). Much of this negative press has influenced the thinking of the Atlanta community, raising distrust of charter schools and their methodology for obtaining success.

This research study finds that charter schools authorized by the Atlanta Board of Education are successful largely due to the efforts within those schools. In each of our regression models, enrollment within a charter led to improved reading results. The data indicate that APS charters and district-managed schools serve a very similar population of students with minimal differences in FRL rates, race and ethnicity and students with disabilities. While other urban centers may find charter schools exiting those students who do not show expected performance growth, APS charter schools have very low switch rates, far lower than

their traditional counterparts. Students who enter our charters tend to remain in their choice school with 93% showing no exit code through the study years. This is in contrast to APS non-charter schools, where the switch rate was 78% for the same time period. These two findings coupled with the use of a lottery system for enrollment lead us to assert that, based on the data we have, cherry-picking and lemon-dropping are not likely to be factors in charter school performance.

Differences in teacher experience between charter and non-charter schools are evident with charter school teachers having on average 8.1 fewer years of experience than those employed by the district. With 50% of charter school teachers having fewer than three years of experience, the data lead us to question if there are significant differences in teacher selection, development, instructional processes and/or structural frameworks that account for differences we saw in student performance. We are, however, limited by the quality of the available data when attempting to answer these questions and intend to further pursue improved systems and data collection regarding teacher characteristics.

In addition to changing attitudes of APS stakeholders, the data has implications for district policy and charter operations. The lower switch rates at charter schools and the improved academic results lead us to further investigate differences in student completion rates of all available grades at the charter schools. The combined analysis of switch rates and completion rates may have implications for changes to the district's rigid enrollment zone policies. While the analysis of switch rates makes it clear that students are not being dropped from charter schools, the lack of lottery data made it impossible to complete an analysis of cherry-picking. Lottery data is now being collected and that analysis will be part of the ongoing work.

Finally, the researchers D intend to use these findings and the ongoing analysis to support the exchange of ideas and increase collaboration efforts between charter schools and district-managed schools.

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