

Is There Empirical Evidence Consistent with the Claim that Charter Schools “Push Out” Low-Performing Students?

Ron Zimmer
Vanderbilt University

Cassandra Guarino
Indiana University

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Abstract

Charter schools continue to be a controversial movement. A major concern among opponents to charter schools is whether these schools will serve all students. Some have raised concerns that charter schools will “push out” low achieving students in hopes of improving the school’s academic profile while minimizing costs by educating fewer challenging students. In this paper, we use data from an anonymous major urban school district to examine whether we see exit patterns consistent with the claim that charter schools are more likely to push out low achieving students than traditional public schools. Overall, we find no empirical evidence to support the notion of push out.

Keywords: School Choice, Charter Schools, Segregation

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I. Introduction

Charter schools, which are publicly funded schools of choice that operate outside the direct control of traditional school districts, continue to expand on the educational landscape as the movement has grown from the single school in 1992 in Minnesota to now more than 6,000 schools operating in 40 states and the District of Columbia.¹ However, this growth has not been without controversy. While advocates argue that charter schools, freed from bureaucracy and red tape, can improve student achievement (Finn, Manno, & Vanourek, 2000), opponents argue that charter schools take valuable resources away from traditional public schools (TPSs) and lack the incentives to serve all types of students (Wells, 1993). Opponents not only worry that charter schools will create greater racial/ethnic isolation and attract the best students away from TPSs (Fiske & Ladd, 2000; Cobb & Glass, 1999; Lee & Croninger, 1994; Wells, 1993; Ravitch, 2010) but also “push out” the lowest achieving students in hopes of improving the school’s academic profile while minimizing costs by educating fewer challenging students (Ravitch, undated).

While the critique of racial/ethnic isolation and cream skimming has been examined in recent papers (Bifulco & Ladd, 2007; Booker, Zimmer, & Buddin, 2005; Frankenberg, Siegel-Hawley, & Wang, 2010; Miron, Urschel, Mathis, & Tomquist, 2010; Ritter, Jensen, Kisida, & Bowen, 2012; Ritter, Jensen, Kisida, & McGee, 2010; Zimmer, Gill, Booker, Lavertu, Sass, & Witte, 2009), the claim of “pushing out” low-achieving students has consisted largely of opinion pieces.² These voices express concern that a practice of pushing out low-achieving students would not only make it difficult to accurately assess charter school performance (Ravitch,

¹ <http://dashboard.publiccharters.org/dashboard/schools/page/overview/year/2012>

² See opinion pieces written by well known historian Diane Ravitch as examples. In the *Montgomery Advisor*, Ravitch writes, “They [charter schools] are also free to push out low-scoring students and send them back to school” (<http://groups.yahoo.com/group/nyceducationnews/message/43167>), and in a letter to New Mexico legislators, she writes: “Charters are also known for pushing out low-performing students. These actions give the false appearance of charter ‘success.’” www.facebook.com/permalink.php?id=208373349256704&story_fbid=364867253558026

undated; Henig, 2008), but also have detrimental effects on those students who are pushed out, as research suggests that transfers from one school to another can create adverse effects (Booker, Gilpatric, Gronberg, & Jansen, 2007; Hanushek, Kain, & Rivkin 2004; , Scamman, & Eckerling, 1989; South, Haynie, & Bose, 2007; Temple & Reynolds; 1999; Xu, Hannaway, & D'Souza, 2009).

In general, it is difficult to prove that charter schools are pushing out low-achieving students as it is unlikely that charter schools would be so bold as to expel students outright for low achievement performance. If students are being pushed out, it is more likely to occur in subtle ways—for example, through counseling students and their families to seek a better fit for their needs or having more stringent disciplinary consequences or requiring certain commitments that are associated with higher student achievement such as family involvement and student attendance requirements (Karp, 2010). Although such subtle mechanisms for weeding out poor performing students may exist, it is difficult to prove that charter schools are in fact pushing out low-achieving students, particularly for researchers who are generally left with administrative data sources. Fundamentally, we cannot know why students exit a school from administrative data. Therefore, our goal is a more modest goal—do we observe patterns in empirical data consistent with the claim that charter schools are pushing out low-performing students?

To address this question, we use data from an anonymous major urban school district with a large number of charter schools for the school years 2000-01 through 2006-07 to compare patterns of exit between low-achieving students in charter schools and low-achieving students in TPSs. We identify students who are low-performing relative to their peers in the same school (or, in some analyses, relative to the rest of the district) and investigate their rates of exit in both charter and TPSs. We also conduct a number of sensitivity analyses, including an examination

of whether students who do not reach proficiency status in reading and math are more likely to exit charter or TPSs and whether there are differential exit patterns across low-and high-achieving schools. If these analyses suggest that low-performing students are more likely to exit charter schools, this would supply some evidence to support the conjectures of charter opponents. If no discernible difference in patterns is observed (or if below average students are more likely to exit TPSs), it raises questions about the claim that charter schools are pushing out low-performing students.

II. What is the motivation for “pushing out” students

Theoretically, a charter school’s motivation to push out low-performing students could come from three sources. First, charter schools are schools of choice. As such, they need to attract students. Students are not assigned to charter schools like neighborhood schools and only can survive to the extent students choose to enroll. Therefore, charter schools feel market pressure to recruit students. One way to recruit students is through the academic reputation of the school (Ravitch, 2012), which is in part a function of the academic achievement of its students.³ Therefore, a school would have an incentive to push out below-average students to improve the overall average achievement level of the school.

Second, low-performing students may be more expensive to educate (Miron, Urschel, & Saxton, 2011). For instance, low-performing students may be more likely to be a special education or Limited English Proficient student (LEP) requiring greater resources. Given the need for charter schools to be financially viable and the reimbursement for at least some of these

³ Given the willingness on the part of many families to pay a premium for housing zoned for a higher quality schools (Black, 1999), it is plausible that at least some families would look at school quality when choosing a charter school. This does not imply, however, that the academic achievement performance of a school is the only reason a family might choose to attend a charter school. In fact, some research suggests that families do not always base their choice on the academic achievement of schools (Stein, Goldring, & Cravens, 2011; Weiher & Tedin, 2002).

low-performing students may not be adequate (Miron, Urschel, & Saxton, 2011), charter schools may again have an incentive to push out below-average students.

Third, charter schools may feel strong accountability pressures. Most charter schools, like TPSs, have to meet academic targets in order avoid sanctions under the federal No Child Left Behind (NCLB) or other state accountability programs. There has been a fair amount of research suggesting that accountability pressures can alter decisions by schools and lead to unintended consequences. For instance, in Chicago, Jacob (2005) found evidence that teachers excluded low-ability students from testing by placing them in special education in response to accountability pressures, while Jacob and Levitt (2007) found evidence of outright cheating by teachers. Other researchers have found that because schools are generally held accountable for the percentage of students making proficiency thresholds, schools and teachers will focus more attention on students near this cutoff threshold than on students at other parts of the distribution (Booher-Jennings, 2005; Krieg, 2008; Neal & Schanzenbach, 2010). As another example, Figlio (2006) found evidence that schools assign long suspensions for low-performing students near test-taking periods. All of this evidence suggests that schools and teachers sometimes respond to accountability pressure in unintended and even insidious ways. In particular, schools just above or below the proficiency threshold that determines whether or not they make adequate yearly progress (AYP) have the greatest incentive to push out low-performing students. Schools, significantly below or above the threshold may have less incentive to push out low-performing students because pushing out a subset of students is unlikely to affect the odds of the schools making AYP. These schools would gain little in terms of accountability and lose the revenue associated with losing students. Later, we will examine whether low-performing students are more likely to exit when schools are near the AYP threshold.

One might expect that because of the recruitment, fiscal, and accountability pressures, charter schools may have strong incentive to push out low-performing students through counseling or other means. However, it may also be the case that TPSs have these same incentives—as TPSs certainly feel accountability and fiscal pressures and may, although to a lesser extent, feel market pressure as they compete with other TPSs and schools of choice for students. But charter critics argue that TPSs do not have the same ability to push out students because students are assigned to them (Karp, 2010).⁴ However, this does not take into account the fact that TPSs could also counsel students into charter schools or other schools of choice. Alternatively, to the extent that one observes low-performing students exiting either type of school, it may be that these students move of their own accord hoping to improve their educational situation by moving to a higher quality school (Hanushek et al., 2007; Rumberger et al., 1999) or, more simply, that low-achieving students are more transient (Alexander, Entwisle, & Dauber, 1996).

III. Literature Review

While the bulk of the research surrounding charter schools in recent years has explored the achievement effects of these schools (Abdulkadiroglu et al., 2009; Bifulco & Ladd, 2006; CREDO, 2009; Booker et al., 2007; Booker et al., 2011; Hanushek et al., 2007; Hoxby & Murarka, 2007; Sass, 2006; Witte et al., 2007; Zimmer & Buddin, 2006; Zimmer et al., 2003; Zimmer et al., 2009), research is beginning to emerge on other important issues including the effects these schools may have on the distribution of students by race/ethnicity and ability. Skeptics of charter schools worry that these schools could further stratify an already racially or ethnically stratified system as families will choose schools based on their racial/ethnic makeup

⁴ <http://www.catalyst-chicago.org/news/2010/11/09/one-in-10-charter-school-students-transfers-out>

and try to isolate their child from students of other groups (Cobb & Glass, 1999; Fiske & Ladd, 2000). In addition, skeptics worry that only the most motivated families with the highest ability students will utilize the option of charter schools (Lee & Croninger, 1994; Wells, 1993). As a result, charter schools will “cream skim” the best students from TPSs leaving the more challenging students behind for TPSs to educate. In contrast, advocates of charter schools and school choice argue that since charter schools would free students to attend schools outside of their neighborhood school, students would be allowed to attend more racially or ethnically diverse schools (Finn et al., 2000; Kolderie, 2004; Nathan, 1998). These same advocates argue that many students who fall behind in TPSs may seek new educational opportunities and that charter schools will ultimately serve students who are struggling academically.

While research has begun to address questions of whether charter school recruitment leads to greater racial/ethnic segregation and cream skinning and finds mixed evidence across locations (Bifulco & Ladd, 2007; Booker, Zimmer, & Buddin, 2005; Frankenberg et al., 2010; Garcia, 2008; Garcia, McIlroy, & Barber, 2008; Miron & Nelson, 2002; Powell et al., 1997; Ritter et al., 2010; Ritter et al., 2102; RPP, 2000; Zimmer et al., 2009),⁵ it has almost entirely neglected the question of whether students exiting charter schools are more likely to be below average than students exiting TPSs. However, recent research, while not directly addressing the issue, makes the case that students exiting charter schools might be motivated by school quality. Hanushek et al. (2007), using Texas longitudinal student-level data, examined student exit rates in charter schools of varying quality. They found that higher achieving charter schools have lower exit rates than lower achieving charter schools. The authors suggest that much of the student mobility in charter schools is motivated by a desire to improve one’s educational

⁵ In addition to examining charter schools in general, there have also been an evaluations of the mix of students in schools managed by the charter management organization (CMO) of KIPP and CMOs more generally (Miron, Urschel, and Saxton, 2011; SRI, 2008; Miron et al., 2010; Tuttle et al., 2010).

situation. Hanushek et al.'s findings could thus provide support for a counter argument to push-out for any observed exiting of low-performing students from schools. If students are performing poorly in a given school, they may exit of their own accord (in contrast to being pushed out) in hopes of improving their performance by attending a higher performing school.

In addition, a few studies have looked at entering and exiting patterns of students from charter schools managed by the management organization KIPP (Knowledge is Power Program). KIPP schools have been widely acclaimed for their “no excuse policy” and strong student test score performance, but many have wondered whether the policy leads to higher quality students applying to these schools and higher levels of attrition (Miron, Urschel, & Saxton, 2011; Henig, 2008). Carnoy et al. (2005) used student-level assessment scores of students entering fifth grade at one school in New York, KIPP-Bronx Academy, relative to peers within two-mile radius of the school, and found that students entering the KIPP school had higher fourth grade passing rates. Because this was an analysis of only one school and the number of KIPP schools has expanded over time, others have conducted follow-up studies. A study by Miron and colleagues (2011) used school-level data to examine 60 KIPP schools and found that KIPP schools have greater attrition than their local school districts. A recent study improved upon the existing literature by using student-level data focusing on 19 KIPP middle schools (Nichols-Barrer et al., 2012). On average, they found that “students exiting KIPP schools have similar prior achievement to those exiting nearby schools” (Nichols-Barrer et al., 2012, p. 21). While these analyses have provided insights into the exit patterns of students in KIPP schools, their findings are somewhat mixed and they do not look at the exiting patterns of low-performing students in a wide variety of charter schools.

Recent research has examined exit patterns across all charter schools in Delaware and Washington, D.C. Miron et al. (2010) examined the exit patterns of students in Delaware and found mixed patterns across grades, with “leavers” (those who exit charter schools) at the elementary level having higher test scores than students who remain in the charter (“stayers”), no notable difference at the middle school level, and leavers having lower test scores than stayers at the high school level. It is notable that this analysis did not compare these patterns with TPSs to examine whether these patterns represented a general trend or not. In a recent evaluation of Washington, D.C.’s charter schools, the *Washington Post* found that charter schools had higher rates of behavior-related expulsion than TPSs, but that these high expulsion rates were concentrated in select number of charter schools (Brown, 2013).⁶ Although one could speculate that protecting the academic profile of the school could be part of the motivation of the Washington charter schools (Ash, 2013), but given that the rate of expulsion is 1 out of 140 students, it would not have a dramatic effect on the average level of test scores or rates of proficiency across schools, except in a select number of schools with higher rates of expulsions.

Together, this research has provided some useful insights but has either focused on the exit patterns of low-performing students in charter schools without comparing them to general trends within the district, focused on a particular type of charter school (e.g., KIPP schools), or provided some evidence on behavior-related expulsions. Prior research has not provided much consistent evidence regarding the legitimacy of the “push out” critique and whether it should be used—as it currently is—as an argument against the establishment of charter schools in general (Ravitch, 2012). Our research addresses this gap by examining all charter and TPSs in a large urban school district containing a large number of charter schools of many types. By examining

⁶ The story also notes that TPSs rely more heavily on suspensions for disciplinary issues than charter schools do.

charter schools in general, our analysis should have implications regarding the fundamental question of whether charter schools should be permitted. In addition, because the prior literature suggests that there could be a large amount of variation in student exit patterns among charter schools, we also examine the exit patterns of *individual* schools in both the charter and TPS sectors, which may have implications for whether individual charter schools should receive greater scrutiny for pushing out students when they are reauthorized.

IV. Data

The anonymous district we study is a large school district with a high concentration of low-income students (nearly 80 percent of the students qualify for free-and-reduced lunch). It has experienced strong growth in the number of charter schools—from a handful of charter schools in the late 1990s to more than 60 charter schools by 2007—making it a high profile district for the charter movement. These charter schools have created new educational opportunities for students and were initiated by a vast array of individuals and organizations, including educators, politicians, community groups, and social service organizations. The schools' mission statements reflect their varied origins and address a wide range of themes such as community, family, career, cultural heritage, as well as support for academic achievement. In the 2007 (the last year of our data), about 65 percent of the district's charter schools made AYP under No Child Left Behind (NCLB) compared with about 45 percent of schools in the district as a whole. The substantial advantage charter schools have in making AYP in this district makes it an ideal place to examine the pattern of students transferring out of charter schools, as we want to know whether this advantage could be the function of low-performing students exiting charter schools at higher rates than TPSs.

To track students exiting both charter schools and TPSs, the anonymous district provided student-level data that included race/ethnicity information, test scores, school of attendance, and grade enrolled for each year from 2000–01 through 2006–07 school years. In addition, the district provided a list of school identifiers for each charter school and the year in which the school was established. Using this list combined with the school identifiers for each student, we were able to identify whether a student attended a charter school for each year.

In the period under examination, students in the district took three kinds of annual achievement tests in reading and math, varying with the school year and grade. The primary test was the state accountability test, which is used to hold schools accountable for performance targets under No Child Left Behind. This test was used for math and reading in grades 5, 8, and 11 annually beginning in spring 2001 and grades 3 through 8 and 11 in spring 2006 and 2007. Because not all grades were tested through the state accountability test and, because the district wanted to have its own assessment of performance, it administered additional tests including the Stanford 9 and Terra Nova tests. Table A-1 in the appendix provide a comprehensive list of grades and years covered by each test. We use the scores from these administered tests, along with the demographic information, to examine achievement levels of students exiting charter schools.

To utilize all testing information and because there is no consistent scale across the various tests, we normalized all scores by grade and year with a mean of zero and standard deviation of one. We then created a single variable composed of the standardized state accountability test score as the preferred test when more than one test score was present and the Terra Nova or Stanford 9 scores only in cases in which the state accountability test was missing. We preferred the state test because it is the state accountability measure and, in the most recent years, has been

administered in more grades. Because combining different types of tests could be a source of concern, we ran a sensitivity analysis using only the state accountability test scores and thus limiting the analysis to a smaller set of grades. As we will later show, restricting the analysis to the state accountability test only does not change our results.

Table 1 shows the descriptive characteristics of charter schools and TPSs over the course of the seven years of data. The variable of greatest interest is the “transferring out” variable. For this variable, we remove students who are making “structural” moves⁷—i.e., students who are switching from elementary to middle schools and middle to high schools—as we are interested in the possibility of students being “pushed out” and not naturally promoted out of a charter school. This variable is defined as transferring out rather than exiting because it does not capture moves of students who leave the dataset. For instance, some students may exit a school to attend a private school or a school in another district or may drop out of school altogether. Nevertheless, with the exception of moves to a private school or drop outs (which would only be relevant at the high school level), our variable captures the type of school exit that would be affected by “push-out.”

Based on the descriptive means, the proportion of students transferring out of charter schools is actually slightly lower than the transfer proportion in TPSs. In terms of demographic characteristics, charter schools had similar makeup of students with slightly higher shares of white and African American students and slightly lower shares of Hispanic, male, special education, and LEP students. However, charter schools have slightly higher reading achievement levels and similar math achievement levels as measured by the Z-score of all the tests combined and for the state accountability test.

⁷ For each school, we determined the highest grade offered. We then counted a move as a non-structural move if the student moved in grade lower than the highest grade offered by the school.

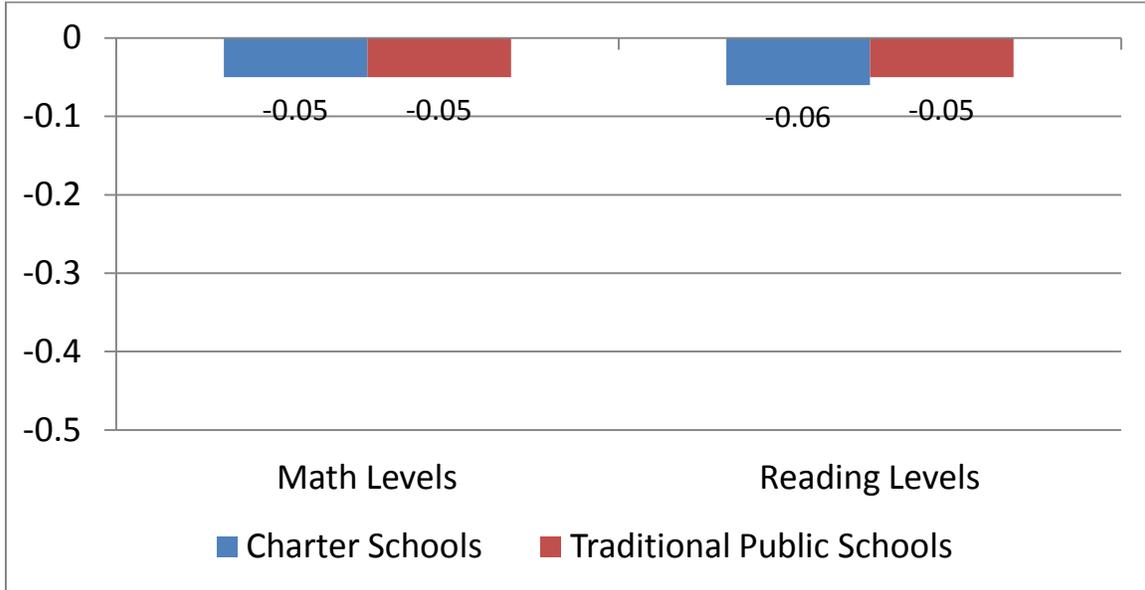
Table 1: Descriptive Statistics of Charter and Traditional Public Sectors

Variable	Charter Schools		Traditional Public Schools	
	Mean	Standard Deviation	Mean	Standard Deviation
Transferring out of a school	.12	.33	.15	.36
Black	.67	.47	.65	.48
Hispanic	.12	.33	.15	.35
White	.19	.39	.14	.35
Male	.48	.50	.50	.50
LEP	.02	.15	.07	.25
Special Education	.12	.33	.15	.36
Math Z Scores of All tests	.01	.91	.00	1.01
Reading Z Scores of All Tests	.14	.92	-.02	1.01
Math Z Scores of State Accountability Test	-.03	.93	.00	1.00
Reading Z Scores of State Accountability Test	.09	.94	-.01	1.01

V. Descriptive Analysis

To examine whether we find any evidence of charter schools pushing out students, we first descriptively examine in Figure 1 the average achievement levels of students transferring out of charter schools relative to their peers within the charter school in the year they exited. Anything below zero indicates that the average performance of the students is below the average of their peers in the school they exited. The figure suggests that students transferring out of charter schools have slightly lower achievement levels relative to their former peers by 0.05 and 0.06 of a standard deviation. However, a nearly identical pattern is true for students exiting TPSs with slightly lower achievement levels of 0.05 of a standard deviation for both math and reading. Therefore, while this provides some evidence that students transferring out of charter schools are slightly lower achieving, there is similar evidence for students transferring out of TPSs and one might conclude from the descriptive data that there is a general pattern of low-performing students exiting schools with no clear evidence that charter schools are pushing out low-performing students any more than TPSs.

Figure 1: Test Score Levels of Students Transferring Out Relative to Former Peers



VI. Main Regression Analysis and Results

Empirical Model

Although Figure 1 provides some interesting insights, the analysis does not account for other factors simultaneously. To examine the marginal effect of various factors, we conducted a linear probability analysis in which we use a dichotomous outcome indicating whether a student exited a school in a nonstructural move.⁸ To construct our independent variables of interest, we first create a measure of the student's performance relative to the campus performance. This is formed by subtracting the campus average score from the student score. Then we create a variable indicating that the student is below the campus average. Last, we create two interactions with this variable: one in which it is interacted with an indicator for whether the student is in a charter school and one in which it is interacted with an indicator for whether the student is in a TPS. With the inclusion of these interactions, our omitted category represents all students with an above average performance. This analysis allows us to examine whether below-

⁸ We checked the sensitivity of the choice of an LPM to the choice of a probit and logit analyses and found that the results were nearly identical. We chose to present the LPM for ease of interpretation.

average students *within a campus* are more likely to exit a charter or TPS relative to above-average students. In addition, because a school might also view a student as low-performing relative to other students within the district rather than simply within the school, we also created a second dichotomous variable defined as whether the student has a below average test score *relative to the district* and interacted this variable with charter and TPS status.⁹

The full model thus describes the discrete outcome (i.e., whether a student transfers out of his or her school) as a function of several factors, as follows:

$$y_{it} = year_t + \phi below * charter_{i,t-1} + \gamma below * TPS_{i,t-1} + \beta' X_{it} + u_{it} \text{ (equation 1),}$$

where $y_i = 1$ if the i^{th} student makes a nonstructural transfer from his or her school in the t^{th} year; $year_t$ are separate intercepts for each year; the coefficients of interest—i.e., the effect on nonstructural transfer of being a below average student interacted with charter and TPS, are ϕ and γ , respectively. To examine whether there is differential transferring of low-performing students in charter schools relative to students in TPSs, we examined whether coefficients on these last two variables are statistically different. In the model, the vector X includes student characteristics of race/ethnicity, gender, special needs, and LEP. Race/ethnicity are entered as a dummy variables for African American, Hispanic, and other, with white as the omitted reference category. Table 2 provides a definition for the primary variables of interest in the in the analysis.

⁹ In our main analysis, we used these interactions based on dichotomous indicators of low-performing students rather than the continuous z-score variable because it is easier to describe the coefficient estimates and to separate the meaning for charter and TPSs (i.e., it is relatively straightforward to describe a below-average student as X percent more or less likely than the above-average student to transfer out of a charter or TPS). However, we conducted a sensitivity analysis using the continuous test score variable interacted with charter status and found no substantive difference in our results.

Table 2: Definition of the Dependent Variable and Independent Variables of Interest

Variable	Description
Transferring out of a school	Discrete outcome indicating whether a student made a non-structural transfer from a school and serves as the dependent variable in our models.
Low-Performing Students in Math for Charters	Interaction between two dichotomous variables—defined in two ways: (1) Indicator for student is <i>below the campus</i> math average achievement of the school the student exited * Indicator for whether the exiting school is a charter (2) Indicator for student is <i>below the district</i> math average achievement of the school the student exited * Indicator for whether the exiting school is a charter
Low-Performing Students in Math for TPSs	Interaction between two dichotomous variables—defined in two ways: (1) Indicator for student is <i>below the campus</i> math average achievement of the school the student exited * Indicator for whether the exiting school is a TPS (2) Indicator for student is <i>below the district</i> math average achievement of the school the student exited * Indicator for whether the exiting school is a TPS
Low-Performing Students in Reading for Charters	Interaction between two dichotomous variables—defined in two ways: (1) Indicator for student is <i>below the campus</i> reading average achievement of the school the student exited * Indicator for whether the exiting school is a charter (2) Indicator for student is <i>below the district</i> reading average achievement of the school the student exited * Indicator for whether the exiting school is a charter
Low-Performing Students in Reading for TPSs	Interaction between two dichotomous variables—defined in two ways: (1) Indicator for student is <i>below the campus</i> reading average achievement of the school the student exited * Indicator for whether the exiting school is a TPS (2) Indicator for student is <i>below the district</i> reading average achievement of the school the student exited * Indicator for whether the exiting school is a TPS

We estimate equation 1 in four separate models—two in math (one measuring low-performing students as below the campus average and one measuring low-performing as below the district average) and two corresponding models for reading. Finally, given that there is reason to believe the choices of individual students within schools are not “independent” observations, the t statistics are computed from robust standard errors clustered by school.

Before presenting our results, it is worth noting limitations of our analyses, some of which have been noted earlier. First, our dependent variable only measures transfers between schools across years. It does not include students that completely exit our database including students who switch to private schools, to a school in another district, or drop out. Along the

same lines, we do not examine within school-year transfers, although these do not affect our analysis unless students transfer more than once throughout the year, which is likely a small percentage of the population. Although these omissions weaken our dependent variable slightly, we argue that between school transfers across years is a strong proxy for the types of student exits we wish to examine. Second, our data do not contain a consistent measure of poverty status for students such as free-and-reduced lunch (FRL) over time. While our analysis would be more complete with a good measure of FRL status, it is highly correlated with minority status, which mitigates omitted variable bias. Moreover, according to National Center for Educational Statistics, approximately 80 percent of the students in the district are FRL students. Therefore, having FRL status would not account for much variance from student to student. Third, as we have stated before, we do not know why students transfer out of a school and cannot determine whether a student is being pushed out of a school rather than exiting for some other reason. Nevertheless, we can see whether patterns in the data are consistent with claims that charter schools, unlike TPSs, push out low-performers and thus provide some of the first empirical insights into this debate.

Main Results

Table 3 presents the results using achievement level both relative to their school-wide (columns 1-2) and district-wide averages (columns 3-4). Across both sets of analyses, we find evidence that below-average students in TPSs are slightly more likely to make a nonstructural transfer than above-average students whether we use below-average students at the school-level or district-wide level. The coefficient estimates suggest that low-performing students at TPS schools are one to five percent more likely (at statistically significant margin) to transfer than above average students, although the statistical significance may be achieved in part due to the

large sample size. Low-performing students are neither more nor less likely to transfer out of charter schools. The F-test of the differences between the coefficient estimates for low-performing students in charter schools versus TPSs is statistically significant in three out of the four cases—only when using below-average math test scores relative to a student’s former peers is the difference not statistically significant. This suggests that low-performing students are more likely to transfer out of a TPS than a charter school. But again, the differences are relatively small—about 5 percent. Overall, the results across all models provide no evidence that low-performing students are more likely to exit a charter school than a high-performing student or a low-performing student in a TPS.

Table 3: Linear Probability Results Examining the Exit Patterns of Low-Performing Students in Charter and Traditional Public Schools Using State and District Administered Tests

Variable	Using Student Scores Relative to Campus Average as the Measure of Low Performance		Using Student Scores Relative to District-Wide Average as the Measure of Low Performance	
	Math	Reading	Math	Reading
	(1)	(2)	(3)	(4)
Low-Performing Students in Math for Charters	-.009 (.014)		.003 (.011)	
Low-Performing Students in Math for TPSs	.018* (.003)		.051* (.004)	
Low-Performing Students in Reading for Charters		-.014 (.013)		.002 (.011)
Low-Performing Students in Reading for TPSs		.019* (.002)		.051* (.004)
Black	.079* (.008)	.079* (.008)	.066* (.007)	.069* (.007)
Hispanic	.071* (.010)	.071* (.008)	.061* (.009)	.061* (.009)
Other	-.014* (.007)	-.016 (.006)	-.013 (.007)	-.016* (.006)
LEP	.001 (.005)	.002 (.005)	-.006 (.004)	-.008 (.004)
Special Education	.000	.000	-.007*	-.007*

	(.003)	(.003)	(.003)	(.003)
Male	.011* (.002)	.009* (.003)	.011* (.002)	.007* (.002)
Constant	.070* (.011)	.050* (.008)	.063* (.011)	.046* (.008)
Year Fixed Effects	Yes	Yes	Yes	Yes
P Value of the F-Test of difference of coefficients	.08	.02*	.00*	.00*
N	470,786	510,371	470,786	510,371

Robust standard errors in parentheses

*Indicates significance at the 5 percent level

VII. Sensitivity Analyses

Checking the Sensitivity to the Measure of Low-Performing

To check the robustness of our results, we conducted a number of sensitivity analyses. Up to this point, we have used three different tests to measure performance and because each of these tests could be measuring different skills and knowledge, we restrict the analysis in equation 1 to only one test—the state accountability test. This restricts the sample to a smaller number of grade-years, hence the smaller number of observations in the regressions. The results are shown in Table 4, which are consistent with the conclusions in our main analysis shown in Table 3—low-performing students are no more or less likely to transfer out of a charter school than low-performing students are to transfer out of a TPS or than high-performing students, in general.

Table 4: Linear Probability Results Examining the Exit Patterns of Low-Performing Students in Charter and Traditional Public Schools Using Only the State Accountability Test

Variable	Using Student Scores Relative to Campus Average as the Measure of Low Performance		Using Student Scores Relative to District-Wide Average as the Measure of Low Performance	
	Math	Reading	Math	Reading
	(1)	(2)	(3)	(4)
Low-Performing Students in Math for Charters	-.007 (.029)		-.004 (.018)	
Low-Performing Students n Math for TPSs	.014* (.005)		.055* (.009)	

Low-Performing Students in Reading for Charters		-.010 (.027)		-.006 (.018)
Low-Performing Students in Reading for TPSs		.014* (.005)		.048* (.008)
Black	.085* (.026)	.085* (.026)	.072* (.025)	.075* (.026)
Hispanic	.057* (.025)	.057* (.025)	.046* (.025)	.047* (.025)
Other	-.041 (.022)	-.042* (.022)	-.041 (.023)	-.043* (.023)
LEP	.003 (.008)	.001 (.008)	-.007 (.007)	-.010 (.008)
Special Education	-.003 (.005)	-.004 (.005)	-.013* (.005)	-.013* (.005)
Male	.010* (.003)	.008* (.003)	.010* (.003)	.006* (.003)
Constant	.137* (.039)	.139* (.039)	.128* (.046)	.133* (.041)
Year Fixed Effects	Yes	Yes	Yes	Yes
P Value of the F-Test of difference of coefficients	.51	.44	.01*	.01*
N	110,910	110,528	110,910	110,528

Robust standard errors in parentheses

*Indicates significance at the 5 percent level

Because schools are held accountable according to whether their students are making proficiency rather than the average test scores of their students, we also examine whether our results differ if we define our measure of student performance as whether the student made state-defined math and reading proficiency standards. Because we only have cutoff thresholds for the state accountability test, we create an indicator of whether the student reached the proficiency threshold only for the state accountability test.¹⁰ As in our analysis using the average achievement levels, we create two interactions: one interacts the proficiency indicator with an

¹⁰ While proficiency is the measure that schools are held accountable for, a counter argument to this analysis is that schools may have a greater incentive to push out students prior to grades tested under the state accountability program under NCLB. For instance, in the early years, students were tested only in grades 5, 8, and 11 for the state accountability test. If schools are trying to improve their academic profile in these grades to avoid sanctions under NCLB, it may make less sense to push out students after they take the state accountability test. Pushing students out at that point does not help the school make AYP. Therefore, we used equation 1 to once again examine whether below-average transfer students measured as either below the school-wide average or below the district-wide average but restricted the sample to students in non-accountable grades (i.e., grades tested using district-administered tests rather than the state accountability tests). The results, while not shown here to conserve space, are consistent with the overall conclusion in Table 3.

indicator for whether the student is in a charter school and one in that interacts the proficiency indicator with an indicator for whether the student is in a TPS. These interactions are created separately for math and reading, and we again use equation 1 to estimate the model. The results are presented in Table 5 and our conclusions from our main analysis continue to hold—there is no evidence that poor performing students are more likely to transfer out of a charter school than a high-performing student or a poor performing student in a TPS.

Table 5: Linear Probability Results Examining the Exit Patterns of Low-Performing Students in Charter and Traditional Public Schools Using Proficiency as a Measure of Student Performance

Variable	Defining Low-Performing as Students Below Proficiency in Math	Defining Low-Performing as Students Below Proficiency in Reading
Below Proficient Charter	.012 (.023)	-.004 (.020)
Below Proficient TPS	.057* (.010)	.043* (.010)
Black	.071* (.025)	.075* (.025)
Hispanic	.045 (.025)	.047 (.025)
Other	-.041 (.023)	-.045* (.022)
LEP	-.006 (.008)	-.007 (.008)
Special Education	-.012 (.005)	-.008 (.005)
Male	.010* (.003)	.007* (.003)
Constant	.074* (.036)	.124* (.042)
Year Fixed Effects	Yes	Yes
P Value of the F-Test of difference of coefficients	.11	.05*
N	110,943	110,561

Robust standard errors in parentheses

*Indicates significance at the 5 percent level

In our main analysis, we have defined low-performing students as a student who either had achievement levels below their school or district average test scores. It could be that our results are sensitive to how we define low-performing students. Previously, we noted that we

interacted a continuous measure of performance with charter status and found no statistically significant relationship between student performance and transferring out of charter schools. However, to further examine whether our analysis is sensitive to how we define a low-performing student, we created a new interaction in which we define a student as being low-performing if they are a half of a standard deviation below their school-wide or district-wide averages and interacted these low-performance measures with charter and TPS status. We then reran the separate math and reading models using equation 1. The results are displayed in Table 6 and again, the coefficient estimates for the low-performing students are close to zero and support the conclusions in our main analysis in Table 3.

Table 6: Linear Probability Results Examining the Exit Patterns of Low-Performing Students in Charter and Traditional Public Schools Defining Low-Performing as a Half of a Standard Deviation Below the School-Wide and District-Wide Average

Variable	Using Student Scores Relative to Campus Average as the Measure of Low Performance		Using Student Scores Relative to District-Wide Average as the Measure of Low Performance	
	Math	Reading	Math	Reading
	(1)	(2)	(3)	(4)
Low-Performing Students in Math for Charters	.001 (.017)		.005 (.012)	
Low-Performing Students in Math for TPSs	.023* (.003)		.056* (.004)	
Low-Performing Students in Reading for Charters		-.004 (.015)		.011 (.012)
Low-Performing Students in Reading for TPSs		.033* (.003)		.056* (.003)
Black	.079* (.008)	.079* (.008)	.070* (.008)	.072* (.008)
Hispanic	.071* (.010)	.071* (.009)	.064* (.009)	.063* (.009)
Other	-.013* (.007)	-.015 (.006)	-.014* (.007)	-.016* (.006)
LEP	.000 (.005)	.000 (.004)	-.005 (.005)	-.007 (.004)
Special Education	-.004 (.003)	-.005 (.003)	-.010* (.003)	-.012 (.012)
Male	.011* (.002)	.009* (.002)	.010* (.002)	.007* (.002)

Constant	.072* (.011)	.052* (.008)	.071* (.011)	.052* (.008)
Year Fixed Effects	Yes	Yes	Yes	Yes
P Value of the F-Test of difference of coefficients	.10	.02*	.00*	.00*
N	470,786	510,371	470,786	510,371

Robust standard errors in parentheses

*Indicates significance at the 5 percent level

Finally, it may be that schools define students as low-performing not based on their achievement *level*, but by their achievement *gain*. Therefore, we ran additional analyses in which we defined a student as low performing if they had below-average *gain* relative to that of their school and interacted this with the charter and TPS status of the student. However, it should be noted that in many years, the only way to measure gains for a student is to measure the gains across different tests, which may be measuring different skills and knowledge. Therefore, we restricted our gains analysis to the state accountability test only, which was only administered in consecutive grades in recent year. Because of this limitation and to conserve space, we do not present the results here, but note that the results are again consistent with the conclusions of the main results in Table 3.

Together, through a series of different sensitivity analyses, our results from our main analysis in Table 3 appear to be robust. Again, these analyses cannot tell us why a student exits a particular school. Therefore we cannot definitely say that charter schools are not pushing out low-performing students, but it does not provide any evidence consistent with the claim.

Adding Additional Controls for Why a Student Exits

While we cannot definitely know why a student exits a school, we can at least try to control for two reasons why a student may transfer—to attend a better school or because the student is performing poorly. To do that, we ran a model with two additional variables. One

variable controls for a student’s own performance as measured by achievement gains¹¹, which controls for the possibility that student assessments of their own performance may motivate an exit from the school. A second variable measures the performance of the school a student attends in the current year relative to the performance of the school the student attended in the previous year. For students who do not switch schools, these values are generally small. However, for students who switch schools, these values can be large and should control for the possibility that some students exit schools in order to improve their academic situation. These variables are added to the basic analysis laid out in equation 1 and the results are displayed in Table 7. The year-to-year gain measure is negative and statistically significant suggesting that students making larger gains are less likely to transfer out of a school, consistent with our intuition. The coefficient estimates for the difference in school-wide achievement from year-to-year is positive in all cases consistent with the intuition that students transfer out of a school to enter a higher performing school (Hanushek et al., 2007), although the estimate is statistically significant in only one case. As for the variables of interest, we again see no evidence that low-performing students are no more likely to exit a charter school than a high performing student or a low-performing student in a TPS.

Table 7: Linear Probability Results Examining the Exit Patterns of Low-Performing Students in Charter and Traditional Public Schools with Controls for Why a Student May Exit a School

Variable	Using Student Scores Relative to Campus Average as the Measure of Low Performance		Using Student Scores Relative to District-Wide Average as the Measure of Low Performance	
	Math	Reading	Math	Reading
	(1)	(2)	(3)	(4)
Low-Performing Students in	-.003		.006	

¹¹ Here, because we are only using gains only as a control variable, we do look at gains in z-scores across different test with the understanding that this may have some limitations as the gains may not be measuring improvement across the same set of skills and knowledge.

Math for Charters	(.014)		(.011)	
Low-Performing Students n Math for TPSs	.024* (.003)		.055* (.004)	
Low-Performing Students in Reading for Charters		-.008 (.013)		.006 (.011)
Low-Performing Students in Reading for TPSs		.025* (.003)		.055* (.004)
Year –to Year Gain of Individual Student	-.014* (.002)	-.011* (.002)	-.017* (.002)	-.014* (.002)
Relative performance of the school a student attends this year relative to the school the student attended last year	.045 (.024)	.051* (.025)	.040 (.024)	.047 (.025)
Black	.078* (.008)	.078* (.008)	.064* (.008)	.067* (.007)
Hispanic	.071* (.010)	.070* (.009)	.060* (.009)	.060* (.009)
Other	-.013* (.007)	-.017* (.006)	-.012 (.007)	-.017* (.006)
LEP	.001 (.005)	.001 (.005)	-.007 (.004)	-.008 (.004)
Special Education	-.002 (.003)	-.002 (.003)	-.008* (.003)	-.008* (.003)
Male	.012* (.002)	.009* (.002)	.011* (.002)	.007* (.002)
Constant	.047* (.008)	.049* (.008)	.041* (.008)	.045* (.008)
Year Fixed Effects	Yes	Yes	Yes	Yes
P Value of the F-Test of difference of coefficients	.08	.02*	.00	.00
N	465,136	503,593	465,136	503,593

Robust standard errors in parentheses

*Indicates significance at the 5 percent level

Checking the Sensitivity by Disaggregating the Analysis

So far, our analyses have examined charter schools and TPSs across the district in the aggregate. This analysis did not find evidence consistent with the claim charter schools are pushing out low-performing students. However, because previous research suggests that exit patterns could vary by grade level (Miron et al., 2011) and because there could be individual schools with high exit rates (Brown, 2013), we extended the aggregated analysis to include a disaggregated analysis. While our aggregate analysis can inform aggregate policy decisions

(e.g., whether to have charter schools or not), it is also important to examine whether there is a need to develop policies to ensure greater scrutiny with respect to individual schools.

First, we ran equation 1 separately for primary (students in 8th grade or below) and secondary school grades (in 9th grade or above) with the same interactions of low-performing students and charter and TPS status as equation 1 both for math and reading. The results for the primary and secondary results are shown in Table 8. For primary grades, the results continue to be consistent with the main results displayed in Table 3. For the secondary grades, the results differ a bit, as the coefficient estimates are positive for charter schools and range between 3.3 and 4.6 percent. However, only the estimate for secondary students with below-average reading scores relative to the district is statistically significant and this estimate is not statistically different from the TPSs estimates. Nevertheless, greater scrutiny of charter high schools may be warranted.

Table 8: Linear Probability Results Examining the Exit Patterns of Low-Performing Students in Primary and Secondary Charter and Traditional Public Schools

Variable	Primary Schools				Secondary Schools			
	Using Student Scores Relative to Campus Average as the Measure of Low Performance		Using Student Scores Relative to District-Wide Average as the Measure of Low Performance		Using Student Scores Relative to Campus Average as the Measure of Low Performance		Using Student Scores Relative to District-Wide Average as the Measure of Low Performance	
	Math	Reading	Math	Reading	Math	Reading	Math	Reading
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Low-Performing Students in Math for Charters	-.022 (.012)		-.005 (.012)		.034 (.028)		.033 (.018)	
Low-Performing Students in Math for TPSs	.021* (.002)		.050* (.004)		.002 (.006)		.055* (.013)	
Low-Performing Students in Reading for Charters		-.028* (.012)		-.009 (.012)		.036 (.027)		.046* (.020)
Low-Performing Students in Reading		.019* (.002)		.048* (.003)		.010 (.006)		.057* (.014)

for TPSs								
Black	.079* (.007)	.080* (.007)	.067* (.007)	.070* (.007)	.077* (.020)	.080* (.019)	.060* (.019)	.063* (.019)
Hispanic	.073* (.009)	.072* (.008)	.064* (.008)	.063* (.008)	.052* (.026)	.054* (.026)	.040* (.026)	.042* (.026)
Other	-.014* (.006)	-.020* (.006)	-.013* (.006)	-.016 (.006)	-.013 (.014)	-.014 (.010)	-.012 (.015)	-.016 (.015)
LEP	.002 (.005)	.004 (.005)	-.004 (.005)	-.005 (.005)	-.004 (.010)	-.004 (.010)	-.012 (.010)	-.019 (.010)
Special Education	.002 (.003)	.002 (.003)	-.004 (.003)	-.004 (.003)	-.008 (.007)	-.008 (.007)	-.020* (.069)	-.019* (.007)
Male	.010* (.002)	.009* (.002)	.010* (.002)	.007* (.002)	.013* (.007)	.011 (.007)	.011 (.006)	.006 (.006)
Constant	.063* (.007)	.065* (.007)	.060* (.008)	.061* (.007)	.048 (.027)	.046 (.026)	.038 (.280)	.040 (.027)
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
P Value of the F- Test of difference of coefficients	.00*	.00*	.00*	.00*	.27	.36	.35	.68
N	373,788	409,343	373,788	409,343	96,948	97,497	96,948	97,497

Robust standard errors in parentheses

*Indicates significance at the 5 percent level

As mentioned earlier, there could be differential incentives to push out students based on where the school fits into a distribution relative to NCLB's accountability threshold. If a school is near the proficiency cutoff, pushing out low-performing students could help the school make NCLB's proficiency rate. However, if a school is either far below or above the proficiency rate cutoff, the school may not have much incentive to push out low-performing students, as it is unlikely to help the school make proficiency rate and would reduce their revenue. To explore whether our results differed for schools near the proficiency cutoff rate, we created three-way interactions between the indicators of whether the student is low performing, an indicator of whether the student is in a charter or TPS school, and whether the school's percentage of proficient students is more than 5 percent away from the proficiency cutoff rate¹² and reran

¹² Some students drop out of this analysis because some schools do not have a grade tested by the accountability test (e.g., schools that have the highest grade less than 5th grade) and therefore, we cannot see whether the school is near the proficiency cutoff or not. In addition, we can only observe whether the school is near proficiency after the 2001-02 school year because NCLB AYP standards were not in place in 2001-02.

equation 1 separately for math and reading.¹³ As seen in Table 9, the results provide no evidence of charter schools pushing out low-performing students.

Table 9: Linear Probability Results Examining the Exit Patterns of Low-Performing Students in Charter and Traditional Public Schools Within Plus or Minus 5 Percent of Proficiency Cutoff Using State and District Administered Tests

Variable	Using Student Scores Relative to Campus Average as the Measure of Low Performance		Using Student Scores Relative to District-Wide Average as the Measure of Low Performance	
	Math	Reading	Math	Reading
	(1)	(2)	(3)	(4)
Low-Performing Students in Math for Charter Schools Near the Proficiency Cutoff	-.027 (.024)		.010 (.032)	
Low-Performing Students in Math for Charters Schools Not Near the Proficiency Cutoff	-.008 (.016)		.003 (.012)	
Low-Performing Students in Math for TPSs Near the Proficiency Cutoff	.003 (.018)		.046* (.021)	
Low-Performing Students in Math for TPSs Not Near the Proficiency Cutoff	.020* (.003)		.054* (.005)	
Low-Performing Students in Reading for Charter Schools Near the Proficiency Cutoff		-.046 (.026)		.007 (.042)
Low-Performing Students in Reading for Charters Schools Not Near the Proficiency Cutoff		-.012 (.014)		.002 (.012)
Low-Performing Students in Reading for TPSs Near the Proficiency Cutoff		-.028 (.015)		.036 (.022)
Low-Performing Students in Reading for TPSs Not Near the Proficiency Cutoff		.023* (.003)		.053* (.004)
Black	.080* (.009)	.080* (.008)	.068* (.008)	.070* (.007)
Hispanic	.071* (.010)	.068* (.010)	.060* (.010)	.060* (.009)
Other	-.014 (.007)	-.016* (.007)	-.013 (.007)	-.016* (.007)
LEP	.003 (.005)	.004 (.005)	-.005 (.005)	-.007* (.005)
Special Education	.001 (.003)	.000 (.003)	-.007* (.003)	-.008* (.003)

¹³ To define whether a school was within plus or minus five percent of the thresholds, we gained information both about the cut score and proficiency requirements by year from the district and the state. From the district, we received what the cut score for making proficient in math and reading for each year. From the state Department of Education's website, we gained the school-wide percent proficiency requirement for math and reading for each year. Using the cut score, we indicated whether a student made the proficient standard and divided the number of students making proficiency by the total number of students tested. That provided us percentage, which we compared to the required threshold to see if the school was within plus or minus 5 percent of the required threshold.

Male	.011* (.002)	.009* (.002)	.010* (.002)	.007* (.002)
Constant	.089* (.009)	.071* (.011)	.084* (.009)	.065* (.011)
Year Fixed Effects	Yes	Yes	Yes	Yes
P Value of the F-Test of Difference of Coefficients between Charter and TPSs Near Proficiency Cutoff	.32	.56	.34	.54
P Value of the F-Test of Difference of Coefficients between Charter and TPSs Not Near Proficiency Cutoff	.10	.02*	.00*	.00*
N	434,926	474,261	434,926	474,261

Robust standard errors in parentheses

*Indicates significance at the 5 percent level

We also examined whether transfer rates differ by the achievement levels of schools. To do this, we created three groups of schools—schools that had a mean z-score in the bottom third (low achieving), middle third (average achieving), and top third (high achieving) of all schools in the district. We then interacted each of these variables with charter and TPS status, and whether the student is a below-average student relative to their campus and district. Some have wondered whether the performance of high-achieving schools is a function of high levels of attrition within these schools (Henig, 2008), which could be the result of pushing out low-performing students. In addition, the low-achieving schools may be desperate to improve their academic profile. Therefore, even if a low-achieving school loses revenue when students leave, one could argue that they may have motivation to push out low-performing students as well. The results are shown in Table 10.

The estimates for the probability of low-performing students transferring out of charter schools at various achievement levels are generally small and only statistically significant in two cases. First, using math scores, low-performing students (relative to their former peers) are significantly less likely than an above average student to transfer out of a average-achieving charter school, but at a small margin of 2.8 percent. Second, using reading scores, low-performing students (relative to the *district* average) are significantly more likely to transfer out

of a low-achieving charter school, but at a modest margin of 3.9 percent. Given this relative small positive probability for reading and the fact that the estimate is sensitive to how low-achieving students are defined (as none of the other measure for low-performing students in low-achieving charter schools are statistically significant), large concerns are not warranted. In addition, the probability of low-achieving students exiting any type of charter school is never statistically different (and always numerically smaller) than the estimates for TPSs. Overall, these results generally do not provide evidence consistent with the claim that charter schools push out low-performing students and only raises slight concern for low-achieving schools.

Table 10: Linear Probability Results Examining the Exit Patterns of Students in Low-, Average-, and High-Achieving Charter and Traditional Public Schools

Variable	Using Student Scores Relative to Campus Average as the Measure of Low Performance		Using Student Scores Relative to District-Wide Average as the Measure of Low Performance	
	Math	Reading	Math	Reading
	(1)	(2)	(3)	(4)
Low-Performing Students in Math for Students in Charter Schools in Bottom Third of the Achievement Distribution	.011 (.016)		.025 (.017)	
Low-Performing Students in Math for Students in Charter Schools in Middle third of the Achievement Distribution	-.028* (.01)		-.010 (.012)	
Low-Performing Students in Math for Students in Charter Schools in Top Third of the Achievement Distribution	-.005 (.032)		-.007 (.021)	
Low-Performing Students in Math for Students in TPSs in Bottom Third of the Achievement Distribution	.057* (.006)		.074* (.008)	
Low-Performing Students in Math for Students in TPSs in Middle third of the Achievement Distribution	.023* (.005)		.039* (.005)	
Low-Performing Students in Math for Students in TPSs in Top Third of the Achievement Distribution	-.021* (.006)		.022* (.006)	
Low-Performing Students in Reading for Students in Charter Schools in Bottom Third of the Achievement Distribution		.025 (.017)		.039* (.015)
Low-Performing Students in Reading for Students in Charter Schools in Middle third of the		-.025 (.014)		-.010 (.013)

Achievement Distribution				
Low-Performing Students in Reading for Students in Charter Schools in Top Third of the Achievement Distribution		-.015 (.024)		-.004 (.017)
Low-Performing Students in Reading for Students in TPSs in Bottom Third of the Achievement Distribution		.053* (.005)		.068* (.007)
Low-Performing Students in Reading for Students in TPSs in Middle third of the Achievement Distribution		.031* (.005)		.047* (.005)
Low-Performing Students in Reading for Students in TPSs in Top Third of the Achievement Distribution		-.026* (.006)		.015* (.007)
Black	.067* (.007)	.067* (.007)	.061* (.007)	.064* (.007)
Hispanic	.061* (.009)	.058* (.008)	.056* (.009)	.055* (.009)
Other	-.017* (.006)	-.019* (.006)	-.015 (.007)	-.018* (.006)
LEP	-.001 (.005)	-.001 (.004)	-.007 (.005)	-.008 (.004)
Special Education	-.001 (.003)	-.002 (.003)	-.004 (.003)	-.005 (.003)
Male	.010* (.002)	.009* (.002)	.010* (.002)	.007* (.002)
Constant	.080* (.010)	.060* (.007)	.067* (.011)	.049* (.008)
Year Fixed Effects	Yes	Yes	Yes	Yes
P Value of the F-Test of Difference of Coefficients between Charter and TPSs for the Bottom Third	.01*	.13	.01*	.09
P Value of the F-Test of Difference of Coefficients between Charter and TPSs for the Middle Third	.00*	.00*	.00*	.00*
P Value of the F-Test of Difference of Coefficients between Charter and TPSs for the Top Third	.62	.68	.22	.34
N	470,786	510,371	470,786	510,371

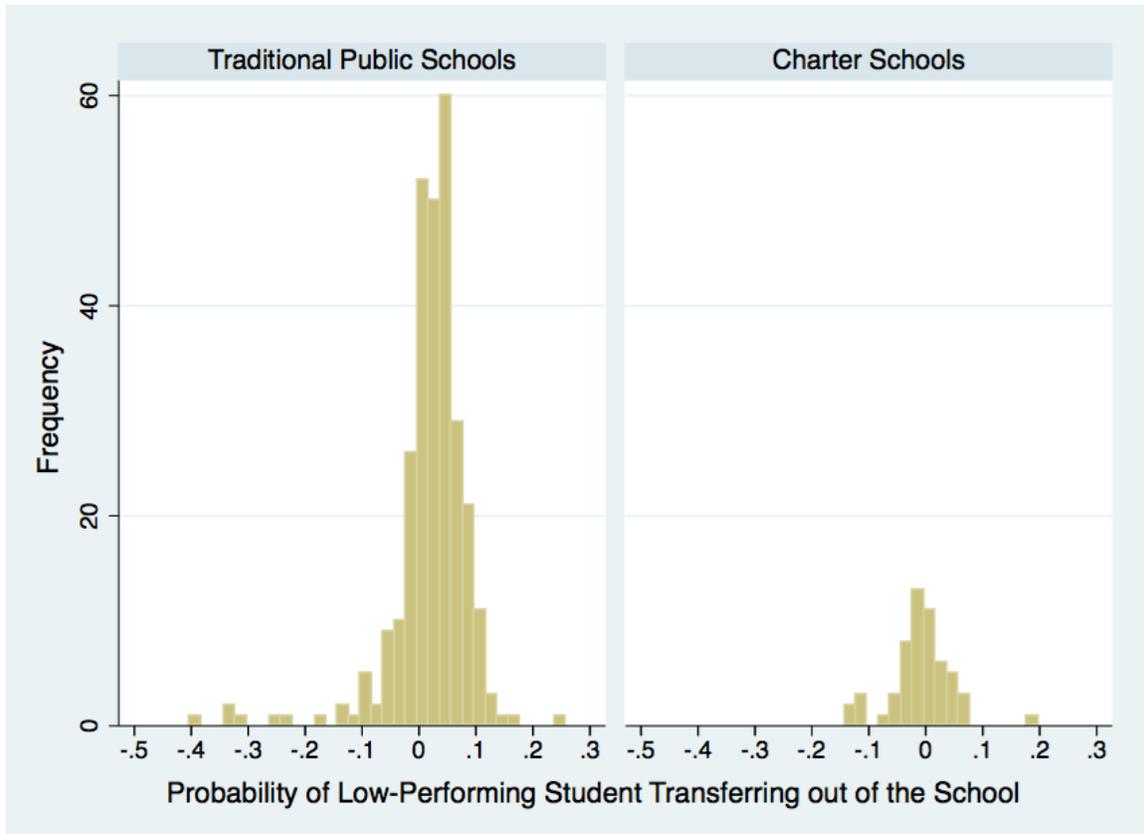
Robust standard errors in parentheses

*Indicates significance at the 5 percent level

Finally, to investigate whether the levels of aggregation we have examined mask push-out behavior on the part of particular schools, we do a school-by-school regression analysis (for both charters and TPSs using below-average campus math score as the measure for low-performance) by regressing the transfer outcome variable on a dummy variable for below the

campus average.¹⁴ The results are shown in Figure 2, which shows the number of schools by the probability of a low-performing student exiting a school relative to high-performing students.

Figure 2: Distribution of Probabilities of a Low-Performing Student Transferring Out of Individual Charter and Traditional Public Schools



In total, there are 15 schools for which the probability that low-performing students transferred out relative to high-performing students exceeded 10 percent. We examined these schools more closely. Of these, only one is a charter school and 14 are TPSs. One of the most common characteristic shared by these schools is school level—9 serve high school students (including the charter school)—but this may be a function of high school students being more transient in general as the transfer rate among high schools is 39.6 percent compared to 23.0 for primary students. Four of the 15 schools are classified as alternative discipline schools and have

¹⁴ We also run the analysis using below-average reading scores as the measure of low performance and find a similar number of schools as outliers.

non-traditional grade arrangements (i.e., 5-12, 3-5, 6-12). The one charter school serves at-risk students: their mission statement states that the school focuses on students “in danger of leaving school prior to their graduation”. In addition, nine out of the 15 schools have an achievement level that is in the bottom third of the district-wide distribution. Finally, the 15 schools disproportionately serve African American (74 percent versus 65 district-wide), Hispanic (19 percent versus 14 district-wide), special education (20 percent versus 15 percent district wide), and male students (58 percent versus 50 percent district-wide). All of this together suggests that many of these schools are serving more transient and challenging students and that even in cases in which there is relatively high level of low-performing students transferring out of a school, there could be very plausible explanations for these students exiting other than being pushed out.

VIII. Conclusion

Recently, opinion pieces suggesting that charter schools may try to improve their academic profile by pushing out low-performing students. For example, in a letter to New Mexico state legislators, Diane Ravitch noted that “Charters are also known for pushing out low-performing students. These actions give the false appearance of charter ‘success’” which is among the reasons she argues that “Charters are not the answer to educational needs of children.”¹⁵ Others suggest that pushing out low-performing student could occur not necessarily in the aggregate, but within individual school or school networks (Henig, 2008) and there has been some evidence that there are differential exit rates at different grade levels for charter schools (Miron et al., 2010). Together, the ongoing debate as well as the previous research suggests that an aggregate examination of charter schools as well a more micro analysis of charter schools is warranted to inform whether the “push-out” argument could be a strong argument against charter schools in general and whether there should be greater scrutiny

¹⁵ www.facebook.com/permalink.php?id=208373349256704&story_fbid=364867253558026

imposed upon individual charter schools, which could occur at the reauthorization of charter schools.

While a study using administrative data cannot definitively show whether any school is pushing out low-performing students, it can examine whether there are patterns in the data consistent with the claim both in the aggregate and micro level. While readers should keep in mind that this is only one district and that further research needs to be conducted across a number of locations, our descriptive results suggest that students transferring out of charter schools do have slightly lower achievement levels than their former peers. However, the same holds true for TPSs. When examining these aggregate patterns with a formal regression model, including a number of sensitivity analyses, we find little evidence that low-performing students are more likely to transfer out of charter schools than above-average students or TPSs. In looking at different groups of charter schools (i.e., charter schools near AYP proficiency thresholds, low- and high-performing schools, primary and secondary schools), we generally find no evidence consistent with the claim of pushing out low-performing students. The only groups that could raise some concern are low-achieving charter schools and charter high schools, but the patterns of students transferring out of these schools are similar to patterns in TPSs, which suggests there may be a more general problem with low-achieving schools and high schools than a problem with charter schools exclusively.

Finally, in examining individual schools, we found only 15 out of more than 300 schools district-wide in which below-average students were more likely to transfer out than above average students at rates of 10 percent or more. Of these, only one is a charter school, and that school focuses on students at-risk of dropping out. The other 14 schools were TPSs and many of these schools are alternative discipline schools. Together, our analysis suggests that there is no

evidence consistent with the claim that charter schools are in general or at the individual level pushing out low-performing students. While there needs to be more research in other districts or states, our results weaken the “push-out” argument against the establishment of charter schools in general.

Appendix

Table A-1

Grades Tested By Year for State Accountability and District Administered Test

Year	State Accountability Test		District-Administered Test			
			Stanford 9		Terra Nova	
	Math	Reading	Math	Reading	Math	Reading
2000-01	5, 8, 11	5, 8, 11	3, 4, 7, 10	3, 4, 7, 10	No grades	No grades
2001-02	5, 8, 11	5, 8, 11	3, 4, 7, 10	3, 4, 7, 10	No grades	No grades
2002-03	5, 8, 11	5, 8, 11	No grades	No grades	1-10	2-10
2003-04	5, 8, 11	5, 8, 11	No grades	No grades	1-10	2-10
2004-05	3, 5, 8, 11	3, 5, 8, 11	No grades	No grades	1-10	2-10
2005-06	3-8, 11	3-8, 11	No grades	No grades	1, 2, 9, 10	2, 9, 10
2006-07	3-8, 11	3-8, 11	No grades	No grades	No grades	No grades

In grades in which a student takes both the state accountability and district administered test, we use the state accountability test as measure of student performance.

In the spring of 2002, the Stanford 9 4th grade test was only administered to K-4 schools and not to K-5 or K-8 schools (email correspondence with the School District’s Director of Accountability, February 16, 2008).

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