Working Paper

WHAT'S IN YOUR PORTFOLIO?:

How Parents Rank Traditional Public, Private, and Charter Schools in Post-Katrina New Orleans' Citywide System of School Choice

EDUCATION RESEARCH ALLIANCE FOR NEW ORLEANS

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January 3, 2016

EducationResearchAllianceNOLA.com

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Draft: January 3, 2016

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This study was conducted at the Education Research Alliance (ERA) for New Orleans at Tulane University with support from the Laura and John Arnold Foundation and William T. Grant Foundation. We thank Paula Arce-Trigatti, Nathan Barrett, Matt Larsen, and Jon Valant for data analysis, and Doug Harris, Betheny Gross, and other ERA New Orleans colleagues for helpful feedback on prior drafts. Institutional support was provided by Tulane University's Murphy Center and School of Liberal Arts, Michigan State University, and Northern Alabama University. All errors are our own. Comments are welcome. Please do not cite or distribute without explicit permission of the corresponding author.

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Abstract

We examine the characteristics of schools preferred by parents in New Orleans, Louisiana, where a "portfolio" of choices is available to the typical student. This tests the theory that school choice induces healthy competition between public and private schools through the threat of student exit. Using unique data from parent applications to as many as eight different schools (including traditional public, charter, and private schools), we find that many parents rank public schools alongside or above private schools on a unified application. Based on analysis of McFadden choice models, these parents show a preference for private over public schools, and accept lower school performance scores for private schools than otherwise equivalent public options. Public schools are more likely to be listed on applications and to be ranked higher as performance scores increase. These parents reveal a stronger preference for academic outcomes than other parents and place less value on other school characteristics such as sports, arts, or extended hours. School districts hoping to retain students who have the option to exit through a voucher program might be more successful if they focus on academic outcomes rather than ancillary programs or extracurricular activities.

I. Introduction

Among the many systemic reforms that policymakers have implemented in American school districts over the past two decades, perhaps the most fundamental have been those designed to provide families with a choice of publicly supported schools beyond the traditional, neighborhood-based option. In large urban districts across the country, many of these reforms have been based on the "portfolio" model of district management, where a number of different entities—traditional public, charter, magnet, or even private schools receiving publicly funded tuition—are administered by a centrally coordinated authority (Bulkley, Henig, and Levin 2010). Districts and charter schools officially collaborate in 18 large urban centers that include major cities such as Baltimore, Boston, Chicago, Denver, Los Angeles, Minneapolis, Philadelphia, and New Orleans (Center for Reinventing Public Education 2014). In these and other districts nationwide, many superintendents are partnering with elected and appointed city officials, school board members, and private organizations to explicitly implement portfolio models (Center for Reinventing Public Education 2014). In principle, these strategies allow parents, particularly those in low-income households, to choose schools that best fit their children's needs, while at the same time promoting innovation within and autonomy for individual schools. Accountability is introduced via a combination of centralized regulation at the district level and market forces generated by competition between providers for student enrollment. In theory, these market forces will pressure public schools to improve in order to compete with charter and private schools (Friedman 1995).

For individual schools in these districts, student retention is critical. Losing students to private, charter, or suburban schools can force difficult decisions on urban school boards, often resulting in closed schools. Chicago, Detroit, Philadelphia, Kansas City, Milwaukee, Pittsburgh, and

Washington, DC, have each closed at least 20 public schools over the past decade.[1] According to the National Center for Education Statistics (2013), almost 1,500 public schools across the country were shuttered in 2010-11 alone. As students and families become ever more able to exercise choice over their educational opportunities, existing public schools face stiff competition for students. The purpose of this paper is to identify the implicit value parents place on different types of schools within a portfolio model, and the specific characteristics of public schools that families appear to value when they consider exiting the public school system through a voucher program. To do this, we examine a unique school choice system where there are no default neighborhood schools, and parents simultaneously rank their preferences for traditional public, charter, and voucher schools in a citywide lottery that assigns both public school seats and private school vouchers. This enables us to address the relatively unexplored question of how public schools compete with private schools in a voucher system. More specifically, we estimate whether parents prefer private schools for qualities that public schools cannot duplicate (such as a religious emphasis) or domains across which public schools could compete (such as academics or location).

This extends a growing body of school choice literature on student selection into charter schools and voucher programs. Our unique focus is to identify the specific characteristics of public and charter schools that more successfully compete with private schools in a fully implemented portfolio model and to evaluate these characteristics as evidence whether or not the theory of public school improvement through competition is plausible. We do this by considering the unified applications of individual families to as many as eight public, charter, and private schools in New Orleans, where, in the aftermath of Hurricane Katrina, the state education agency eliminated the city's neighborhood-based school system and created a portfolio system of charter schools, a small

[1] As discussed by Dowdall (2011), Saulny (2010), Ahmed-Ullah, Chase, and Secter (2013), Brown (2013), Hurdle (2013), and Chute (2014).

number of highly performing traditional public schools, and, eventually, a publicly funded private school voucher system.

We examine two central research questions regarding the preferences of low-income parents for public and private schools in New Orleans. First, we examine the relative value parents place on private versus public schools by estimating the effects of a school's sector (public or private) on application choices and rankings, controlling for other school characteristics such as standardized test performance, size, and student demographics. We also disaggregate more types of schools to compare parent preferences for charter schools, traditional public schools, and private schools with different religious emphases. Second, we examine the qualities of public schools that are attractive to potential voucher families. We estimate the effects of a rich set of school characteristics on the probability that a public school will be ranked alongside, or even higher than, a private school on a student's application.

We find that many parents who apply for private school enrollment through vouchers are also willing to enroll at public schools with strong academic indicators. Approximately half of new voucher applicants ranked at least one public school on their applications, and 12 percent ranked a public school as their first choice over all private schools. We find that parents value private schools and high-performing traditional public schools over the city's typical charter school. Religiously affiliated private schools have higher probabilities of being preferred within the set of all private schools, although all private schools are more highly valued than charter schools. In addition, parents are willing to accept lower school performance scores for private schools than they are for otherwise equivalent public options, and some are willing to travel further to attend a private school. Public schools that compete for the same set of students as private schools are more likely to be listed on applications as their school report card scores increase. In general, extracurricular and

other offerings by those public schools do not increase their likelihood of being ranked on an application. On the other hand, we also find that parents who are likely to exit public schools for voucher programs often rank some public schools as highly as private schools, sometimes even higher, which suggests that some public schools are successfully competing with private schools. Some parents also prefer only religious private schools and rank public schools above secular private schools. Overall, these parents reveal a stronger preference for academic outcomes than other parents, and they place less value on other characteristics such as sports, arts, or school facilities. Given these results, school districts hoping to retain students who have the option to exit through a voucher program might have more success if they focus on academic outcomes rather than ancillary programs or diverse extracurricular activities.

II. Background: Choice, Selection, and Competition

Historically, most school choice literature has focused on the impact that outside schooling options have on student academic performance (usually measured by state standardized exams). Green, Peterson, and Du (1999) and Rouse (1998) were among the first to show the effectiveness of vouchers, as measured by improvements in students' academic outcomes, in the Milwaukee school district. The first federally funded voucher program in Washington, DC, generated student achievement gains by students' third year in the program (Wolf, et al. 2013), while Angrist, Bettinger, and Kane (2006) show long-term positive effects on the wages of school voucher recipients using data from Colombia. The charter school picture is more mixed, depending on the state and charter authorizers in question (e.g. CREDO 2014; Clark, et al. 2015). However, a number of studies have indicated positive impacts. For example, Abdulkadiroglu, et al. (2011) show the positive effect of charter schools in the Boston and New York City school districts, respectively, while Dobbie and Fryer (2011) present evidence that high-quality charter schools have a large impact on poorer

students. In a meta-analysis, Betts and Tang (2014) demonstrate that charter schools, on average, outperform traditional public schools in student scores on reading and math standardized exams, and that urban charters are generally more effective than their rural or suburban counterparts. Imberman (2011) provides evidence that charter schools may improve student attendance and behavior even if the effects on achievement are more muted. In other school choice work, Cullen, Jacob, and Levitt (2006) demonstrate the value of open enrollment programs in Chicago Public Schools, while Engberg, et al. (2014) show that magnet programs can improve student achievement and behavior. Recently, a number of studies have moved beyond test score outcomes to focus on gains in student attainment, such as high school graduation and college enrollment. Wolf, et al. (2013), Cowen, et al. 2013; Chingos and Peterson (2015), and Booker, et al. (2011) all show consistent evidence of positive voucher or charter impacts on attainment even when test score effects are modest or nonexistent.

The most prominent theoretical motivation for establishing a school choice system is based on the idea of market-induced competition among providers. Supporters of school choice stress the idea that increased school competition for students is a tide that can "lift all boats" by spurring achievement across sectors (e.g. Hoxby 2003). Epple and Romano (1998) and Ferreyra (2007) discuss the general equilibrium effects on student quality and extent of schooling options from increased competition between public and private voucher schools, and there is recent empirical evidence that in choice-rich environments such achievement improvements may be realized (Figlio and Hart 2014). These market-based models of choice implicitly assume school quality is the dominant criterion on which parents choose, but other perspectives differ. A psychological perspective may stress that parents seek school brands (e.g. based on the notion of, say, a "Catholic" education; see Trivitt and Wolf 2011) as shortcuts to make more comprehensive schooling decisions that may or may not include academic quality. Demographic and sociological perspectives stress the

role of racial composition, socioeconomic conditions, or explicitly a religious identity or affiliation among school attributes (e.g. Lankford and Wyckoff 1992; Glazerman 1998; Schneider, et al. 1998a; Cohen-Zada 2006; Trivitt and Wolf 2011; Fleming, et al. 2015). More generally, Hastings, Kane, and Staiger (2009) present evidence that parents have heterogeneous preferences for school characteristics, and that not every family values academic ratings of schools as highly as school choice supporters often suggest. Harris and Larsen (2015) provide evidence that lower-income families weigh academic performance of schools less than higher-income families in New Orleans. For that reason, some schools may offer other perks in order to attract potential students (such as athletics, extracurriculars, and after-school day care). McMillan (2004) shows that public schools may even choose to decrease their academic productivity in the face of increased competition from other schooling options.

Although many of these studies acknowledge varying explanations for student selection – including selection based on preferences for schooling alternatives – selection is typically an analytical obstacle to the goal of identifying choice effects on student outcomes. There is a large literature on differences between private and public school choosers overall (e.g. Butler, et al. 2013; Betts and Fairlie 2001; Figlio and Stone 2001; Lankford and Wyckoff 2001; Buddin, et al. 1998; Long and Toma 1988), which generally finds private schools "cream-skim" students from more advantaged backgrounds. Only a handful of studies, however, have examined the characteristics of students selecting private schools via means-tested voucher programs. The latter studies have generally confirmed that, consistent with their policy purpose, such programs disproportionately draw students from historically disadvantaged populations according to race and income (Howell 2004; Campbell, et al. 2005; Cowen 2010; Figlio, Hart, and Metzger 2010). Of these studies, however, only Figlio, Hart, and Metzger (2010) considered the different school characteristics that may form the basis of parental preferences, finding generally that parents selected schools with

fewer minority students. No study of which we are aware, directly tests preferences for private, traditional public, or public charter schools.

Increasingly, policymakers and analysts alike are view understanding such preferences to be important in its own right. In the present context, we are able to investigate a full school-choice system within a portfolio model from the perspective of how parents choose to exit or remain in the public school system. The basic argument for why school choice will improve student outcomes has two components: first, the new schools themselves offer better curricula, pedagogy, or have other characteristics that result in greater academic achievement than their public school counterparts; second, the remaining public schools react to this competition by adopting many of the best practices of successful charter and private voucher schools, while creating niches in order to meet their students' needs. The previous set of papers addressed the first component, but the second has been less well studied. Identifying characteristics of public schools that could retain potential exiters has important implications for the success of public schools in a choice system.

III. The Case of New Orleans

Our empirical objectives are to identify how parents value private vs. public schools and the characteristics of public schools that are preferred by parents who indicate a willingness to exit the public school system for a voucher school. The implementation of Louisiana's state-funded voucher program in New Orleans provides a unique opportunity to make a direct comparison between parents' preferences for public and private schools. New Orleans provides the only US school choice system where parents provide a simultaneous ranking of preferences for public and voucher schools. In New Orleans, we are able to observe the ranked preferences for public and private schools of the parents most likely to exit the public school system through vouchers – a population that is vital to the theory of public school improvement through voucher competition.

We use these rankings to measure parents' preferences for characteristics of public and private schools.

Prior to 2005, New Orleans public schools operated as a then typical urban school district, with centralized control of neighborhood schools by the locally elected school board. Limited school choice was available through magnet programs, a few charter schools, and district-approved transfers. At this time, the district was severely underperforming, ranked 67 out of 68 districts in student performance on state standardized tests, in a state ranked 48 out of 50 on NAEP. In September 2005, Hurricane Katrina caused the evacuation of the city, leading to the shutdown of all public schools, many of which were severely damaged by flooding.

During the period of post-Katrina closure, state and local leaders took action to completely reform the district, including many steps that were uniquely suited to a context of a temporary school shutdown and long-term reduction in the school-aged population of the city. All teachers and school staff were laid off, and the teachers' collective bargaining agreement was allowed to expire without renegotiation. The state's Recovery School District (RSD) was given authority over all underperforming schools in the city, leaving the elected Orleans Parish School Board (OPSB) to run only a small number of high-performing campuses and charter schools. As students returned, efforts at system-wide reform continued. The severe damage to entire neighborhoods altered historic residential patterns and returns were uneven across the city; so RSD and OPSB eliminated most school attendance zones to allow schools to immediately enroll returning students. This created a city of system-wide choice, with enrollment managed at the school level. Between 2006 and 2013, under the oversight of an expanded RSD and diminished OPSB, schools were either permanently closed or reopened in new or renovated buildings. By 2013, RSD had contracted all of

the campuses under its control (over 90% of public schools in the city) to non-profit managers, creating the nation's first predominantly charter school district.

School choice in New Orleans was further enhanced in 2008, when the state of Louisiana selected the city to pilot the new statewide voucher program, known as the Louisiana Scholarship Program (LSP). In 2008, LSP provided 640 vouchers for New Orleans students to attend local private schools. The program later expanded state wide, and currently 7,000 students, including 2,850 from Orleans Parish, receive vouchers each year. While many US cities have voucher programs either at the state or local level, only New Orleans situates the voucher program in the context of citywide school choice, widespread school autonomy, and a market dominated by nonprofit charter schools.

Open enrollment, including lotteries for oversubscribed schools, in a choice system this large proved to be both inefficient and inequitable, so RSD implemented a centralized school lottery and enrollment process, known as OneApp, beginning in the 2012-13 school year. This study uses data from the lottery for enrollment in the 2013-14 school year. During this year the OneApp included all RSD schools and OPSB open-enrollment schools, as well as all voucher schools. Importantly for our purposes, the OneApp is used to simultaneously rank parent preferences for and sort students into traditional public schools, publicly funded charter schools, and private voucher schools.[2]

There are at least 46 tuition-based, privately operated schools currently operating in the city of New Orleans, and dozens more in neighboring Jefferson Parish are within commuting distance.[3] To participate in the voucher program, schools must agree to accept the voucher (approximately $5,300 on average in 2013-2014) as full payment and may not charge voucher parents additional

[2]Throughout this paper, we refer to traditional public schools and publicly funded charter schools collectively as "public schools." We refer to tuition-funded schools in general as "private schools," and to those that participate in the LSP as "voucher schools."

[3]Author calculations from the 2012 Private Schools Universe Survey, NCES.

tuition or fees. Voucher schools must also accept all voucher applicants without additional admissions requirements. Finally, all voucher students must be tested annually on the same state standardized tests given to public school students, and results are made public and used to determine a school's continued eligibility for the program. These program characteristics lead to relatively low private school participation in LSP (Kisida, Wolf, and Rhinesmith 2015). There are 41 private schools in New Orleans and neighboring Jefferson Parish that participate in the Louisiana state school voucher program.

The LSP is open to Louisiana public school students with family income below 250% of the federal poverty line. The number of applicants exceeds the total number of funded vouchers, so a centralized lottery determines which students may exit public schools to enroll in voucher schools. Any entering kindergartener meeting the income requirement may apply for a voucher to attend a participating private school. Students entering grades 1-12 must be either current voucher recipients or currently attending a school that receives a grade of C or below on the state's school report card.[4]

Voucher applications statewide are coordinated by RSD. The application includes a numeric ranking of preferred schools.[5] Students enter a lottery for each school they rank, and are placed in the highest ranked school where they win the lottery. This ensures that the lottery is strategy-proof, and parents have no incentive to distort their choice set or ordering of preferences. Students and parents should list their schools in preference order to have the best chance of gaining entrance to their preferred options. In the mechanism design literature, this is called *random serial dictatorship* (e.g. Abdulkadiroglu and Sonmez 1998).

[4] In the assignment process, students exiting D or F schools receive a higher priority for winning a voucher than students exiting a C school.

[5] Efforts are made to predetermine eligibility before voucher applications are submitted, although formal documentation of income eligibility is not collected until enrollment. In rare cases, parents cannot provide the required documentation and must withdraw after applying.

Outside New Orleans, and in most voucher districts nationwide, parents use OneApp equivalents only to rank their preferred private schools in the voucher program. If students do not win a slot in any of their ranked voucher schools, they can attend neighborhood public schools, and nothing is observed regarding parent preferences for other public schools. In New Orleans, the OneApp is used to place students in both public and voucher schools. Thus, New Orleans' voucher applications are integrated into the citywide system of public school choice. With the exception of a handful of selective admissions charter schools,[6] all New Orleans public schools participate in the OneApp. Importantly, New Orleans parents rank their preferences for public and voucher schools in a single application. Many New Orleans parents will complete the OneApp and apply only to public schools, but, as long they meet LSP eligibility, they can, for example, list a private school as the first choice, a charter school as the second choice, a district-run school as the third choice, a second private school as the fourth choice, etc. – for up to eight choices. This offers the unique opportunity to examine both the relative value of private schooling to parents and the characteristics of other public schools options that are ranked with, or above, private schools.

IV. Data and Summary Statistics

Our dataset, provided by the Louisiana Recovery School District, includes all students who applied for 2013-2014 enrollment at a New Orleans public (charter or traditional) or voucher school through the 2013 OneApp process. This dataset includes complete applications for approximately 37,000 students who were entering grades kindergarten through 12.[7] We focus on students who are

[6]The small subset of schools that do not participate in the OneApp include selective admissions charter schools, language immersion schools that require a fluency exam, and a specialized performing arts school. The Louisiana Recovery School Distrits does not charter selective admissions schools, and no OPSB direct-run schools are selective. All selective admissions schools in New Orleans are charter schools under the authority of either the local school board (OPSB) or the state BESE.

[7] To ensure that all current students are reassigned for the next school year, the OneApp process automatically creates an application for all currently enrollees that ranks only the current school. These students receive a guaranteed slot at their current school. Parents considering exiting their current school would complete OneApp and rank at least one other school.

meaningfully using the OneApp to choose a school and exclude current students who listed their current school as their only choice. We include all students who were entering kindergarten in 2013, and, for students entering grades 1-12, those who are using the OneApp to attempt to exit their current school. Approximately 28,000 applications appear to be for students wishing to return to their current public or voucher school. The remaining 8,449 applications (23 percent) express meaningful intent to enter a new school by ranking at least one school higher than the current school attended. Although we cannot observe voucher eligibility at the student level, there is reason to believe that the large majority of students completing the OneApp were eligible for the voucher program. This is because the overall free and reduced lunch (FRL) rate, which is a less generous cutoff than voucher eligibility, was over 80 percent in New Orleans in 2013, and 49 of 67 public schools (73 percent) in the OneApp received school report card grades of C or below.

We next break down this group of 8,449 meaningful school choosers by their choice strategies. Despite widespread eligibility for the voucher program, 78 percent of these students applied only for public schools. We refer to this approach throughout as the *public strategy*. An additional 11 percent applied for only private schools.[8] We refer to this as the *private strategy*. We focus our analysis in this study on the remaining 892 students (11 percent) who used the OneApp to rank both public and private schools. We refer to this as the *mixed strategy*. While this subsample represents only 2.5 percent of all OneApp participants, it includes 10.5 percent of meaningful choosers, and 48.7 percent of new applicants to the voucher program. More importantly, to our knowledge, this small group reflects the only available simultaneous ranking of voucher and public schools by parents in a US school district. This group represents parents who are at the margin of exiting public schools for a voucher but also willing to remain in the public system, as evidenced by

[8]Due to the limited availability of vouchers, this was a risky strategy. Parents were encouraged by RSD to apply for at least one public school.

ranking both public and voucher schools. Through their exercise of choice, these parents and students are the ones who are theoretically responsible for ensuring that charter and voucher programs achieve improved general equilibrium effects through the competition that school choice proponents advocate. Of this group, 70 percent are identified as attempting to exit a school with a grade of D or F. It is important to reiterate that, while small relative to the number of students overall, these students are approximately equal to the number of students who apply to voucher schools only – a group that has received significant attention in media, in policy discussions, and in academic literature. This suggests that in a fully developed portfolio system, a non-trivial number of families actively consider both school sectors.

Table 1 describes OneApp participants by grade level and strategy for all students and the subgroup that was either entering kindergarten or attempting to exit a public school. Overall, 10.5 percent of OneApps include at least one voucher school. The rate of voucher application is much higher among meaningful choosers. In all grades, 21 percent of applicants include at least one voucher school. Twenty-eight percent of students entering grades 1-8 and 21 percent of student entering kindergarten rank at least one voucher school. The voucher application rate is much lower in high school, with only 6 percent of meaningful choosers ranking a voucher school. Similarly, the mixed strategy is most popular in grades 1-8 and least popular in high school. For those using the mixed strategy, we observe a fairly even balance of public and private schools. The average mixed-strategy application ranks 6.1 choices (out of the possible 8) with 3.2 private schools and 2.8 public schools. Public schools are not necessarily the choice of last resort for these parents. Approximately 31 percent of mixed-strategy applications rank at least one public school above at least one voucher school, and 12.6 percent list a public school as their first choice above all voucher schools.

There are some shortcomings of this data that should be considered. First, the voucher schools represent a subset of New Orleans private schools. Students hoping to exit to non-participating private schools are not observed in the data.[9] Second, a small number of selective admissions charter schools do not participate in the OneApp and manage their own admissions processes. If parents are attempting to exit by applying to these schools, it is also not observed in our data. However, there is reason to believe that these omissions are relatively minor in the context of this study. Non-voucher private schools are typically quite expensive, making them inaccessible to most public school families, the majority of whom are eligible for FRL. Selective admissions charter schools are free but admit most of their students at entry grades (either kindergarten or ninth grade) with few open slots in subsequent grades. While the omission of these schools is important at transitions, it will have little impact on our results for other grades. We restrict much of our analysis to grades 1-8 to avoid these transition years. Thus, our results are generalizable to students from low-income families who cannot access selective admissions public schools or expensive private schools but not for other types of students.

We use the OneApp data to identify ranked school preferences for students in the analytic sample. Based on each student's grade level for the next school year, we are able to construct a full choice set of schools that each student could have ranked – i.e. each public and voucher school that offers the student's upcoming grade level.[10] The OneApp also identifies students who are eligible for the voucher program because they attended a school with a rating of C, D, or F. All students

[9] The national Private Schools Universe Survey reports that in 2012, approximately 15,000 students attended 46 private schools in Orleans Parish. This includes over two dozen private schools that do not participate in the voucher program. The voucher rate is set quite low, and non-participating schools tend to charge higher tuition that participating schools.
[10] In addition to grade-level restrictions, the choice sets are limited by two single-sex voucher schools (one for boys and one for girls) that participate in the voucher program.

who applied for a voucher are assumed to be income-eligible for the program.[11] The OneApp does not include any demographic characteristics for students; however, it does include students' home address. With this information, we calculated the distance from each student's home to each public and voucher school in the choice set.

To investigate the characteristics of schools based on parent rankings, we include additional school-level data from multiple sources. For both public and private schools, we gathered publicly available measures of school quality from School Report Cards published annually by LDOE.[12] Our measure of school performance is the School Performance Score (SPS) for public schools and the School Cohort Index (SCI) for voucher schools. The SPS is the basis for public school accountability in Louisiana and is based on state standardized testing of all students in grades 3-8, and end-of-course high school exams. The SCI is used to determine whether private schools are eligible to continue to enroll new voucher recipients. The SCI and SPS are based on the same state standardized tests, but private schools are only required to administer the tests to voucher recipients; the performance of tuition-paying students is not tested. Among tested students, the two scores are comparable measures of test proficiency rates. Measured on a scale of 0-150, schools achieving 100 points or above receive an A grade, which is roughly equivalent to having 100 percent of students reach basic proficiency, with extra points available for students who achieve higher proficiency levels. Importantly, these scores are reported on the OneApp application for public schools but not private schools.[13]

Additionally, schools might not have a publicly reported score for several reasons. For public schools, scores are not reported when campuses are new or in transition (for example, if a

[11]Families are screened for eligibility at the time of application. Verification is not required until registration for students who win a voucher, but based on conversations with RSD staff, it is extremely rare for a family to fail to verify eligibility after the initial screening.
[12]Publicly available at www.louisianabelieves.com/data/reportcards.
[13]The SCI is reported in a separate annual report on the voucher program published by LDOE.

charter school has been transferred to a new operator). This is fairly common in New Orleans' largely charter school system, and in our 2012 data, eight charter schools have a reported grade of "T" (for transition). For private schools, publication of scores depends on the number of tested children. If fewer than 10 children are tested on a campus, scores are suppressed for student privacy reasons, so private schools with no published score are typically those that enroll only a small number of students in tested grades.

For private schools, additional school characteristics were merged from the NCES Private Schools Universe Survey (PSS) from 2012. The PSS is a biannual survey of all private schools in large cities in the US (including New Orleans) and a sample of smaller school districts (including neighboring Jefferson Parish). The 2012 PSS included data on all but two schools that participated in the voucher program in 2013-14. PSS variables include school enrollment, student demographics, and the religious emphasis and affiliation of the school. We coded three types of voucher schools in New Orleans: Catholic schools (n=23), other religious schools (n=13), and secular schools (n=3).[14]

For public schools, demographics were calculated from 2012-13 student-level enrollment files provided by LDOE. We include a school's calculated total enrollment, percent white, percent FRL, percent special education (SPED), and the number of disciplinary suspensions per student. Discipline strategies vary widely in New Orleans, ranging from positive behavioral supports to strict "no excuses" approaches, and the number of suspensions is a proxy for the level of strictness. Characteristics of public school programs were coded from the *New Orleans Parents' Guide*, a catalogue of public schools published annually by a local non-profit organization to facilitate informed parent choice.[15] The *Parents' Guide* provides a summary of school characteristics for each New Orleans charter and traditional public school. Schools complete an annual survey covering

[14] The *other religious* category includes several Protestant Christian denominations and one Jewish day school. The *secular* category includes a language immersion school, an early childhood center, and a college prep academy.
[15]Publicly available at www.neworleansparentsguide.org.

topics such as instructional focus, extracurricular activities, transportation, discipline policies, and school hours, and this information is validated and summarized by *Parents' Guide* staff. The guide is provided to parents online, and hard copies are freely distributed at school choice fairs and OneApp enrollment centers. We coded *Parents' Guide* reports of school characteristics across topics such as grade span, extracurricular activities and sports, foreign language instruction, school hours, and afterschool care. Because New Orleans has a highly decentralized school system, we see significant variation in these school characteristics across campuses (Arce-Trigatti, Harris, Jabbar, and Lincove 2015).

Finally, we include three public school characteristics that are important in the context of New Orleans. In this context, the distinction between traditional public and charter schools is quite important, because the former escaped state takeover by being sufficiently high performing prior to Hurricane Katrina. Many of our empirical models distinguish public schools run by OSPB, which describes both the school's governance structure and a history of high performance prior to the hurricane. Second, during post-Katrina reforms, school managers had the option to rename schools or retain their pre-Katrina names. Historically, New Orleans natives place a lot of importance on school names, and it is typical for adults to describe themselves in reference to the public schools they attended. We coded a dichotomous variable for whether a school retained its *legacy name*, which would indicate an effort to connect with the reputation and history of the pre-Katrina version of the school. Third, following Hurricane Katrina, the state and federal government also provided funds for facilities, which have been allocated to build new schools and renovate historic sites. The quality of school facilities varies significantly between old and new or renovated buildings. To capture the attractiveness of new facilities to parents, we also include an indicator for whether the school occupies a new or recently renovated building.

Our analytic data set includes all entering kindergarten students who completed the OneApp, and all students entering grades 1-12 who revealed a willingness to exit their current school by ranking two or more schools. Table 2 displays summary statistics for the 67 public schools that were ranked by these students.[16] Statistics are summarized for all schools by grade level and by how schools were ranked in the mixed strategy. New Orleans schools do not follow the typical grade-level patterns for elementary, middle, and high schools, so a school may be included at multiple levels if it covers a long or atypical grade span. Ignoring school capacity constraints, students have a large number of schools to choose from when selecting their top eight choices to rank on the OneApp. There are 46 public schools offering kindergarten, 57 offering grades 1-8, and 22 offering grades 9-12, in addition to 41 voucher schools also available through the OneApp.

The average demographics in OneApp schools are typical for a majority-black, high-poverty urban school districts. All public schools in the OneApp enroll a majority of black students, with average white enrollment at less than 2 percent. On average, public school enrollment is 95 percent black, 91 percent FRL, 10 percent SPED, and 2 percent gifted students. The average SPS of 74.7 represents a low C on the state's grading scale. Over 80 percent of public schools offer extended school hours (either longer school day or longer school year). Over 70 percent have a *legacy name*, and 19 percent have new facilities. School programs vary across grade levels. High schools provide more sports and foreign language programs, but fewer arts activities, than elementary schools. Elementary schools also typically provide a wider grade span (typically K-8) than high schools. Most OneApp schools are charter schools, with only 7 percent of elementary schools and 9 percent of high schools operating as traditional public schools.

[16] New schools opening in 2013-2014 have missing student demographics and school performance data for the prior year.

Table 2 also displays summary statistics for public schools that were ranked by students using the mixed strategy, as well as just those schools that were ranked above private schools in mixed strategies. The latter group reflects public schools that parents who use the mixed strategy prefer to all voucher schools. Sixty-four of the 67 OneApp schools appear at least once in a mixed strategy, and mean values for that subset are similar to the averages for all schools. A school counts as *ranked* if at least one student included it in a mixed strategy, and the means displayed are not weighted by a school's overall popularity. Fifty public schools were ranked above a student's top-ranked private school. These schools are larger than average (both in enrollment and grade span)[17], have a slightly higher average SPS score, are more likely to offer optional aftercare, and are more likely to have new facilities.

Summary statistics provide limited insight into what characteristics of schools parents prefer because parents are choosing simultaneously across many school qualities, and the information provided by relative rankings and frequency of ranking is ignored. To illustrate how schools vary simultaneously across multiple variables, Table 3 displays demographics and school performance statistics for the 25 most popular public schools in the OneApp. We measure overall popularity and popularity among students using the mixed strategy as the total number of times a school is ranked on all applications. These measures reveal that parents using the mixed strategy have different aggregate ordered preferences than other parents. The school ranked by the most students overall is a traditional public secondary school (grades 7-12) with a B rating, lower-than-average black enrollment (85 percent), and a relatively high gifted rate (13 percent). The school ranked the most by students in a mixed strategy was a traditional public elementary school (grades PK-8) with a B rating, higher black enrollment (94 percent), and a high gifted rate (13 percent). There is only one D

[17] As a caveat, compared to other large cities, New Orleans schools smaller and variation in school size is more compressed. There are no schools in our analysis with more than 1,000 students, so the largest schools might be considered small in comparison to other urban districts.

school and no F schools among the top 25, but some highly ranked schools do not have testing data available. Importantly, the overall ranking of schools by OneApp popularity is different from the rankings of schools by parents using the mixed strategy. The top-ranked elementary school overall is also the top-ranked school in the mixed strategy, but several elementary schools appear to be more popular (relative to other public schools) with mixed strategy parents than with public strategy parents and vice versa.

To illustrate the choice set of voucher schools, Table 4 displays comparative statistics for the 25 most popular private schools in the OneApp, based on frequency of their being ranked on all new voucher applications. We include measures of popularity for all OneApps submitted and for the subset of mixed-strategy OneApps. Again, rankings are slightly different in the mixed strategy, which suggests that these families might have distinct preferences. All of the top 25 voucher schools have a Christian religious affiliation. While most voucher schools are more than 90 percent black, four majority-white schools are included in the top 25. The low SCI scores of the top 25 schools are indicative of overall low standardized test performance among voucher schools statewide (see LDOE 2013). The voucher school in New Orleans with the highest SCI score, which was equivalent to a B- grade, was ranked 24th out of the 25 most popular voucher schools in the OneApp. No voucher school achieved an A. Despite poor test performance, the top 25 voucher schools have relatively high voucher student retention rates, indicating that voucher parents may be seeking other school qualities above test performance.

V. Models

We now turn to a *ceteris paribus* analysis of the particular characteristics of individual voucher and public schools that make them more attractive to families than the private schools available to

them under the LSP. The unique feature of the OneApp application, as described above, is that it allows direct observation of a choice set of all schools (up to eight private, public, or charter schools, or a combination of all three types) as constructed by the families themselves.

We estimate variants of the general model:

$$\boldsymbol{Pr}\,(\boldsymbol{Y_i = j}) = \frac{\boldsymbol{e^{Z_{ij}\beta}}}{\boldsymbol{\sum_j e^{Z_{ij}\beta}}}$$

where

(1A) $$\boldsymbol{Z_{ij}\beta = \beta_1 private_j + \beta_2 A_j + \beta_3 distance_{ij} + \beta_4 X_j + \delta_i + \varepsilon_{ij}}$$

in which *private* is an indicator of a school's sector and $\boldsymbol{\beta_1}$ is our estimate of the change in probability that a parent lists *j* on the OneApp if the school is private. *A* represents the SPS or SCI scores described above; *distance* is the linear distance between each school *j* and the address listed on the OneApp for student *i* (we also include a squared term for this distance) and the additional vector *X* of available school demographic characteristics, such as percent white and total enrollment for school *j*. We also consider a specification of (1A) in which we allow the relationship between school-level achievement and distance to vary with the probability that parents prioritize certain schools by interacting *private* with *A* and *distance*, respectively. $\boldsymbol{\delta_i}$ is a vector of student fixed effects. Thus we estimate on the effect of differences across schools available within a student's full choice set. $\boldsymbol{\varepsilon_{ij}}$ is the random disturbance term. In all versions of (1), we assume $\boldsymbol{\varepsilon}$ is independently and identically distributed with the extreme value distribution.

Next, to consider whether particular types of private schools are more appealing than others, we also estimate

(1B) $$\boldsymbol{Z_{ij}\beta = \beta_1 type_j + \beta_2 A_j + \beta_3 distance_{ij} + \beta_4 X_j + \delta_i + \varepsilon_{ij}}$$

in which we replace *private* with a vector of indicators for *type* denoting traditional public, public charter, Catholic, other religiously affiliated private schools, or secular private schools.

To estimate (1), we constructed a data set that includes one student-school observation for each school that was available to a student in the OneApp (i.e. the school offered the student's upcoming grade level to students of the same gender). In our primary specification, $(\boldsymbol{Y_i = 1})$ if the student ranked the school *j* anywhere in his (up to) eight OneApp choices. By estimating each variant of (1) within each strata identified by the unique identification number assigned to each student's OneApp, we are employing a conditional logit framework suggested by McFadden (1973) and common in a number of economic applications, most notably for our purposes in models of college choice (e.g. Bettinger and Long 2004; Long 2004). In the K-12 school choice literature, variations of (1) are also found in Harris and Larsen (2015) and Carlson, Cowen, and Fleming (2013). Note that this framework assumes independence of irrelevant alternatives (IIA), which if appropriate implies that the estimates in (1) are consistent even if the decision to opt out of a school graded below a C (i.e. fill out a OneApp, in this case) is endogenous (Long 2004). Because we are essentially estimating (1) across a set of student-school pairwise combinations in the data, but within the set of available options to each student, we are not able to include individual student or family characteristics other than *distance*, which varies within each student record according to the distance between each address and school *j*. More fundamentally, our data does not include family background characteristics other than address. In addition to these conditional logits, we also estimate (1) as a ranked order logit, where the probability $\boldsymbol{Pr(Y_i = j)}$ becomes the probability that school *j* is ranked above others on the OneApp. In all specifications, the coefficients $\boldsymbol{\beta}$ represent the change in probability that a school is selected (or ranked) associated with differences in its observable characteristics (*X*, *A*, *distance*, and *S*) relative to other schools available to the student.

Finally, to consider how different public schools may appeal to parents who, by our sample definition discussed above, are choosing between public and voucher schools overall, we restrict our data to public schools in a student's choice set and estimate:

(1C) $$\boldsymbol{Z_{ij}\beta = \beta_1 X_j + \beta_2 A_j + \beta_3 distance_{ij} + \beta_3 S_j + \delta_i + \varepsilon_{ij}}$$

in which the public-private distinctions are excluded, *X*, *A,* and *distance* are the same as in (1A-1B), but *S* is a vector of many additional school characteristics beyond demographics that are known to families choosing in the public (charter or traditional) sector through the *Parents' Guide*, including the presence of sports and arts programs, special services, after school care, extended school days, foreign language programs, and other characteristics included in Table 2. For 1C, we also estimate an additional specification in which we consider the probability that *j* is ranked above the student's top-ranked private school, indicating a public school that is strongly preferred by parents who are willing to exit the current school. In other words, although we must rely on 1A and 1B to consider the marginal value that private schools have to parents considering both sectors, 1C allows us to directly test the characteristics of public schools that place them into consideration with private schools in the first place. Finally, we estimate a similar specification for students using the public strategy (i.e. those who did not attempt to exit public schools through the voucher program) to determine if those who may exit public schools have different preferences from other public school families.

VI. Results

Models 1A-1B: Do Parents Prefer Private Schools?

Panel A of Table 5 presents results from our primary estimations of 1A and 1B – the probability that a school is ranked on a student's OneApp. Columns (2) and (3) provide the same results for a model predicting whether the school is ranked first and for the rank order logits of school preferences, respectively. Table 6 replicates these specifications using subsets of students who are entering kindergarten (i.e. entering school for the first time) and students who are entering grades 1-8 (i.e. those who are exiting a C, D, or F school), in Panels A and B, respectively.[18]

The results across the first three columns in each panel unambiguously indicate that among parents who are considering both public and private schools, private schools are preferred. This remains the case even though significant relationships between distance and school achievement are also apparent and taken into account. Specifically, parents appear to prefer schools nearer to their homes, but also prefer schools with higher SPS/SCI scores, all else being equal. The squared term on the distance coefficient indicates that at some point, the negative relationship between distance and school preference flattens out, perhaps because parents do not have an absolute preference for their very nearest schools The estimated relationship between percent white and being ranked is negative, while the relationship between total enrollment and being ranked is positive.

The results in the rightmost three columns in each panel add nuance to the results in Columns 1-3. Here we identify five types of schools: charter schools, OPSB direct-run traditional public schools, Catholic schools, other religious schools, and secular private schools, with charter schools as the omitted reference group. Here we see that the apparent preference for religious private schools remains. In kindergarten, all types of private schools are preferred for all three dependent variables. In grade 1-8, only Catholic and Protestant schools are preferred to charter schools. Traditional public schools – those that were held over due to higher performance pre-

[18] We cannot reliably estimate exiters from grades 9-12 as a subgroup due to the limited number of observations.

Katrina – are also preferred to the remaining charters, across all specifications and grade levels, controlling for distance, SPS, and school demographics. With the exception of secular private schools in high grades, parents who consider both public and private schools appear to prefer any option to the typical charter school in New Orleans.[19]

Next, we investigate whether parents weigh different factors equally for public and private schools by interacting the *private* indicator with distance and SPS/SCI. These results are provided in Table 7. The main effects in each column indicate again that private schools are preferred and that parents still prioritize shorter distances and higher school SPS in choosing or ranking their schools on the OneApp. For parents of kindergarteners only, the interaction of *distance* and *private* is significant and positive, indicating that these parents are willing to travel farther for private school, ceteris paribus. At higher grade levels, the response to distance is similar for public and private schools. The importance of state report cards grades is greatly diminished for private schools, across all specifications and grade levels. This suggests that although parents prefer schools with higher achievement, they are less responsive to SCI scores for private schools than SPS scores for public school. There may be three explanations for this difference. First, as Trivitt and Wolf (2011) note, parents may simply prefer private schools as a "brand" of education that encompasses a number of different preferences. In that framework, parents may be willing to give private schools a sort of academic "benefit of the doubt" that the gains to be had from private education trump whatever academic benefits may be reflected in higher SCI scores overall. It could also be true, however, that parents interested in sending their children to private schools are simply the sort of parents who are less concerned about proficiency rates on standardized test scores. Finally,

[19]Because we have access to student addresses, we also estimated effects based on the median income of the student's census block. Although all voucher applicants have income below 250% of the poverty line (~$49,000 for a family of four), they vary in the quality of neighborhood residence as evidenced by median census block income. Results by income block tercile (not shown) suggest that parents from all income blocks prefer religious private schools and OPSB-run schools to the typical New Orleans charter school.

although the SCI is publicly available in the state's annual LSP report, it is not provided on the OneApp, while the SPS score for public schools is printed on the application. Parents may simply not be acting on private school information that they do not have.

Model 1C: Characteristics of Competing Public Schools

Table 8 presents the results from estimating the richer 1C model following the order of results presented first in Table 5. Recall that while 1A and 1B are specified to allow us to estimate whether parents prefer public or private schools over all, 1C allows us to consider which public school characteristics appeal to parents enough to place them into consideration with private schools in the first place. Column 1 of each panel in Table 8 does just that, by predicting whether the school appears on the OneApp. Column 2 presents the probability that the school is actually ranked *higher* than the private schools on that OneApp, while Column 3 is simply a version of the rank order logit discussed above, where overall rank on the OneApp is predicted. As above, we estimate each of these for all grades (Panel A), for kindergarten only (Panel B), and for students who are entering grades 1-8 and exiting a C, D, or F school (Panel C).

There are a number of patterns related to demographics, school performance, and school services or extracurricular activities. The least ambiguous result, and the most consistent across specifications in Table 8 – as well as in the earlier models above – is the link between SPS and school selection. The higher the SPS, the higher the probability that the school is ranked higher on the OneApp. Plainly, academics matter to parents in the relative weight they assign to their school choices. Similarly consistent, and straightforward to interpret, is the relationship between home-to-school distance and school ranking. Across all specifications in Table 8, parents prefer schools that are closer to their residential address – at least, as the squared term indicates, to a point. Racial demographics of the schools appears to be insignificant in most specifications, while in most results

there is a negative relationship between the percentage of FRL students and the probability that a school is ranked. Similarly, in most versions schools with higher percentages of SPED students are less likely to be ranked and are ranked lower.

Parents appear to prefer some school extracurricular activities or services, but are less likely to prioritize schools with others. The presence of sports programs increases the probability that schools are ranked higher on the OneApp for kindergarten families, but are not related overall or for exiters (grades 1-8), and sports do no elevate schools to the first choice. The presence of a foreign language program is positively predictive of a higher rank for both the overall sample and for exiting families but insignificant for kindergartners and for the probability of being ranked at all. Arts programs, aftercare, and extended school hours are all either negative or insignificant influences on parent rankings. Taken alongside our results relating SPS to the probability that a school is preferred, the evidence here suggests that parents who consider leaving the public school system are generally looking for higher academic quality, perhaps by rejecting schools with more extracurricular activities or special programs in the process.[20]

Finally, legacy schools do not appear to be preferred one way or the other, all else equal, while most specifications indicate stronger preferences for traditional public schools and new facilities, with stronger effects in kindergarten. For exiting families, the number of suspensions – our proxy for an organizational model similar to the "no excuses" model – positively predicts both appearance on the OneApp and a school's ranking, indicating that exiting families may be looking for schools with a stronger disciplinary climate.

[20] Harris & Larsen (2015) look at the full sample of OneApps, including students who opt to remain in the same school, and find that sports and aftercare do influence relative school rankings for this population. By comparison to our results, the subset of parents in the *mixed strategy* appear to be more sensitive to academics and less to extracurricular programs than the average New Orleans parent.

The difference between kindergarten and the results for other grades suggest that parent preferences may vary based on prior experiences in the public schools. We test this further by restricting the sample to students in grades 1-8 who are exiting the lowest-performing schools, those with a D or F SPS score, with results in Table 9. Preferences for SPS and shorter distance are also evident in this subgroup. Other results indicate that D/F exiters prefer schools with fewer students with special academic needs (similar to the results overall). In general, families exiting D/F schools are even less likely to be influenced by special programs than other the larger sample. Characteristics such as aftercare, arts, sports, suspension rate, and legacy name are all either not significant or negative influences on ranking and relative rank. These parents are more likely to select a public school as the first choice if it offers language instruction or has a new facility, and ranking are relative ranking are higher for traditional public schools, ceteris paribus.

Finally, we compare the preferences of our subsample of mixed-strategy parents with the more typical parents who ranked only public schools. This provides a contrast between parents willing to exit to voucher schools and those who are not. Table 10 displays results for the subsample of parents of students entering kindergarten and those entering grades 1-8 who are willing to exit their public school without applying for voucher schools. As above, those who rank only public schools are more likely to select higher SPS schools and schools that are closer to their local neighborhoods. However, SPS is not statistically significant for kindergarten parents in the public strategy. Unlike *mixed*-strategy parents, there is a large, significant relationship between gifted enrollment and ranking, which is negative in kindergarten and positive in grades 1-8. Schools with arts programs and optional aftercare are all less preferred, while sports are preferred among public schools for entering kindergarten families only. The relationship between suspensions and school preferences varies by grade level, with only kindergarten families indicating a preference for lower

rates. Parents committed to public schools also appear to also prefer OPSB schools at all levels, just like their mixed strategy counterparts.

VII. Discussion

Cities across the country have to varying degrees implemented portfolio models of education reform. These models are based implicitly on parental choice, school autonomy, and competition between schools as a mechanism to promote accountability. Although these models are used (whether they are called portfolio models or not) in many of the nation's largest cities—Boston, Chicago, Los Angeles, and New York City among them—no urban area has implemented the portfolio model as extensively as New Orleans. Since the city reconstituted its school system after Hurricane Katrina, public schools have faced competition from charter and private schools, many of which accept vouchers to allow low-income students to attend. Our sample of students that are either choosing an initial schooling option (kindergarten) or choosing potentially to exit a public school (grades 1-8) generally exhibit discernible patterns in their preferences. However, the results are not consistent enough to suggest that public schools should follow a particular strategy in order to retain students.

School type appears to influence parents' preferences. In our first models, parents unambiguously prefer private schools overall, whether Catholic, affiliated with another religious tradition or secular. These preferences are strong relative to the city'scharter schools, but parents also prefer traditional public schools, suggesting they are not necessarily seeking private schools above all but are also willing to "hedge their bets" by listing public schools with a history of strong academic performance alongside their preferred private choices.

There is also some evidence that socioeconomic characteristics of schools influence parents' preferences for schools in New Orleans, as other research has indicated. Generally speaking, race

played little discernible role in school choice on average in New Orleans, but there is little variation in the city population, as the vast majority of families are non-white. Class, however, may play a role along with the academic characteristics of a school's students. In a number of our specifications, schools with higher levels of FRL students and higher levels of students with special needs were less likely to be selected by choosing parents. Indeed, a strong preference for high academic performance of public schools is clearly shown across all students and in nearly all models and specifications. The higher the school's SPS score, the higher the probability that the school is ranked higher on the OneApp.

Evidence regarding whether parents prefer niche offerings of public schools, related either to academics (arts or foreign language programs, extended school days) or non-academic programs (sports and other extracurricular activities), is decidedly mixed. While public schools might be tempted to add extracurricular activities to attract families away from private schools, this appears to be a poor strategy if not combined with academic improvements. Not surprisingly, distance plays an important role as well: parents prefer schools nearer to them, whether public or private.

These results have potentially significant implications for policymaking in settings where there are multiple alternatives to traditional public schools. Such "high choice" environments are increasingly common across the country (Cowen and Toma 2015), regardless of whether they are formal portfolio systems. How parents make their choices, and on what basis, are still questions that only a handful of recent studies have considered. We are able to focus on a particularly important type of parent who is unsatisfied with a public school but are open to both private and public alternatives. That class and academic performance influence the preferences of parents who are considering exiting the public school system is a reminder that school choice may not necessarily improve – and may even exacerbate – historical patterns of socioeconomic disadvantage in the

public school system. On the other hand, that higher performing public schools with high minority and FRL populations in New Orleans do appear able to compete with private schools suggests that parents who opt out of the public system – or at least consider opting out – are doing so primarily to improve the academic experiences of their children. There is nothing about public schools per se that that these parents object to, and they will choose high performing public schools when available. In fact, in New Orleans, exiting parents often show a preference for district-run schools, keeping other characteristics constant, over a larger selection of charter schools. Finally, because our evidence is drawn directly from parents' rankings of schools, we are able to show (rather than simply infer or assume) that school differences observable to parents play a role in the choices they make. Such evidence suggests that parents do make use of publicly available information about potential schools and consider clear tradeoffs between public and private school alternatives when making their decisions.

Table 1 – Frequency of Different OneApp Strategies

	Public Schools Only	Voucher Schools Only	Mixed Strategy	% in Mixed Strategy
All One Apps				
Kindergarten	2,408	436	194	6.4%
Grades 1-8	22,610	2,455	644	2.5%
Grade 9-12	7,749	81	55	0.7%
All Grades	32,767	2,972	893	2.4%
Students Choosing a New School				
Kindergarten	2,408	436	194	6.4%
Grades 1-8	2,804	445	644	16.5%
Grade 9-12	1,423	40	55	3.6%
All Grades	6,635	921	893	10.6%

Source: Author calculations based on Lousiana Recovery School District administrative data.
Notes: Indudes all first-round OneApp applications for students entering grades K-12 in fall 2013.

Strategies are based on the list of up to 8 schools ranked by parents on the application. Mixed strategy applications indude both public and private schools.
All students entering kindergarten are considered to be choosing a new school. Students in grades 1-12 are considered to be choosing a new school if they list at least two schools on the OneApp, and the first choice school is the student's current school.

Table 2 –Public School Descriptive Statistics

	By Grade Level			By OneApp Rankings		
	Kindergarten	Elementary	High School	All Ranked Schools	Ranked with Vouchers	Ranked Above Vouchers
Total enrollment	493.72	499.84	394.91	479.12	487.40	504.69
	(168.24)	(181.84)	(250.38)	(193.28)	(188.13)	(176.89)
Percent white	0.02	0.02	0.00	0.01	0.01	0.02
	(0.05)	(0.05)	(0.01)	(0.05)	(0.05)	(0.05)
Percent black	0.94	0.95	0.97	0.95	0.95	0.94
	(0.11)	(0.10)	(0.04)	(0.10)	(0.10)	(0.10)
Percent FRL	0.92	0.92	0.88	0.91	0.91	0.92
	(0.10)	(0.10)	(0.09)	(0.10)	(0.10)	(0.10)
Percent gifted	0.02	0.02	0.03	0.02	0.02	0.02
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
Percent SPED	0.10	0.10	0.12	0.10	0.10	0.10
	(0.03)	(0.03)	(0.04)	(0.04)	(0.04)	(0.04)
SPS Score	74.67	76.36	70.29	74.67	75.27	75.61
	(31.85)	(31.55)	(37.25)	(32.52)	(32.66)	(33.29)
Score not reported	0.13	0.11	0.09	0.11	0.11	0.12
	(0.34)	(0.31)	(0.29)	(0.32)	(0.32)	(0.32)
Student support staff	3.42	3.54	3.94	3.55	3.57	3.45
	(1.16)	(1.24)	(1.85)	(1.31)	(1.31)	(1.14)
Sports	2.89	3.37	6.06	3.58	3.57	3.18
	(2.51)	(2.59)	(1.60)	(2.64)	(2.65)	(2.46)
Arts activities	0.27	0.28	0.18	0.26	0.26	0.23
	(0.62)	(0.60)	(0.39)	(0.58)	(0.58)	(0.55)
Optional after school care	0.53	0.44	0.00	0.41	0.42	0.44
	(0.50)	(0.50)	(0.00)	(0.49)	(0.50)	(0.50)
Extended school hours	0.83	0.84	0.86	0.84	0.84	0.84
	(0.38)	(0.37)	(0.35)	(0.37)	(0.37)	(0.37)
Foreign language program	0.33	0.39	0.86	0.45	0.43	0.41
	(0.47)	(0.49)	(0.35)	(0.50)	(0.50)	(0.49)
Suspension rate	0.23	0.27	0.94	0.37	0.37	0.29
	(0.21)	(0.29)	(1.25)	(0.62)	(0.63)	(0.38)
Grade span	8.63	7.98	4.41	7.59	7.71	7.97
	(1.89)	(2.24)	(1.94)	(2.54)	(2.45)	(2.20)
Legacy school name	0.74	0.70	0.68	0.71	0.71	0.70
	(0.44)	(0.46)	(0.48)	(0.45)	(0.45)	(0.46)
New or renovated facility	0.24	0.21	0.05	0.19	0.20	0.24
	(0.43)	(0.41)	(0.21)	(0.40)	(0.40)	(0.43)
Traditional public school	0.07	0.09	0.09	0.08	0.08	0.10
	(0.25)	(0.29)	(0.29)	(0.27)	(0.28)	(0.30)
Number of schools	46	57	22	67	64	50

Sources: Author calculations from LDOE administrative data and *New Orleans Parents' Guide*

Notes: School means (unweighted) and standard deviations (in parentheses)

Elementary schools offer at least one grade K-8. High schools offer at least on grade 9-12. Some schools are included in both columns (for example those with grades 6-12).

Schools ranked with voucher schools must appear on at least one application that also includes private schools. Schools ranked above voucher schools must be ranked by parents above the highest ranked private school on the application.

Table 3 – Top 25 Public Schools by OneApp Rank Frequency

Rank	School	Frequency Ranked: Any Strategy	Mixed Strategy	Above Voucher School	Enrollment	% Black	SPS Score	Grade*	Type
1	Eleanor McMain High (7-12)	1180	78	18	1526	86%	118	B	Traditional
2	Benjamin Franklin Elementary Math & Science (PK-8)	1176	225	101	1396	94%	108	B	Traditional
3	Dr. ML King Charter School for Science & Technology (PK-12)	1009	107	33	3040	100%	102	C	Charter
4	McDonogh 35 High (7-12)	911	40	4	1710	98%	101	C	Traditional
5	Lafayette Academy New Orleans (PK-8)	765	105	25	1872	99%	84	C	Charter
6	Lake Area New Tech Early College High (9-12)	676	20	1	650	98%	102	C	Charter
7	Martin Behrman Charter School (PK-8)	663	68	23	1424	98%	112	B	Charter
8	Gentilly Terrace Elementary (PK-8)	617	91	22	890	96%	86	C	Charter
9	KIPP Believe Primary (K-4)	591	66	14	1234	97%	100	C	Charter
10	Langston Hughes Academy (PK-8)	521	62	14	1290	99%	87	C	Charter
11	Sci Academy (9-12)	516	14	2	362	91%	129	B	Charter
12	Sophie B. Wright Charter (6-12)	511	24	6	958	97%	101	B	Charter
13	Mary Dora Coghill Accelerated Academy (PK-8)	505	85	17	1190	100%			Charter
14	KIPP McDonogh 15 (K-8)	504	80	17	2295	94%	102	B	Charter
15	Fannie C. Williams Charter (PK-8)	481	41	19	1094	97%	86	T	Charter
16	ReNEW Schaumburg Elementary (PK-8)	479	62	7	1118	98%			Charter
17	Mary Bethune Elementary (PK-6)	443	76	35	760	94%	107	B	Traditional
18	Arthur Ashe Charter (K-8)	422	63	24	970	95%	99	C	Charter
19	Medard H. Nelson (PK-8)	408	43	9	988	98%	95	C	Charter
20	Akili Academy of New Orleans (K-6)	393	71	26	770	99%	86	C	Charter
21	Benjamin Banneker Elementary (PK-8)	376	31	3	808	95%	62	D	Charter
22	Morris Jeff Community School (PK-5)	345	40	21	620	52%	101	B	Charter
23	O. Perry Walker College and Career Preparatory High (9-12)	305	8	0	885	100%	109	B	Charter
24	RENEW Reed Elementary at Delores T. Aaron School (PK-8)	305	27	5	1366	98%	74	C	Charter
25	Mildred Osborne Elementary (K-6)	301	51	13	646	96%			Charter

Notes: Frequency and rankings were calculated from individual applications for all students either entering kindergarten or attempting to changes schools in grade 1-12.

Enrollment was calculated from student-level LDOE data. SPS score and grades were obtained from LDOE school report cards.

* T grade indicates school is in transition after changing operator. Missing grade indicates a new school with no test data.

Table 4 – Top 25 Private Schools by OneApp Rank Frequency

Rank	School	Frequency Ranked All new voucher applicants	Frequency Ranked Mixed strategy	Enroll-ment of Voucher Students	% Black	SCI Score	Voucher student rentention rate	Religious Affiliation
1	St. Mary's Academy (K-5 coed, 6-9 girls)	457	232	318	100%	47.6	86%	Catholic
2	St. Leo the Great (K-6)	354	203	185	99%	72.1	81%	Catholic
3	St. Peter Claver (K-8)	291	172	162	100%	49.1	84%	Catholic
4	Resurrection of Our Lord School (K-8)	289	145	336	71%	71.1	80%	Catholic
5	St. Joan of Arc (K-8)	237	111	157	100%	50.5	76%	Catholic
6	St. Anthony (K-8)	234	100	82	59%		79%	Catholic
7	Bishop McManus (K-12)	232	135	109	96%	21.8	76%	Protestant
8	St. Stephen (K-8)	211	123	60	91%		81%	Catholic
9	St. Augustine Jr. High (6-9 boys)	207	129	27	98%	49.4	95%	Protestant
10	St. Rita (K-6)	204	105	65	97%	62.2	86%	Catholic
11	Holy Ghost Elementary (K-8)	157	80	119	100%	41	81%	Catholic
12	Upperroom Bible Church Academy (K-8)	128	75	73	98%		66%	Protestant
13	St. Paul Lutheran School (K-8)	117	71	59	85%		80%	Protestant
14	St. John Lutheran School (K-6)	116	70	74	64%		80%	Protestant
15	Light City Christian Academy (K-12)	115	79	55	100%		82%	Protestant
16	St. Agnes School (K-8)	105	42	77	43%	54.9	82%	Catholic
17	Faith Christian Academy (K-6)	94	23	53	98%		53%	Protestant
18	Conquering Word Chirstian Academy Eastbank (K-12)	86	70	17			47%	Protestant
19	Good Shepherd Nativity Mission School (K-7)	84	54	66	100%	73.4	83%	Catholic
20	Holy Rosary Academy (K-12)	84	44	40	44%		64%	Catholic
21	Life of Christ Christian Academy (K-12)	83	53	64	98%		66%	Protestant
22	Our Lady of Prompt Succor School (K-8)	73	32	140	44%	53.5	67%	Catholic
23	St. Andrew the Apostle (K-8)	61	16	21	21%		76%	Catholic
24	St. Benedict the Moor (K-4)	58	25	53	97%	93.8	92%	Catholic
25	Conquering Word Christian Academy (K-12)	56	48	13	97%		61%	Protestant

Notes: Frequency and rankings were calculated from individual OneApp Applications for all students applying for new vouchers applicants entering grade K-12.
SCI scores, number of voucher recipients, and voucher student rentention were obtained from public LDOE reports for the 2012-2013 school year.
Enrollment, percent black, and religious affiliation were obtained from the 2012 and 2010 NCES Private Schools Universe Survey.
Conquering Word Christian Academy Eastbank was not included in the PSS in 2010 or 2012.

Table 5 – Predictions of Private School Preference

	Panel A - All Students					
	(1)	(2)	(3)	(4)	(5)	(6)
	Public vs. Private			Five School Types		
	choice	first choice	ranking	choice	first choice	ranking
Private school	1.480*	2.059*	1.405*			
	(0.060)	(0.107)	(0.056)			
Five sectoral types (omitted group is charter schools)						
OPSB direct-run				1.687*	2.194*	1.570*
				(0.070)	(0.158)	(0.064)
Catholic				1.550*	2.965*	1.490*
				(0.066)	(0.172)	(0.063)
Other religion				2.476*	4.702*	2.336*
				(0.115)	(0.319)	(0.110)
Secular private				0.166	1.617*	0.072
				(0.287)	(0.766)	(0.283)
Other controls						
Distance	-0.378*	-0.438*	-0.350*	-0.383*	-0.419*	-0.349*
	(0.023)	(0.047)	(0.021)	(0.023)	(0.047)	(0.021)
Distance squared	0.010*	0.010*	0.009*	0.009*	0.010*	0.008*
	(0.002)	(0.004)	(0.002)	(0.002)	(0.004)	(0.002)
State report card score	0.011*	0.006*	0.010*	0.005*	0.014*	0.005*
	(0.001)	(0.003)	(0.001)	(0.001)	(0.003)	(0.001)
Score not reported	0.119	-0.699*	0.083	-0.421*	-0.590*	-0.336*
	(0.100)	(0.189)	(0.097)	(0.093)	(0.160)	(0.087)
Percent white students	-0.277*	0.969*	-0.282*	-0.117	0.925*	-0.128
	(0.105)	(0.141)	(0.102)	(0.099)	(0.119)	(0.098)
Total enrollment (logged)	0.497*	0.313*	0.469*	0.703*	0.836*	0.651*
	(0.028)	(0.055)	(0.026)	(0.033)	(0.073)	(0.030)
Observations	71328	67836	71328	71328	67836	71328

Notes:
Results of conditional logit for being listed as any choice (*choice)* or first choice (*first choice)*, and ranked order logit for relative choice ranking (*rank).*
Two private schools are omitted due to missing information. One with grade K-3, and one with grades K-12. Students who ranked either of these schools first, are omitted from estimations on *first choice* . Rankings were re-ordered from 1 to k for remaining schools for students who ranked omitted private schools.
Samples include all students who used listed both public and vouchers schools on OneApp.
All standard errors are robust and student fixed effects are included.

Table 6 – Predictions of Private School Preference (by Grade Level)

	Panel A - Kindergarten						Panel B - Grades 1-8					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Public vs. Private			Five School Types			Public vs. Private			Five School Types		
	choice	first choice	ranking	choice	first choice	ranking	choice	first choice	ranking	choice	first choice	ranking
Private school	2.065*	2.887*	1.906*				1.473*	2.095*	1.393*			
	(0.125)	(0.231)	(0.113)				(0.067)	(0.125)	(0.063)			
Five sectoral types (omitted group is charter schools)												
OPSB direct-run				1.677*	2.064*	1.572*				1.733*	2.379*	1.623*
				(0.153)	(0.303)	(0.140)				(0.083)	(0.192)	(0.075)
Catholic				2.083*	3.117*	1.941*				1.525*	2.987*	1.458*
				(0.135)	(0.295)	(0.125)				(0.074)	(0.208)	(0.071)
Other religion				2.585*	3.796*	2.418*				2.355*	4.660*	2.201*
				(0.252)	(0.594)	(0.240)				(0.135)	(0.383)	(0.129)
Secular private				1.348*	2.403*	1.198*				-0.215	1.265	-0.328
				(0.436)	(1.160)	(0.425)				(0.396)	(1.060)	(0.393)
Other controls												
Distance	-0.438*	-0.536*	-0.402*	-0.446*	-0.543*	-0.404*	-0.377*	-0.408*	-0.347*	-0.382*	-0.390*	-0.346*
	(0.039)	(0.058)	(0.036)	(0.041)	(0.059)	(0.037)	(0.027)	(0.050)	(0.024)	(0.027)	(0.049)	(0.024)
Distance squared	0.015*	0.021*	0.014*	0.014*	0.020*	0.012*	0.009*	0.008	0.008*	0.009*	0.008*	0.008*
	(0.003)	(0.004)	(0.002)	(0.003)	(0.004)	(0.003)	(0.002)	(0.004)	(0.002)	(0.002)	(0.004)	(0.002)
State report card score	0.024*	0.027*	0.022*	0.015*	0.020*	0.014*	0.006*	0.003	0.005*	0.000	0.011*	0.001
	(0.003)	(0.006)	(0.003)	(0.003)	(0.007)	(0.003)	(0.002)	(0.003)	(0.002)	(0.002)	(0.004)	(0.002)
Score not reported	1.058*	1.002*	0.899*	0.391*	0.384	0.324	-0.225	-0.824*	-0.237*	-0.691*	-0.693*	-0.576*
	(0.194)	(0.439)	(0.185)	(0.193)	(0.386)	(0.180)	(0.122)	(0.220)	(0.117)	(0.110)	(0.190)	(0.103)
Percent white students	-1.035*	-0.992*	-0.987*	-0.812*	-0.765	-0.788*	-0.291*	0.862*	-0.292*	-0.176	0.807*	-0.177
	(0.249)	(0.416)	(0.246)	(0.244)	(0.397)	(0.240)	(0.121)	(0.161)	(0.118)	(0.115)	(0.139)	(0.113)
Total enrollment (logged)	0.676*	0.730*	0.619*	0.811*	0.867*	0.745*	0.517*	0.357*	0.482*	0.696*	0.876*	0.637*
	(0.049)	(0.106)	(0.045)	(0.061)	(0.138)	(0.057)	(0.033)	(0.063)	(0.031)	(0.040)	(0.091)	(0.038)
Observations	15908	15416	15908	15908	15416	15908	52349	49744	52349	52349	49744	52349

Notes:
Results of conditional logit for being listed as any choice (*choice)* or first choice (*first choice)*, and ranked order logit for relative choice ranking (*rank).*
Two private schools are omitted due to missing information. One with grade K-3, and one with grades K-12. Students who ranked either of these schools first, are omitted from estimations on *first choice* . Rankings were re-ordered from 1 to k for remaining schools for students who ranked omitted private schools.
Samples include all students enterring kindergarten or grades 1-8 in fall 2013 who listed both public and private schools on the OneApp.
All standard errors are robust and student fixed effects are included.

Table 7–Predictions of Private School Preference (Differential Effects of Distance and School Performance)

	Panel A - All grades			Panel B - Kindergarten only			Panel C - Grades 1-8		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	choice	first choice	rank	choice	first choice	rank	choice	first choice	rank
Private School	5.887*	11.765*	5.569*	6.268*	11.779*	5.946*	5.718*	12.597*	5.377*
	(0.292)	(0.778)	(0.263)	(0.554)	(1.422)	(0.508)	(0.368)	(1.061)	(0.328)
Controls									
Distance	-0.481*	-0.471*	-0.459*	-0.625*	-0.634*	-0.583*	-0.464*	-0.447	-0.443*
	(0.080)	(0.236)	(0.072)	(0.071)	(0.153)	(0.066)	(0.114)	(0.333)	(0.104)
Distance squared	0.023*	0.027	0.023*	0.037*	0.040*	0.035*	0.021*	0.025	0.020*
	(0.007)	(0.020)	(0.006)	(0.006)	(0.012)	(0.006)	(0.010)	(0.028)	(0.010)
State report card score	0.045*	0.090*	0.043*	0.058*	0.101*	0.055*	0.040*	0.097*	0.039*
	(0.002)	(0.006)	(0.002)	(0.005)	(0.012)	(0.005)	(0.003)	(0.008)	(0.003)
Score not reported	3.891*	8.072*	3.792*	5.035*	8.918*	4.766*	3.498*	8.825*	3.445*
	(0.220)	(0.618)	(0.209)	(0.475)	(1.311)	(0.441)	(0.265)	(0.857)	(0.255)
Percent white students	-0.231*	0.975*	-0.231*	-0.900*	-0.824	-0.868*	-0.278*	0.873*	-0.270*
	(0.102)	(0.130)	(0.099)	(0.240)	(0.427)	(0.232)	(0.118)	(0.148)	(0.116)
Enrollment (logged)	0.358*	0.211*	0.341*	0.547*	0.530*	0.501*	0.380*	0.253*	0.357*
	(0.027)	(0.051)	(0.025)	(0.047)	(0.092)	(0.043)	(0.031)	(0.059)	(0.030)
Interactions									
Private x distance	0.115	-0.006	0.132	0.223*	0.028	0.220*	0.096	0.033	0.121
	(0.101)	(0.259)	(0.091)	(0.083)	(0.173)	(0.078)	(0.142)	(0.371)	(0.130)
Private x distance squared	-0.017	-0.017	-0.018*	-0.028*	-0.018	-0.028*	-0.014	-0.022	-0.016
	(0.009)	(0.023)	(0.008)	(0.007)	(0.013)	(0.007)	(0.013)	(0.032)	(0.012)
Private x score	-0.058*	-0.108*	-0.054*	-0.055*	-0.101*	-0.052*	-0.055*	-0.117*	-0.052*
	(0.003)	(0.006)	(0.003)	(0.006)	(0.014)	(0.006)	(0.003)	(0.009)	(0.003)
Private x score not reported	-5.454*	-10.197*	-5.182*	-5.542*	-9.670*	-5.283*	-5.261*	-11.016*	-4.998*
	(0.243)	(0.639)	(0.228)	(0.553)	(1.377)	(0.506)	(0.286)	(0.885)	(0.273)
N	71328	67836	71328	15908	15416	15908	52349	49744	52349

Notes:

Results of clogit for being listed as any choice (*choice)* or first choice (*first choice)*, and rologit for relative choice ranking (*rank).*

Two private schools are omitted due to missing information. One with grade K-3, and one with grades K-12. Students who ranked either of these schools first, are omitted from estimations on "first". Rankings were re-ordered from 1 to k for remaining schools for students who ranked omitted private schools.

Samples include all students who used mixed strategy and were enterring either kindergarten or grades 1-8.

All standard errors are robust and student fixed effects are included.

Table 8 – Predictions of Public Preference with and over Private Schools (by Grade Level)

	Panel A - All Students			Panel B - Kindergarten			Panel C - Grades 1-8		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	choice	above private	rank	choice	above private	rank	choice	above private	rank
Enrollment (logged)	1.232*	1.236*	1.102*	2.084*	2.163*	1.932*	1.300*	1.074*	1.189*
	(0.101)	(0.192)	(0.096)	(0.213)	(0.457)	(0.200)	(0.121)	(0.245)	(0.117)
Percent white	-1.262	-0.885	-1.838	0.655	4.781	0.400	-1.266	-3.768	-1.773
	(1.037)	(2.374)	(0.992)	(2.366)	(4.984)	(2.294)	(1.260)	(2.733)	(1.206)
Percent FRL	-1.689*	-2.269	-1.791*	-2.489	-1.715	-2.532*	-1.466*	-3.240*	-1.603*
	(0.545)	(1.236)	(0.520)	(1.272)	(2.652)	(1.230)	(0.659)	(1.458)	(0.634)
Percent gifted	1.735	7.363	3.154	-7.695	-4.821	-7.354	1.168	10.372	2.016
	(1.781)	(4.501)	(1.697)	(4.358)	(9.662)	(4.107)	(2.281)	(5.587)	(2.162)
Percent sped	-3.029*	-6.220*	-3.001*	-6.542*	-8.285	-5.875*	-2.841*	-5.975	-2.898*
	(1.102)	(2.731)	(1.072)	(2.436)	(5.064)	(2.376)	(1.371)	(3.472)	(1.348)
SPS score	0.029*	0.061*	0.028*	0.036*	0.055*	0.035*	0.029*	0.063*	0.029*
	(0.003)	(0.008)	(0.003)	(0.010)	(0.019)	(0.009)	(0.004)	(0.010)	(0.004)
Score not reported	2.356*	4.424*	2.303*	2.377*	3.795*	2.308*	2.489*	4.651*	2.474*
	(0.285)	(0.711)	(0.273)	(0.944)	(1.830)	(0.900)	(0.415)	(0.924)	(0.400)
Distance	-0.580*	-0.631*	-0.546*	-0.640*	-0.617*	-0.587*	-0.586*	-0.643*	-0.556*
	(0.036)	(0.072)	(0.034)	(0.072)	(0.159)	(0.065)	(0.044)	(0.081)	(0.042)
Distance squared	0.030*	0.034*	0.028*	0.033*	0.032*	0.030*	0.029*	0.034*	0.028*
	(0.003)	(0.006)	(0.003)	(0.006)	(0.014)	(0.006)	(0.004)	(0.007)	(0.004)
# of student support staff	-0.091*	-0.058	-0.077*	-0.274*	-0.246	-0.251*	-0.060	-0.019	-0.045
	(0.033)	(0.082)	(0.032)	(0.100)	(0.204)	(0.097)	(0.039)	(0.095)	(0.037)
# of sports	-0.008	-0.033	-0.019	0.094*	0.101	0.086*	-0.011	-0.061	-0.019
	(0.015)	(0.031)	(0.014)	(0.039)	(0.077)	(0.038)	(0.017)	(0.035)	(0.016)
# of arts activities	-0.199*	-0.519*	-0.195*	-0.261	-0.814	-0.271	-0.194*	-0.415	-0.202*
	(0.068)	(0.193)	(0.065)	(0.191)	(0.423)	(0.183)	(0.083)	(0.227)	(0.079)
Optional aftercare	-0.342*	-0.292	-0.280*	-0.923*	-0.799	-0.869*	-0.362*	-0.268	-0.315*
	(0.096)	(0.218)	(0.090)	(0.217)	(0.542)	(0.207)	(0.124)	(0.272)	(0.117)
Extended school hours	-0.141	-0.023	-0.122	-0.150	0.144	-0.077	-0.157	-0.050	-0.128
	(0.083)	(0.203)	(0.079)	(0.256)	(0.461)	(0.249)	(0.100)	(0.241)	(0.097)
Foreign language program	0.116	0.145	0.142*	-0.039	-0.036	-0.013	0.159	0.275	0.179*
	(0.068)	(0.163)	(0.066)	(0.141)	(0.276)	(0.138)	(0.086)	(0.204)	(0.084)
Suspension rate	0.221	0.341	0.231*	-0.514	0.815	-0.419	0.394*	0.354	0.397*
	(0.122)	(0.276)	(0.108)	(0.499)	(0.948)	(0.478)	(0.181)	(0.445)	(0.175)
Suspension rate not reporte	-0.617*	-1.327*	-0.630*	-0.646	-0.210	-0.580	-0.603*	-1.816*	-0.613*
	(0.159)	(0.383)	(0.158)	(0.360)	(0.850)	(0.355)	(0.206)	(0.436)	(0.205)
Grade span	0.031	0.044	0.018	0.110	0.073	0.107	0.039	0.049	0.032
	(0.025)	(0.060)	(0.024)	(0.073)	(0.141)	(0.071)	(0.033)	(0.078)	(0.032)
Legacy school name	-0.123	-0.227	-0.085	-0.267	-0.328	-0.217	-0.149	-0.217	-0.125
	(0.083)	(0.202)	(0.080)	(0.221)	(0.401)	(0.213)	(0.105)	(0.253)	(0.102)
New facility	0.289*	0.937*	0.296*	0.889*	1.162*	0.847*	0.128	0.860*	0.141
	(0.072)	(0.172)	(0.068)	(0.148)	(0.365)	(0.144)	(0.090)	(0.212)	(0.085)
District-run	0.940*	0.802	0.721*	2.661*	3.298*	2.537*	0.886*	0.110	0.756*
	(0.185)	(0.520)	(0.174)	(0.573)	(1.123)	(0.539)	(0.231)	(0.632)	(0.218)
N	35526	9557	35526	8685	2835	8685	26031	6647	26031

Notes:

Results of conditional logit for being listed as any choice (*choice)* or being ranked above the highest ranked private school (*above private)*, and ranked order logit for relative choice ranking (*rank).*

Samples include all students who used listed both public and vouchers schools on OneApp.

All standard errors are robust and student fixed effects are included.

Table 9 – Predictions of Public Preference with and over Private Schools (Students Exiting D/F Schools)

	(1) choice b/se	(2) first choice b/se	(3) rank b/se
Enrollment (logged)	1.004*	2.100*	0.930*
	(0.138)	(0.498)	(0.134)
Percent white	-1.250	-6.279	-1.658
	(1.523)	(5.373)	(1.463)
Percent FRL	-0.855	-2.805	-0.947
	(0.761)	(2.565)	(0.733)
Percent gifted	3.913	8.321	4.670
	(2.534)	(11.845)	(2.463)
Percent sped	-4.231*	-12.600*	-4.393*
	(1.647)	(5.702)	(1.618)
SPS score	0.020*	0.101*	0.021*
	(0.005)	(0.022)	(0.005)
Score not reported	1.999*	6.982*	2.005*
	(0.480)	(1.814)	(0.464)
Distance	-0.594*	-0.753*	-0.560*
	(0.055)	(0.158)	(0.051)
Distance squared	0.031*	0.050*	0.030*
	(0.005)	(0.011)	(0.004)
# of student support staff	-0.065	-0.434*	-0.045
	(0.045)	(0.161)	(0.044)
# of sports	0.012	-0.233*	-0.001
	(0.022)	(0.081)	(0.021)
# of arts activities	-0.072	-0.491	-0.088
	(0.091)	(0.330)	(0.088)
Optional aftercare	-0.304*	-0.978	-0.270*
	(0.144)	(0.607)	(0.136)
Extended school hours	-0.326*	-0.096	-0.281*
	(0.114)	(0.369)	(0.113)
Foreign language program	0.122	1.095*	0.149
	(0.101)	(0.471)	(0.099)
Suspension rate	0.346	0.252	0.354
	(0.210)	(0.945)	(0.202)
Suspension rate not reported	-0.517*	-0.777	-0.502*
	(0.225)	(0.945)	(0.225)
Grade span	0.041	0.152	0.033
	(0.040)	(0.146)	(0.039)
Legacy school name	-0.165	-0.343	-0.145
	(0.120)	(0.473)	(0.117)
New facility	-0.081	1.082*	-0.050
	(0.105)	(0.499)	(0.097)
District-run	0.781*	-0.149	0.662*
	(0.253)	(1.232)	(0.243)
N	17882	2540	17882

Notes:

Results of conditional logit for being listed as any choice (*choice)* or being ranked above the highest ranked private school (*above private)*, and ranked order logit for relative choice ranking (*rank).*
Samples include all students who used listed both public and vouchers schools on OneApp, were currently attending a school with a state report card grade of D or F, and were enterring grades 1-8 in fall 2013.
All standard errors are robust and student fixed effects are included.

Table 10 – Predictions of Public Preferences (Choosers within Public Sector Only)

	Panel A - All Students		Panel B - Kindergarten		Panel C - Grades 1-8	
	(1)	(2)	(3)	(4)	(5)	(6)
	choice	rank	choice	rank	choice	rank
Enrollment (logged)	0.840*	0.748*	1.414*	1.327*	1.026*	0.953*
	(0.034)	(0.031)	(0.086)	(0.081)	(0.051)	(0.047)
Percent white	-0.297	-0.685	0.164	-0.093	-0.850	-1.042*
	(0.380)	(0.358)	(0.746)	(0.719)	(0.548)	(0.520)
Percent FRL	-1.143*	-1.122*	-2.059*	-2.077*	-0.702*	-0.721*
	(0.189)	(0.178)	(0.454)	(0.438)	(0.261)	(0.247)
Percent gifted	4.202*	4.951*	-3.575*	-3.636*	5.464*	5.208*
	(0.581)	(0.537)	(1.183)	(1.129)	(0.904)	(0.845)
Percent sped	-4.122*	-3.880*	2.221*	2.229*	-3.465*	-3.087*
	(0.370)	(0.348)	(0.836)	(0.805)	(0.566)	(0.545)
SPS score	0.018*	0.016*	0.004	0.005	0.017*	0.017*
	(0.001)	(0.001)	(0.002)	(0.002)	(0.002)	(0.002)
Score not reported	1.281*	1.168*	-0.046	0.048	1.223*	1.232*
	(0.087)	(0.081)	(0.242)	(0.232)	(0.171)	(0.161)
Distance	-0.576*	-0.518*	-0.785*	-0.744*	-0.596*	-0.556*
	(0.013)	(0.012)	(0.027)	(0.026)	(0.018)	(0.017)
Distance squared	0.030*	0.027*	0.040*	0.038*	0.028*	0.026*
	(0.001)	(0.001)	(0.002)	(0.002)	(0.002)	(0.001)
# of student support staff	-0.046*	-0.033*	-0.152*	-0.130*	0.004	0.017
	(0.010)	(0.009)	(0.031)	(0.029)	(0.015)	(0.014)
# of sports	0.012	0.003	0.041*	0.034*	0.008	0.000
	(0.006)	(0.006)	(0.015)	(0.015)	(0.008)	(0.007)
# of arts activities	-0.212*	-0.204*	-0.195*	-0.214*	-0.175*	-0.193*
	(0.024)	(0.022)	(0.051)	(0.049)	(0.030)	(0.029)
Optional aftercare	-0.089*	-0.030	-0.395*	-0.369*	-0.118*	-0.097*
	(0.031)	(0.029)	(0.079)	(0.075)	(0.047)	(0.044)
Extended school hours	0.139*	0.117*	-0.112	-0.078	0.077	0.077*
	(0.028)	(0.027)	(0.079)	(0.075)	(0.040)	(0.038)
Foreign language program	-0.058*	-0.046	0.174*	0.174*	-0.033	-0.023
	(0.026)	(0.025)	(0.049)	(0.048)	(0.034)	(0.032)
Suspension rate	0.311*	0.270*	-0.545*	-0.477*	0.280*	0.275*
	(0.027)	(0.024)	(0.153)	(0.146)	(0.076)	(0.072)
Suspension rate not reported	-0.262*	-0.284*	-0.075	-0.046	-0.409*	-0.396*
	(0.049)	(0.047)	(0.101)	(0.099)	(0.078)	(0.074)
Grade span	-0.027*	-0.039*	0.023	0.024	-0.015	-0.014
	(0.008)	(0.007)	(0.020)	(0.019)	(0.013)	(0.012)
Legacy school name	0.035	0.077*	-0.003	0.006	0.012	0.024
	(0.029)	(0.028)	(0.065)	(0.063)	(0.046)	(0.045)
New facility	0.298*	0.298*	0.127*	0.112*	0.166*	0.162*
	(0.026)	(0.025)	(0.056)	(0.053)	(0.038)	(0.035)
District-run	0.618*	0.425*	1.491*	1.422*	0.461*	0.394*
	(0.065)	(0.057)	(0.168)	(0.161)	(0.100)	(0.092)
N	208342	208342	89820	89820	100357	100357

Notes:

Results of conditional logit for being listed as any choice (*choice)* and ranked order logit for relative choice ranking (*rank).*

Samples include all students who listed only public schools on OneApp and showed a willingness to exit their current school by ranking at least on choice above their current schools. Grade levels are based on upcoming fall enrollment. All standard errors are robust and student fixed effects are included.

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