Gaining Access?:
Decision Process and School Selection in Chicago

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One the most compelling arguments for school choice is its potential to improve the educational opportunities of disadvantaged children. Low-income, children of color frequently attend schools with fewer resources and quality teachers than other, more privileged students. In addition, they are often forced to contend with learning distractions associated with resource inequities such as disruptive classrooms and unsafe schools. Their poor schooling experiences are a major contributor to the racial and class gaps in graduation rates, test scores, and other measures of student achievement. School choice can possibly disrupt these trends by providing students with the opportunity to leave schools that are not meeting their education needs.

Choice's potential to improve students' educational opportunities, however, rests in large measure in its ability to facilitate access to a range of quality schooling options. In this paper we assess students' access to schools under choice systems in a mix-methods study of high school choice in Chicago. Specifically, we examine how families' choice decisions are related to access to better schools and identify barriers students face in leaving assigned neighborhood schools.

Access under School Choice

A point of contention in school choice debates is whether choice initiatives give all children access to better schools and educational opportunities. Proponents contend that introducing choice into traditional, district controlled educational arrangements improves access. Parents, they argue, are in the best position to assess their children's unique educational needs and preferences. Therefore, empowering them to make educational choices increases the likelihood of creating the best matches between students

and schools, which in turn will lead to increased student engagement and performance (Lee, Coladarci, & Donaldson 1996; Schneider, Teske, & Marschall 2000). Second, choice gives students from disadvantaged families a means of escaping under-performing public schools. While affluent families can ensure that their children receive a quality education by enrolling them in private schools or moving to better resourced neighborhoods (Holme 2002), most families do not have these options open to them. Choice initiatives even the playing field, giving all children access to a broad range of school options.

Opponents of school choice counter, however, that access under school choice is actually compromised in several ways. First, they point to studies showing how families lack quality information about potential school options (Ascher, Fruchter & Berne 1996; Schneider et al., 2000). Parents in underserved districts often know very little about the performance or demographics of schools in their communities (Schneider et al. 1998). In addition, low incomes parents, compared to high incomes parents are more likely to rely on relatives for information about schools (Schneider et al. 1997). As a result, low-income, families of color may be unaware of school choice options due to their reliance upon social networks that circulate lower quality information (Goyette, 2008).

Critics of choice also worry that even with good information at their disposal, disadvantaged parents will make poor choices about where to send their children. This concern is based on studies highlighting that these parents often consider other factors besides academic quality when choosing schools (Carnegie Foundation 1992; Wells 1993; Smith & Meier 1995). For instance, Smrekar and Goldring (1999) found that low-income parents were more likely to consider transportation issues when choosing schools than middle-class parents. Social comfort is also an important factor in choice as many families value sending their children to schools where they have family and friends (Reay & Ball 1998; Reay and Lucey 2000). While school choice decisions privileging transportation and social

comfort may be understandable, critics argue that at best they do nothing to further the goal of improving access to quality school, and at worst undermine it.

Finally, parents often base their assessments of schools on the social-economic characteristics of students rather than objective evidence of quality (Fiske and Ladd 2000). Wells (1996) reported that most low-income, African-American parents in her study believed that suburban schools were better than city schools. Their beliefs were grounded in anecdotal information and perceived social status of the schools rather the educational offerings of any individual school. Picking up on racial and socioeconomic biases, schools sometimes attempt to attract families through images of white and Asian students or implicit of suggestions of an exclusive schooling experience (Lubienski 2005, 2006, & 2007). By obscuring information relevant to academic quality, schools exacerbate the challenges parents face in making choices that will benefit their children's academic needs.

In short, because disadvantaged families are less likely than other families to make informed, quality decisions about where to send their students, critics argue that choice programs fail to provide real access to high quality schools across social groups. As Lee et al. (1996 , p.73) remark,

> if schools are unequal, that is if they present families with important and meaningful differences in educational opportunities, then uninformed decisions may not turn out to be beneficial. They may even be harmful…The risks of uninformed decisions are probably greatest for those who at least in theory, have the most to gain from exercising choice.

While the evidence critics cite rightly cautions us to consider how school choice may not address, or perhaps exacerbates, inequity in schooling, it nonetheless provides little leverage for directly assessing how access to quality schools is diminished under choice. Studies showing that parental preferences and access to quality information vary across groups only hints at what may happen in practice, but does not provide direct evidence about what actually occurs under choice. A more exact assessment of inequity requires examining whether students who participate in choice options attend

schools that are academically different than their assigned schools. Furthermore, such an assessment should not compare the outcomes of disadvantaged and advantaged families, but those of disadvantaged families and the district. As Brighouse (2008) points out:

> Prior to the implementation of the reforms, advantaged parents were already able to use choice to allocate their children to schools; they could move into catchment areas of the desired school or send their child to a desired private school, which ever suited them. Whether a system, which extends choice to all parents is worse with respect to equality and segregation does not depend on whether wealthier parents are better choosers than poorer parents, but whether poor parents are better choosers than the state on their behalf in the prochoice era. If the state chose better in the past than poorer parents do now, then we should expect a worsening of inequality; if it chose worse then we should expect an improvement with respect to equality and possible segregation.

Thus, the real question is whether students from underprivileged families go to better schools than the ones they are assigned to by school districts. If most do, it would strongly suggest that families' decisions about where to send their children do not limit students' access to better educational opportunities.

There is also one additional issue to consider: Researchers have given scant attention to whether students who want to leave their neighborhood schools actually do. Families make choice decisions not in ideal markets but in contexts with substantial transaction costs for them. For example, if the supply of quality schools available is limited and geographically dispersed, families may need to invest large amounts of money, effort and time to access preferred educational programs. In addition, families may be deterred from removing a child from an unsatisfactory school to attend a better one as the challenge of helping children meet new classmates and adjust to new teachers can be a significant disruption to student learning. Thus, the cost of opting out of neighborhoods schools may substantially restrict families' real access to other options.

The emphasis on parental preferences and decision-making also obscures the fact that not only do families choose schools, but schools choose students as well. With selective choice programs,

students must meet minimum test-score and grade requirements to even be considered for admission. Schools without formal academic admission requirements, however, can "select" their students through other practices such as locating in more affluent neighborhoods or adopting other admission requirements that effectively weed out "undesirable" students (Lubienski, Gulosino, & Weitzel 2009). In addition, imbalanced demand and supply ratios in districts mean that many students are at the mercy of chance as they compete in lotteries for a place at highly coveted schools with limited space. These issues suggest that we also need to consider the relative importance of individual preferences and institutional forces in shaping why students stay in their assigned schools.

Given the above discussion, this paper uses two questions to frame our assessment of students' access to schools under choice initiatives: 1) Do students who leave their assigned neighborhood schools attend "better" schools? 2) Why do students stay in their neighborhood schools? To ground our analysis, we examine high school choice in Chicago Public Schools (CPS). Contrary to critics' predictions, our analysis shows that students tend to go to schools with higher graduation rates and test scores when they leave neighborhood schools. We also argue the primary reason students stay in the neighborhood schools is that poor application strategies severely limit their chances of being accepted at other institutions. When students receive adult support, however, their application behaviors improve.

Choice in Chicago Public High Schools

CPS students have a wide array of school options from which to choose as they prepare to enter their freshman year of high school. As a default, students are assigned to a neighborhood high school with an attendance boundary. If they are not satisfied with their assignment however, students can apply to any other high school in the city. Their options include charter high schools, career academies, selective

enrollment high schools, military academies, special magnet programs, as well as other neighborhood high schools with available seats. If they are not accepted to another school, students attend their neighborhood school as a default.

This system of choice has been in place in CPS since 1980 when the district entered into an agreement with the U.S. Department of Justice to desegregate the school system by creating magnet schools open to all qualified students across the city.[1] A second big push for choice has been made recently as part of the district's new efforts to improve secondary education. A prominent feature of the districts' new high school reform initiative is to create a good "fit" between students and schools by offering a diverse "portfolio of schools" from which families can choose (Stanton 2006). Various academic, vocational, and cultural themes across schools, as well as a mix of structures such as small, charter, and contract schools, are being developed to help meet the diverse needs of students in the system and encourage greater buy-in from their families. The district projects that by the start of 2009-10 school year 149 high schools will be in operation. This group will include approximately ten percent regular CPS schools, twenty percent charter schools, nine percent selective enrollment and magnet schools, five percent achievement academies, five percent alternative schools, and three percent specialty schools. Thirty-eight percent of the schools will have traditional attendance boundaries and serve approximately 58 percent of the students in the district.

By 2005, forty-nine percent of the freshmen cohort attended a school outside of their assigned attendance boundary. This is a conservative indication of how much "choice" there is in the system, since some students attending their neighborhood school were probably satisfied with their assignment and chose to stay in the neighborhood. Given high number of special programs offered by neighborhood

[1] The original Consent Decree was modified in 2004 and 2006. CPS is currently operating under Second Amended Consent Decree (SACD). In January 2009, CPS petitioned whether the SACD may be discontinued. The trial is ongoing.

schools, it could also be the case that a portion of students applied and were admitted to programs within their assigned neighborhood schools.

In an effort to aid students and families with the application and selection of high schools, CPS publishes an annual directory of all the high schools in the system. This directory contains information about each school such as graduation rates, attendance rates, special programs, and other activities. It also contains the common application to neighborhood schools. Neighborhood schools, however, are free to create their own unique application. In addition, there are separate applications for selective enrollment schools, charter schools, military academies and special programs. [2] A study conducted by the Office of School Demographics and Planning in CPS estimated that there are about 70 different high school applications currently in circulation.

Acceptance criteria vary across types of high schools and programs. Selective enrollment high schools, International Baccalaureate programs, and military academies use test scores, attendance, recommendations, testing and other factors to determine who is accepted. Most other schools and programs use a random lottery to select students when they receive more applications than there are open spots. [3] Schools may also take into account whether students have siblings in the school, how close students live from school and the race of applicants to assure a diverse student population. The application deadline to join a high school in September is mid-December of the prior school year. By the end of April, students should have been notified which schools they have been accepted to and need to inform schools where they plan to attend. If no school has been selected, students are placed in their neighborhood school.[4]

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[2] There is no limit to the number of applications one student can send. However students are limited to apply to only one program at any school that offers multiple programs.

[3] Even though scores do not play a role in selecting students when a random lottery is used, most applications require students to send their 7th grade scores.

[4] This is how the system works in theory, but schools with open seats after April will take students.

Methods

Data

This paper analyzes data collected as part of a longitudinal, multi-method research study examining students' transition from elementary to high school in CPS. The research combines rich qualitative data on groups of students, teachers, and schools; data gathered through biannual surveys of all teachers and students in CPS in 6th grade and up; and district-wide administrative records.

Qualitative data were gathered through in-depth, semi-structured interviews with 72 students between May 2008 and February 2009, first in four public elementary schools and later in five public high schools, at multiple time points across the transition from 8th to 9th grade. Table 1 shows a comparison of our qualitative sample with all 2007-08 CPS 8th graders. We slightly oversampled for Latino students since this population of students is growing annually in CPS. Using 8th grade ISAT math scores, we also oversampled for middle-achieving students, excluding all students in the "academic warning" category and most from the "exceeds" category. Middle-achieving students make up the vast majority of students in CPS and represent an important target for school choice policies.

Table 1: 2008 Project Participants and 2007-2008 CPS 8th Graders

	2008 Project Participants (N=72)	2007-2008 CPS 8th Graders (N=27,119)
Gender		
Male	44% (32)	50%
Female	56% (40)	50%
Ethnicity		
African American	42% (30)	50%
Latino	51% (37)	39%
Other	7% (5)	11%

Math Performance Level (ISAT)		
Warning	0% (0)	3%
Below	32% (23)	27%
Meets	61% (43)	54%
Exceeds	7% (5)	16%

* 2007-2008 CPS 8th graders sample includes only students who entered 9th grade in 2008 and did not attend an alternative school or an achievement academy.

We rely on two data sources for our quantitative analysis. First, we use survey data from the Consortium on Chicago School Research's biannual district-wide survey administered since May of 1991 to students and teachers. Utilizing descriptive statistics and Rasch analysis, survey items allow us to measure school climate, academic expectations, and students' experience of choosing a high school.[5] We also analyze CPS administrative data, both at the student level and school level, detailing enrollment information for students, graduation rates, and standardized test scores.

Analysis

In order to explore our first research question we examine differences between students' chosen high schools and their default neighborhood high schools by comparing graduation rates and the average ACT composite scores. This descriptive analysis is based on the 2005 cohort of freshmen students and high school data from the 2003-04 academic year. As the students get ready to apply and decide which high school to attend, they rely on high school data from the 03-04 year. The 2005 student cohort is the last cohort for which we have data identifying the schools to which students were assigned.

We explore our second research question, why students stay in their neighborhood schools, using qualitative and quantitative data. Our qualitative data draw on 68 interviews with 8th grade students collected during the spring of 2008.[6] Based on family reports and school counselor interviews, these students were all expected to attend neighborhood high schools the following academic year. By the fall

[5] Survey items related to how students choose high schools were introduced in 2007.
[6] Four interviews were not used because of missing data.

of 2008, only 11 of these students were not in their assigned schools. This purposive sample gives us a unique opportunity to understand how and why students stay in their neighborhood high schools. To uncover theses issues interviews focused on the support students received during the application process and on identifying and describing the factors that students said affected their decisions about where to apply and attend high school.

Our qualitative data was analyzed using typological analysis (Hatch 2002; LeCompte & Preissle 1993). Interviews were transcribed and entered into Atlas Ti qualitative software program. Transcript quotes were then labeled according to 5 broad, general themes related to school choice: high school choice decision making, school involvement in choice process, family and friends involvement in choice process, information about selected high school, and high school applications. This process facilitated data management allowing us to easily sort and retrieve data for further analysis. Working with general themes individually, we coded transcripts excerpts inductively for emerging patterns. After codes within themes were developed, we then created data displays (Miles and Huberman 1994) summarizing each case along several relevant factors. These tables allowed us to see trajectories within cases, patterns across cases, and relationships between the factors we examined.

We also draw upon interviews with the four 8th grade counselors serving the students in our sample. These interviews were also collected in the spring of 2008 and focus on supports the counselors and the schools provided students during the choice process and general information about how high school application process is organized in CPS. These transcripts were analyzed using the same procedures discussed above for the student interviews.

To test whether results from our qualitative sample were generalizable, we also relied on quantitative data from 8th and 9th grade students during the 2006-07 school year. These students answered questions about their high school application process on the May 2007 CCSR survey. Some of

the analyses were descriptive in nature, but when necessary we model differences in the students' responses with hierarchical methods to account for the clustering of the students within schools. See Table 2 for a summary of research questions and data sources

Table 2: Research Questions and Data Sources

Question	Data Sources
Do students attend "better schools"	CPS administrative data
Why do student stay in neighborhood schools	Qualitative data; survey data
Adult support in application process	Qualitative data; survey data; CPS administrative data

Do Students Attend "Better" Schools?

As discussed earlier, school choice critics worry that families do not have the information or proper orientation to effectively choose schools for their children, thus limiting the effectiveness of choice initiatives to improve access to quality schools. We empirically test this claim by examining whether CPS students who chose not to attend their assigned neighborhood school attend another school with "better" academic characteristics. Of course defining "better schools" is no less of a challenge for researchers as it is for parents. To by-pass technical debates however, we will restrict our definition of "better" to qualities that are relatively accessible and understandable to families: higher school level graduation rates and ACT scores. This definition does not take into account how much value schools add to student learning, but it nonetheless represents a good indicator of whether students choose schools that are academically different than their neighborhood assignment. In addition, information on graduation rates and test scores are readily available to students and their families in the CPS High School Directory as they make their decisions about where to attend school.

When students opt out of their neighborhood high school, on average they tend to pick schools with graduation rates 15 percentage points higher than their assigned school. Overall, 81 percent of

"leavers" attended schools with similar or higher graduation rates than the assigned school, while only 19 percent attended schools with worse graduation rates. After disaggregating choice decisions by subgroups, we see that while there are group differences, the majority of students in all subgroups selected schools that had better graduation rates than their neighborhood school (see Table 3). For example, almost 95 percent of the top scoring students attended schools with higher graduation rates and on average the schools they attended were 27 percentage points higher in graduation. [7] However 66 percent of the lowest scoring students also attended schools with higher graduation rates. On average, they went to schools that were 7 percentage points higher. When we look at decisions by race/ethnicity we see that 90 percent of white students selected schools with better graduation rates, and on average their choices resulted in gains of 22 percentage points. By comparison African-American students choose schools that were on average 11 percentage points higher than their neighborhood schools, with 76 percent of the group trading up. Even across types of neighborhoods, students make choices that improve their educational opportunities. Seventy-three percent of "leavers" living in neighborhoods with high concentrations of poverty attended better schools, while 88 percent of those living in neighborhoods with low concentration of poverty did so.

[7] Students in the top quartile of CPS test takers on the 8th grade ISAT exam are defined as "top performers" in Table 2. Students in the bottom quartile on the exam are labeled as "bottom performers".

Table 3: Are there differences between the assigned high school and the chosen high school?

		Graduation Rates		ACT Composite	
	Number of Students	% in schools with higher graduation rates	Average percentage points difference in graduation rates	% in schools with higher ACT scores	Average difference in ACT scores
All Students	8,964	81.4%	15.2	71.1%	2.7
Top performing students	2,210	94.8%	27.2	91.9%	5.7
Low performing students	2,194	66.0%	6.7	50.9%	0.7
White Students	881	90.4%	21.5	93.3%	4.7
African American Students	5,135	76.2%	11.3	61.3%	1.5
Asian Students	495	97.6%	28.6	97.2%	5.7
Latino Students	2,453	85.7%	16.1	78.1%	3.0
High Concentration of Poverty	2,241	73.2%	10.9	61.5%	1.3
Low Concentration of Poverty	2,239	87.8%	19.2	84.2%	4.1
High Levels of Social Capital	2,242	86.6%	17.8	76.5%	3.7
Low Levels of Social Capital	2,243	79.9%	14.4	70.2%	2.3

This pattern of choosing "better" schools also holds for ACT test scores. Except for students with low 8th grade test scores, 61 to 97 percent of students in various subgroups choose schools with better ACT test scores. In sum, our analysis shows that while there are differences between groups of students, overall those who attend schools outside of their neighborhood attendance area make choices that put them in better schools. It suggests, therefore that families' decisions do not limit access to better school options.

Why Students Stay in Neighborhood Schools

The second issue we examine is why students stay in their neighborhood schools. Drawing on interviews with 68 8th grade students who were expected to attend their neighborhood school in the fall of their freshman year, we consider the relative importance of three factors in limiting students' ability to leave their assigned schools: parental preferences, student preferences, and the application process. We found that parental preferences play a minimal role. Most parents were uninvolved in the application process giving students ample autonomy to pursue their own school choice preferences. With their autonomy, a sizeable minority of students actively chose to go to their neighborhood school. The majority of students with whom we spoke, however, expressed a strong desire to attend a school outside their attendance boundary. Yet, most were unable to do so because they could not get accepted into other schools. We argue an important factor explaining students' failed efforts is that they had little guidance in avoiding basic mistakes during the application process which reduced their likelihood of being accepted at another school.

Parental Preferences

Students highlighted four types of adult family member involvement in the school selection process: disengaged, marginal, active, and directive. Thirty of the sixty-eight students (44 percent) reported having disengaged families who provided no concrete help with selecting a high school to attend.[8] Even when these students raised the issue of where to attend school, they were unable to get advice from guardians beyond being told to apply to good schools and avoid bad ones. For instance, Ron was told by his mom to apply to high schools because, "she wanted to see like, how smart I am. Like, if I'm smart enough to get into schools." Other than being encouraged to see which schools would accept him, however, he did not receive any assistance from her: "She told me 'it's up to you to find a decision.'" Tasha reported a similar experience:

[8] The percentages in this subsection do not add up to 100 because six students did not talk about family involvement in the school choice process.

Q: Did you ever talk to your mom and say, "These are the five schools I want to go to, which one do you think I should go to?"

A: I asked her but, she didn't know which one she wanted me to go to.

Q: What did she say when you asked her?

A: She said, "I don't know, just pick the one that you want, that you think you should go to."

Ron and Tasha's experiences highlight how the responsibility of selecting a school can fall primarily to students even when they reach out for support from family members. Sometimes guardians actually avoid giving their children suggestions, preferring that they make the decisions about where to go on their own.

Nineteen students (27 percent) had marginally involved adult relatives. This group of students received suggestions from family members about possible schools to attend, but were given little information about why these were good choices. Furthermore, students were ultimately in charge of where to go in the fall. Ed's mom, for example, wanted him to go to Pritzker College Prep but never told him why. According to Ed, "she just told me all the time, you should go to that school. And I don't want to go there." Marisol described how her mother and sister did not want her to go to the neighborhood school so they pushed her to apply to several other schools. While she completed the applications, she too had little understanding of why she applied to the schools that she did.

Q: What high schools did you apply to?

A: I applied to Lakeview and another school kind of far away?

Q: Why Lakeview? Why'd you apply to that school?

A: [My sister and mom] just didn't want me to go to [my neighborhood school].

Q: Ok. So it was any school would probably be better than [your neighborhood school]. Did you know anything about Lakeview at all?

A: Not really, no.

Q: Ok. Do you know why they picked Lakeview as a school to go to or anything like that?

A: No.

These two students, like many others, knew very little about the schools their parents suggested or why they suggested them. As a result, they had little sense of how the selection process was relevant to their educational needs, interests, or future outcomes. This might be one reason why less than half of the students in our sample followed their families' advice about where to apply to school.

Some students, however, had actively involved adult family members who worked closely with them to identify schools that matched their unique educational needs. Renee told how she received extensive help from an adult cousin:

> Q: So when [your cousin] sat down and talked to you about the different schools, what sort of stuff did you talk about with her?
>
> A: What school I want to go to and she just asked me the different career plans I had for myself. So that's how we got down to the [schools I applied to].
>
> Q: Ok. What sort of things did your cousin say to you about those high schools? How did those conversations go?
>
> A: She told me which ones to pick.
>
> Q: And do you know where she got the information from? Did you have information about different schools?
>
> A: On the internet?

Unfortunately, cases like this were few and far between: only four students (6 percent) explicitly described adult family members providing intensive help in identifying potential schools to attend.

Finally, nine students (13 percent) had highly directive parents who dictated where they would attend school. In each of these cases the parents required their children go to a neighborhood school to keep them close to home or in school with other family members. Juan described how despite having older brothers who went to high schools in other parts of the city, his mom wanted him to go to school in their immediate neighborhood.

> A: My mom mostly just told me like, she doesn't want me to go far [to] school, so she's like just, just go to [the neighborhood school]. So she just told me.
>
> Q: So your mom told you pretty much to go to [the neighborhood school]?

A: Yeah.

Q: Why, how come she didn't want you to go to a far school?

A: Because she's like, I dunno because supposedly like, she thinks, I'm not like, I don't wake up in time and stuff.

As Juan's remarks illustrate, many of these parents were concerned that their children would not be able to manage the logistics of attending school far from home. In particular, they worried that transportation inconveniences, time pressures, and even waning motivation would create challenges too difficult for their students to overcome.

Such concerns led several parents to discourage, and in some cases prohibit, students from considering a full range of high school options even when their children preferred to go to a school outside the neighborhood. Melisa and Derek, for instance, were both initially interested in applying to and possibly attending other public schools in the city. Yet their parents' insistence that they stay close to home discouraged both of them from doing so. In Melissa's case, her mom insisted she go to the neighborhood high school because it was a short walk from their home. As a result, Melissa felt that even applying to other high schools was out of the question:

> The reason I didn't apply is because, since my mom told me I was going to [the neighborhood school] she's like, oh don't, just don't apply to any other schools because I'm not gonna let you go. Well I would let you go, but it's going to be too far for you. Well, I just don't want you going far. I just want you to go to this school.

Derek applied to and was accepted at two other high schools, both of which have relatively high graduation and attendance rates. Yet, he did not attend either one because his dad thought they were too far away. He explained what happened this way: "My dad said stuff like it's too far man. Like you're gonna have to get up at five or four, and he made me change my mind."

In sum, while a few parents insisted that their children attend nearby neighborhood schools, the vast majority were at best marginally involved in the school choice process. Thus, much of the work of identifying and deciding on schools fell to students. This suggests that parental preferences are only a minor factor in explaining why students stay in neighborhood schools among our student sample.

Student Preferences

Given the autonomy that students had concerning their school options, we also considered how their preferences were related to staying in neighborhood schools. For 16 students in our sample (24%) staying in the neighborhood school was an active, conscious choice. Seven students wanted to go to a neighborhood schools in order to be close to home. These students valued the convenience of going to a school close by and wanted to avoid the hassles of traveling outside the neighborhood. Christina explained how she eventually decided to go to her neighborhood school after some consideration:

> "I [thought about] going to another school, but then I started thinking about it, and I'm like I'm going to be like too tired to wake up. [I can get] to my neighborhood school in two minutes or less. I can get there like, fast and everything."

Debbie also considered other school options and even applied to four different schools. The one school she was accepted to however, was in her opinion, "too far away. I would have to wake up earlier and take the bus. I don't want to do that." For students who valued proximity, getting up early, traveling on the bus, or even walking far was too much of a hassle to leave their neighborhood school.

Three other students choose to stay in their neighborhood school because they wanted to be around family and friends. On one level, the neighborhood school offered these students the social comfort of knowing friendly faces in a new and possibly overwhelming environment. Some also viewed knowing people as a safety net to use during the transition into high school. Ortiz, for example, never applied or even considered going to a school outside of his neighborhood. He explained his decision by

highlighting the benefits of being around family and friends: "I probably would've gotten into a good school, but, it's better if I go to a place where there's people I know so that I won't be tempted to do bad stuff by people I don't know." Mark also chose to go to school nearby as a strategy for managing the uncertainty of his new environment: "My family is in the neighborhood school. Like my sister, my cousins, and friends of the family, they are all in there so I wanted to be with all my cousins so nobody can try to fight me." Ortiz and Mark each saw being around friends and family as a strategy for staying out of trouble. For Ortiz having social support would provide direction and focus in the face of temptations. In Mark's case it provided some assurance against being the target of bullying.

The five remaining students in this group stayed in their neighborhood schools because they did not have strong feelings either way about where they went to school. In essence, they choose their neighborhood school indirectly by choosing not to make any choice. The following extended interview excerpt with Danielle captures the indifference expressed by these students:

> Q. Did you apply anyplace else?
> A. No.
> Q. How come?
> A. I didn't want to.
> Q. You didn't want to?
> A. No.
> Q. Did you know you could? Like did you know what your options were?
> A. Yeah. I knew I could. It was just that, I didn't want to.
> Q. Who told you about the options?
> A. My teachers.
> Q. They did?
> A. Yeah.
> Q. Ok. And why didn't you want to apply anyplace else then?
> A. I dunno. Cuz actually I don't wanna go to high school.
> Q. You just don't wanna go?
> A. Yeah.
> Q. So you weren't excited about applying?
> A. Yep.

As Danielle's remarks illustrate, she knew she had the option to apply to other schools and had access to the same level of school support filling out school applications as her peers. Overall however, she was apathetic about going to high school. Given that no one in her family talked with her about selecting high schools, there was little to motivate Danielle to apply. Yet it would also be a stretch to say that she "chose" her neighborhood high school specifically. Rather, she and a few other students, if for slightly different reasons, simply ended up in their assigned neighborhood school as a result of not choosing to go to another school.

Despite the ease, convenience, and social benefits of attending their assigned school the majority of our sample (53 students, 77 percent) wanted to attend a school outside of their neighborhood. Their aspirations are in step with most 8th graders in CPS: Of the 2006 freshmen who returned a CCSR student survey, only 11 percent reported not filling out any high school application.[9] This suggests that most CPS students have at least some aspiration of going to a high school outside of their assigned attendance boundary.

The students in our study described many reasons for wanting to go to other schools. Twenty-six reported wanting to leave their neighborhood school as a means of improving their educational opportunities. For instance at the end of 8th grade, April described feeling "a lot of pressure" about deciding which high school to attend. On the one hand she wanted to go to school with her friends, but on the other hand she thought she could get accepted at a good CPS school. When asked directly about going to the neighborhood school, however, April was crystal clear regarding how it ranked among her choices stating, "that's the last school on my list. Way, way, way at the bottom." Instead, she was leaning towards several other schools that she thought would offer her a better education. She described

[9] Students attending achievement academies and alternative schools were excluded from this analysis.

picking one of these schools, “because like everybody was like going around saying it’s a good school. You should go, that it’s a good place where you can get a nice education.”

Jared received a lot of advice from his grandmother about where to go to school. She shared her opinions regarding several high schools he was considering, often dismissing many of them because she thought they were too dangerous to attend. The one school they both agreed upon however was an all boys charter school in a nearby neighborhood. For Jared this had been his dream school since he met their recruiters in seventh grade:

> When I was in seventh grade, they came out and they started talking to us and what they do and how their students actually graduate and are going to college. And that’s what I’m trying to do. And the whole thing, when I was in seventh grade, they already told me how it was an all boys school and then I found out that all, if it was an all boys school, it’s gonna help you.

As his comments illustrate, Jared saw attending the charter school as a good way to finish high school prepared to attend college.

Eight additional students in our sample wanted to leave their neighborhood school so they could attend school with family and friends. Just like neighborhood school choosers described above, these students valued attending schools with people they knew. Their stories highlight that preferences for social comfort can motivate students to either stay in or leave a neighborhood school.

Finally, a group of ten students wanted to leave their neighborhood school for various random reasons. Some applied to schools because they liked their uniforms or did not require a uniform. Others applied to schools for their extra-curricular activities and sports teams. And several students applied to schools for no discernable reason – they simply wanted to try something different.

Overall these students’ stories suggest that student preferences do play some role in keeping students in neighborhood schools, but they fail to explain the outcomes of students who wanted to attend

school outside of their neighborhood. For a more comprehensive explanation we will need to turn our attention to the application process.

Application Process

Though most students in our sample wanted to attend a non-neighborhood school, only 11 students eventually did so the following year. Our evidence suggests the primary reason for this aspirations-outcomes gap was that students did not successfully navigate the application process. A handful of students simply did not complete their applications (7 students, 10 percent). These students failed to submit applications on time, submitted incomplete applications, or failed to meet other requirements for particular schools. The reason for these missteps seems to be plain-old fashioned inattention and lack of follow-through. Antonio never talked with his parents about which high school to attend, but had a friend who encouraged him to submit an application to a nearby selective enrollment school. Although he was interested in attending the school, Antonio failed to show up to the admissions test required to complete his application. When asked what happened the Saturday morning of the test Antonio told how:

> I set my alarm clock to go but then a thunderstorm came at like, 12:00, and turned the lights off. So my alarm clock was off the whole day. So I couldn't hear nothing, no alarm going off. So instead of going over there, I stayed at home until they called me and said what happened. And I told them, no, my alarm clock didn't go off. And they said if you wanted to take the test. And I said yeah. But then the teacher wasn't there. So the test was mostly cancelled. And then I couldn't go. [My parents] were mad because I should have put an alarm clock on my cell phone because if the lights turned off, because I really know that it was a bad thunderstorm that day.

From Antonio's story we see that he missed the test not once but twice after being called back by the school to reschedule. His comment also suggests that his parents were aware that he was taking test, but were not involved in making sure he took it. This highlights again how parents often place primary responsibility for selecting and applying to schools on their children.

Examples like this were the exception, however. Most students failed to leave their neighborhood school simply because they could not: of the 43 students who successfully applied to schools, 25 were not accepted anywhere. These students in essence had no opportunity to leave their neighborhood school even though they preferred to do so.

Since CPS does not collect any district-wide information about the school choice process, and there is no detailed information about the criteria schools use to accept or reject students, we can say little about school practices that lead directly to such high rejection rates. Nonetheless, patterns across students in our sample suggest that how students apply to schools is one possible explanation. One problem is that many students apply to schools that exceed their qualifications. For example, ten students in our sample *only* applied to selective enrollment schools, and another 15 applied to a mix of selective and non-selective schools. Yet none of the students were accepted to a selective program. This admittance rate is not surprising given the qualifications needed to be admitted into selective enrollment schools. For example, to be eligible to apply to selective programs, students must have a minimum stanine score of 5 in both reading and math on their most recent standardized test. Only 40 percent of the students in our sample meet this requirement. However, students who are accepted into selective enrollment schools in Chicago tend to have stanine scores of about 8 or above (CPS 2009). Only 1.4% of students in our sample meet this bench mark. Thus, students in our sample had little chance of being accepted into selective enrollment schools, even though they were popular options.

A second problem is that students do not apply to enough schools. Twenty-three students applied to only 1 or 2 schools, with only six of these students gaining admittance to a non-neighborhood school. However twelve of the twenty students who applied to three or more schools were accepted to at least one school. Such differences suggest that pursuing multiple options can increase students' chances of being admitted somewhere. To test the hypothesis, we used student survey data to see if there was a

relationship between the number of applications students complete and whether they were accepted at high schools. We found that of the students who applied to five schools or more, 74 percent reported being accepted to at least two schools. That number goes down to 64 percent for students who reported completing 4 applications, 61 percent for those reporting filling out 3 applications and it drops to 51 percent when students filled only 1 or 2 applications.[10] Thus the number of applications student complete is related to their chances of being accepted into a high school.

These patterns show that many students in our sample were unaware of basic strategies for applying to schools such as choosing options that match your qualifications and applying to "safety schools" in case top choices fall through. Compared to parental and student preferences, the application process kept the greatest number of students in neighborhood schools (see Table 4).

Table 4: Obstacles to Leaving Neighborhood High School

	Number of students (%)
Parental preferences	9 (13%)
Student preferences	16 (24%)
Application process: Did not submit application	7 (10%)
Application process: Not accepted	25 (37%)
No obstacles : Attended other high school	11 (16%)

Adult Support and Access

Given that so many students were stymied during the application process, the obvious next question is why. We argue in this section that typically, students receive little school counseling during the application process in 8th grade. Students who report high adult involvement from parents, teachers, and school counselors, however, make better application decisions.

Minimal School Counseling

[10] Fifty-three percent of students who reported not filling out any application reported having more than one school to choose from. This might be true given that schools that are not oversubscribed will take students even though they did not apply before the December deadline.

Students applying to college typically learn the basic strategies for how to apply to schools from high school counselors. Yet students in our sample received little guidance about how to successfully navigate the application process from 8th grade counselors. The primary assistance 8th grade counselors give to students as they apply to high school is informational and procedural. At the beginning of the school year, counselors visit eighth grade classrooms to pass out and explain the CPS High School Directory. This directory lists each school in the city by geographic region and provides a snap shot of the programs the schools offer as well as performance information detailing graduation rates, etc. The counselors discuss with classes how to use the directory to select schools that meet their interests, needs, and qualifications. In these presentations counselors might also make general suggestions about factors to consider in the selection process such as how far they want to travel to school or possible career aspirations. In addition, a few counselors highlight "good" schools for students to consider such as selective enrollment or charter schools. Beyond providing basic information and general advice however, counselors do not work individually with students to help them select potential schools to attend. The main reason for this is that counselors' time is dominated by processing students' high school applications. As one counselor explained:

> We can have four hundred eighth graders. And then only one counselor. So you multiply that by 5 [applications per student] so that means I have to process about two thousand applications at least every school year…And I'm going through and signing all those two thousand applications.

Given such time constraints, another counselor said she was selective about which students to give individual help:

> I don't have time to do every kid, and unfortunately the kids who don't care are definitely gonna get very little of my interest and educational background. I give them the book. I give them motivation. Now the kids that have high scores, I pushed them. When you are gifted or when you are talented or when you are a hard worker you deserve a little bit more. Unfortunately we have a lot of kids here in the middle range.

Continuing she adds:

> I'm going to give [students] this information, but I'm going to give it to [them] in a way that makes [them] understand enough that [they] can make an educated decision. If [they] choose not to make a decision, that's ok. But it's an educated no-decision. So there's only so much we can do.

There are several points to note from this comment. First, time constraints can prompt counselors to make calculated decision about who is and who is not worthy of individual attention. In this case, the counselor believes motivated, high achieving students deserve extra support. Given that most students in the school, according to her, do not meet this standard however, few of them will receive individualized assistance with selecting potential high schools. Second, the above comments also illustrate how some counselors feel their role in the selection process stops after providing students with information about schools. Figuring out if, where, and how many schools to apply to is ultimately students' responsibility. Once informed, this counselor believed students are capable of making educated decisions on their own.

This last perspective was also articulated by another counselor. When asked what advice he provides to his students he stated, "I don't give advice to students for what high school they should apply to." The interviewer responded by posing a hypothetical question: if a student with high ISAT scores and good grades came to the counselor for help would he talk to the student about selective enrollment schools or would he just allow the student make her own decision unassisted. The counselor answered:

> No, I would not attempt to swing her [to selective enrollment schools]. Whenever a child is considering high school, I feel that it should be from his or her own point of view. 'What do I want?' All [they] have to do is make a selection based upon [their] interests as to where they want to go, what [they] want to pursue, what will make [them] happy for high school.

When pressed whether 8th graders are capable of making these decisions, the counselor added:

> Yes I think so, because if for no other reason they've heard from other students oh, this is a very good high school. Or if not from word of mouth then from reading it or from watching it on TV or from parents' focus. But mainly it should come from the interaction between the child and the parent on what they think they would like to do.

As this exchange illustrates, the counselors we interviewed were extremely reluctant to provide proscriptive help to students as they considered their high school options. This particular counselor would not even encourage a high achieving student to go to schools with strong academic programs, while another counselor told of how she would not discourage students from attending schools with poor academic offerings. Furthermore, the above counselor not only thought that choosing schools should be left in the hands of the students, but that students were fully capable of making this decision on their own. Being exposed to information from friends, media, and parents, he believed, enabled students to make good decisions about where to go to school.

Counselors' reluctance to provide help was reflected in students' reports of their experiences applying to schools. Aside from having the counselor visit their class to distribute the CPS High School Directory and help them with the application process, virtually all students said that they did not have a discussion with their counselor about selecting high schools to consider. Similarly they had little help from teachers with the selection process. At most, a few students said they received random, and sometimes contradictory, advice from counselors and teachers about avoiding some schools or considering others. Overall, however, schools provide little systematic guidance to students about how to choose appropriate high schools to attend.

Does Adult Support Matter?

From our qualitative analysis, we found that students receive little help from parents or schools in navigating the school choice process. In this section we explore whether adult support matters for access by looking at its relationship to students' school application behaviors. Specifically we examine whether students who receive educational support from adults are more likely to apply to multiple high schools. We do so by drawing on 2007 survey and CPS administrative data on the 2006-07 8th grade cohort. This cohort of students completed a survey reporting the number of high school applications they

filled out and a series of questions about their teachers and counselors. We create models predicting the number of applications 8th grade students reported completing in December 2006. Our models include a measure of how involved students report their parents are in their education, whether they had a counselor who talked to them about the importance of their future education, and whether students found a teacher who offered them personal support.[11] We also include student characteristics variables as well as measures of the school climate such as the previous year's high school applications rates in elementary schools and the percentage of students from elementary schools that attended high schools outside their neighborhood the previous year.

There were 25,660 students in 8th grade in 2006-07 who enrolled in a high school the following year. Over 19,000 students filled out our survey, and once missing data were excluded our final sample for this analysis was 14,058 students in 351 elementary schools.[12] Table 5 shows basic statistics of our data. Forty-six percent of students in our sample are males, 44 percent African-American, 10 percent white, 4 percent Asian and 41 percent Latino. Thirteen percent of students received special education services, while a very small proportion were identified as English language learners. Almost 18 percent of the students were old for grade, meaning that they had been retained in previous grades. In terms of math performance, students are mainly concentrated around the middle stanines.

Over 39 percent of the students in our sample reported filling out five or more applications for high schools, while 7 percent did not participate in the process. Students were distributed across 351 elementary schools in the district. On average, individual elementary schools have about a third of their students sending out 5 or more applications. In addition, the average elementary school sends 60 percent of its 8th grade students to high schools outside their attendance area.

[11] See the appendix for a description of the measures and items we use from the survey.
[12] See the appendix for a detailed explanation of the sample and the variables used in the analysis.

We analyze the data using a Poisson model and nested students within their elementary school.[13] Table 6 contains the results of our model. The model includes a set of variables related to demographic and other student characteristics, as well as students' math scores in 7th grade. We also included a measure of parental involvement, counselor help and teacher support. Parent support assesses students' perceptions of their parents' support for their school performance. Questions ask students how often their parents or other adults encourage them to work hard, do their homework, and take responsibility for their actions and talk about selecting courses or programs in school or going to college. High levels indicate strong parental support.[14] Teacher personal support measures the degree to which students feel their teachers offer individual support, such as giving help for personal problems and caring about how they're doing. Counselor help is an item in the survey that asks students how much they agree that a counselor at the school helped them to plan for life after high school. Students who agreed or strongly agreed were coded as 1, 0 otherwise. Forty-nine percent of 8th graders reported that a counselor was helpful in planning for their future.

Our first finding from this analysis is that adult involvement has a positive and statistically significant effect: students who report higher levels of support send out more applications. An increase in parent support of one standard deviation, holding all the other variables constant, will increase the number of applications by almost 5 percent, while an increase in teacher personal support of one standard deviation will lead to a rise in the number of expected applications by 1 percent. The difference in the expected number of applications between students who agree that their counselors were helpful in planning for the future and those who do not is 2 percent. This suggests that students' application

[13] The dependent variable is the number of applications filled. Students could choose from none, one, two, three, four or five or more. While the top category is truncated, our modeling strategy does not take this into account. We allow for underdispersion in our modeling strategy. We also run our analyses as ordered logit models trying to capture the probability that students will not apply, apply moderately (one to four applications) or highly engage in the process (five or more applications). The conclusions are the same no matter which dependent variable we analyze.
[14] For a detailed description of the measures and items from the survey see the appendix.

behaviors, and by extension their chances of being accepted to schools outside their attendance boundary, can be improved with more adult guidance.

The analysis also shows that the high school application culture of elementary schools matters. Students attending an elementary school in the top quartile on our variable measuring the percentage of previous students applying to five or more high schools, fill out 17 percent more applications than students attending an elementary school in the bottom quartile, holding all the other variables constant. Our model also includes a variable indicating the percent of students from each elementary school that attended high schools outside their neighborhood the previous year. Interestingly, the percent of previous 8th graders who attended a high school outside their attendance area is not related to how many applications current students complete. This suggests that the supports and procedures for organizing the high school application process is more important than the how many previous students eventually attended other schools for shaping students application behaviors.

Our model also includes different students' characteristics as well as 7th grade math test scores. We find that one of the strongest predictors of in how intensively students participate in high school choice is their test scores. High scoring students tend to complete more applications than low scoring students, even after account for adult support and elementary school culture around the application process. Perhaps these students are generally more motivated and engaged, and therefore participate more fully in the application process.

Neighborhood poverty does not seem to matter for how many applications students complete. However the social capital of the neighborhood is negatively related to the number of applications. The higher the social capital the lower the number of applications students filled. This finding might be related to the quality of the high school in those neighborhoods. If the quality of the assigned high school is "high" then students might have less incentive to apply to other high schools in the city.

In sum, support from parents, counselors and teachers seem to play an important role in shaping the number of high school applications students submit. The more adult involvement students report, the more likely they are to fill out multiple applications. Students attending elementary schools with a strong prior history of students filling out multiple applications are also more likely to complete more applications. This suggests that general school practices for organizing the application process in elementary schools may also be an important factor shaping students' application behaviors.

Table 5: Basic Statistics of Data

Number of Applications	Percent of Students	Number of Students
None	6.9%	968
One	13.3%	1,870
Two	10.4%	1,461
Three	13.3%	1,869
Four	16.6%	2,330
Five or more	39.6%	5,560

		Number of Observations	Mean	Standard Deviation
Demographic and other student characteristics	Concentration of poverty (standardized variable)	14,058	-0.117	1.006
	Social capital (standardized variable)	14,058	0.021	1.023
	Male (dummy variable)	14,058	0.459	0.498
	African American (dummy variable)	14,058	0.444	0.497
	White (dummy variable)	14,058	0.098	0.297
	Asian (dummy variable)	14,058	0.041	0.199
	Latino (dummy variable)	14,058	0.414	0.493
	Special Education (dummy variable)	14,058	0.134	0.341
	ELL (dummy variable)	14,058	0.017	0.130
	Old for grade (dummy variable)	14,058	0.179	0.383
Students' Test Scores (set of dummy variables)	Math Stanine 1	14,058	0.016	0.125
	Math Stanine 2	14,058	0.075	0.263
	Math Stanine 3	14,058	0.085	0.279
	Math Stanine 4	14,058	0.158	0.365
	Math Stanine 5	14,058	0.223	0.416
	Math Stanine 6	14,058	0.186	0.389
	Math Stanine 7	14,058	0.110	0.313
	Math Stanine 8	14,058	0.085	0.279
	Math Stanine 9	14,058	0.062	0.241
Support from Adults	Parent Support (standardized variable)	14,058	0.009	0.997
	Counselor Planning Future (dummy variable)	14,058	0.488	0.500
	Teacher Personal Support (standardized variable)	14,058	0.035	1.002

Elementary Schools' Characteristics	Number of Observations	Mean	First Quartile	Median	Third Quartile
% Student who filled 5 or more applications previous year	351	0.35	0.21	0.33	0.47
% Students who attended high schools outside attendance area previous year	351	0.60	0.43	0.58	0.75

Table 6: Analyses on the Number of Applications

		Estimate	Standard Error	Degrees of Freedom	p-value
Demographic and other student characteristics	Intercept	1.051	0.035	348	<.0001
	Concentration of poverty	-0.002	0.006	13687	0.6988
	Social capital	-0.013	0.006	13687	0.0356
	Male	-0.110	0.008	13687	<.0001
	White	-0.114	0.019	13687	<.0001
	Asian	-0.039	0.024	13687	0.1107
	Latino	-0.093	0.015	13687	<.0001
	Special Ed.	-0.084	0.015	13687	<.0001
	ELL	-0.153	0.038	13687	<.0001
	Old for grade	-0.045	0.011	13687	<.0001
Students' Test Scores	Math Stanine 1	-0.147	0.035	13687	<.0001
	Math Stanine 2	-0.171	0.019	13687	<.0001
	Math Stanine 3	-0.168	0.017	13687	<.0001
	Math Stanine 4	-0.118	0.013	13687	<.0001
	Math Stanine 6	0.080	0.012	13687	<.0001
	Math Stanine 7	0.141	0.014	13687	<.0001
	Math Stanine 8	0.209	0.016	13687	<.0001
	Math Stanine 9	0.235	0.018	13687	<.0001
Support from Adults	Parent Support	0.046	0.004	13687	<.0001
	Counselor Planning Future	0.019	0.008	13687	0.0254
	Teacher Personal Support	0.012	0.004	13687	0.0034
Elementary Schools' Characteristics	% Filled 5 or more apps	0.616	0.058	348	<.0001
	% attending outside AA	0.078	0.051	348	0.1255
Variance Components and Sample					
	Variance Elementary School	0.0267	0.0026		
	Residual Variance	0.7016	0.0085		
	Number of Observations	14,058 students 351 schools			

Summary and Discussion

Our assessment of students' access to schools under school choice in Chicago is both encouraging and a reason for concern. On one hand we found little evidence to support claims that the choices families and students make about where to go to schools limits students' access to better educational opportunities. Earlier research suggested that the lack of quality information available to parents and the use of non-academic factors in decision making lead disadvantaged families to make poor choices about where to send their children, and thus indirectly limit students' access to better schools. We found however, that academic considerations seem to influence families that participate in Chicago's choice system. When students leave their assigned neighborhood school they tend to go to schools with higher average graduation rates and test scores. Even though there are differences by groups, the overall trend of improvement holds across academic achievement levels, race and socio-economic status. Thus, the extent to which families' school choice decisions limit access to available educational opportunities may not be as significant as some believe.

In addition, our analysis suggests that students not being accepted to schools to which they apply is a more serious barrier to access under choice. Most of the students in our qualitative sample reported wanting to attend a school outside of their attendance boundary for academic reasons. Yet, less than half of the students who submitted applications were accepted into a different school. These students literally could not access other options. Discussions with students revealed that ineffective applications strategies were a major factor contributing to their low acceptance rate. Many students applied to selective enrollment schools with strong academic programs, but for which they were not qualified. Several others applied to only one or two schools, leaving them with no options when they were not accepted at their top choices. In short, students simply did not know how to play the school application game.

Application mistakes however, may be corrected with adult intervention. Our survey analysis showed that students receiving high levels of adult support reported submitting more applications. In addition, students attending schools with a culture of submitting multiple applications were more likely to apply to several high schools. The more applications students submitted, the more likely they were accepted into multiple schools. Thus, by giving high school applicants more guidance during the choice process, they may make better decisions about applying to schools and hopefully increase the number of options from which they can choose.

There are several implications stemming from this work. In terms of policy, this study suggests that districts may need to develop targeted interventions to ensure that students who want to leave neighborhood schools have a real shot at doing so. These efforts should include attempts to help students learn the most effective approaches to applying to schools and provide individual counseling to improve the fit between students' qualifications and interests, and schools' offerings. An early investment in this type of coaching could reap additional benefits down road as students map out their strategies for maximizing post-secondary education opportunities. In addition, the existence of clear racial and class patterns in the magnitude of difference between graduation rates of neighborhood high schools and schools of choice suggests that realizing the putative equity-increasing effects of school choice policies may require targeted interventions aimed specifically at disadvantaged students and intended to increase their access to higher-quality high school options.

Our work also highlights, as other studies have done, that students are often the primary decision-makers in the high school selection process, deciding both where to apply and attend (Wells 1996). Given their autonomy, future studies should pay more attention to how student preferences shape school choice outcomes. What types of sources of information to students draw on, compared to parents? And what are their primary characteristics students look for in schools?

Although we were able to describe how students' application strategies limited their access, we could say little about the other side of the coin: how school practices shape student's access. How do schools decide which students to admit or reject? How does the distribution of available slots across a district impact students' access under choice? And what are individual schools' acceptances rates? Studies examining these questions will help us understand the ways in which district choice policies may help or undermine the goal of equitability.

Finally, researchers should also look beyond families' stated educational preferences to examine the entire application process under choice systems. There are many steps students must take between deciding to leave their assigned school and being accepted into an alternative school. Yet there has been little research identifying the key points in the process that may derail their attempts to attend a different school. Examining the application process in detail will deepen our understanding of the relative importance of individual behaviors and institutional practices in shaping access under choice.

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Appendix: Survey data and other data used for number of applications analysis

Since 1991, CCSR has surveyed all CPS principals, teachers, and students in 6th grade and up to learn their views on, and experiences in, public schools. As part of our survey, we ask about learning climate, student-teacher relationships, school's professional environment and the nature of the school's relationships with parents and the community. In 2007 the survey included a battery of questions about the high school choice process for 8th grade students. From these surveys, we create measures about different features.

In this report we use the questions about high school choice process, one item related to counselors and one measure we call *parent support for student learning*. Items related to high school were in surveys directed to 8th, 9th and 10th graders. Among other things, these students reported on how many Chicago public high schools they applied to when in 8th grade. Students in 9th and 10th grade were also asked whether they got into a high school that was their first or second choice and whether they only got into one high school.

The survey item about counselors asked students how much they agree with the following: 'A counselor at this school has helped me plan for life after high school'. The possible answers were strongly disagree, disagree, agree and strongly agree. The measure *parent support for student learning* gauges students' views of their parents' support for their schoolwork. Students were asked how often their parents (or other adults) encourage them to work hard, do their homework, and take responsibility. High levels indicate strong parental support. Below are the items that compose the measure of parent support for student learning and some of its psychometric properties:

Items	**Item Difficulty**	**Item Fit**
During this school year, how often have you discussed the following with your parents or other adults living with you:		

(Possible answers: Never, 1-2 Times, 3-5 times, More than 5 times)			
	Selecting courses or programs at school	0.87	1.00
	School activities or events of interest to you	0.49	0.92
	Things you've studied in class	0.25	0.92
	Going to college	0.05	1.17
	Your grades	-0.40	0.98
How often does a parent or other adult living with you: (Possible answers: Never, Once in a while, Most of the time, All the time)			
	Help you with your homework	0.36	0.93
	Check to see if you have done your homework	0.23	1.09
	Praise you for doing well in school	-0.15	0.97
	Encourage you to take responsibility for things you have done	-0.56	0.79
	Encourage you to work hard at school	-0.87	0.82
Properties Individual Separation: 2.00 Individual Level Reliability: 0.80 School Level Reliability: 0.87			

We also used a measure of teacher support, *teacher personal support.* This measure captures the degree to which students feel their teachers give them help with personal problems and care about how they are doing. High levels indicate teachers are perceived as providing strong and reliable personal support. Below are the items that compose the measure of teacher personal support and some of its psychometric properties:

Items	**Item Difficulty**	**Item Fit**
Please indicate how much you agree with the following: In my school this year, there is at least ONE teacher who: (Possible answers: Strongly disagree, disagree, agree, strongly agree)		

	Would be willing to help me with a personal problem	0.32	0.73
	Really cares about how I am doing in school	-0.28	0.60
	Knows who my friends are	1.23	0.99
Properties			
Individual Separation: 1.06			
Individual Level Reliability: 0.53			
School Level Reliability: 0.73			

Our analysis of the number of high school applications was based on the cohort of 8th graders in 2006-07. Surveys were sent to 455 elementary schools that served 8th graders. Alternative and special education schools were the only schools excluded from the survey. These 455 schools served 25,660 8th grade students who enrolled in high schools the following year. If students with disabilities were in integrated classrooms, they were included in survey administration at the discretion of school staff. We have 351 schools in our analysis representing 77 percent of elementary schools and 14,558 students representing 55 percent of the 8th grade cohort.

A comparison of the 8th grade student cohort and those students who are part of the analysis reveals that our sample is comprised by a higher percentage of high performing students and Latino students and lower percentage of male students and African-American students. The data is not missing completely at random, but we argue that it is missing at random. In our analysis of the number of applications, we include all of the variables related to not being in the sample as controls in order to avoid bias estimates. We believe that in a large sample as it is this one, the loss of cases due to missing data will not dramatically lower the power of our analysis.

At the school level, we introduce two variables: the percents of 8th grade students in the previous cohort who filled out five or more applications and the percent of 8th grade students in the previous cohort who actually attended a high school other than the neighborhood school.

Most of the student level variables in the model are a series of dummy variables such as gender, race, special education status, ELL status, and whether students are old for grade. Test scores are also part of the model and are introduced as a series of dummy variables representing the stanine of students in their math test in 7th grade, which at the time of application are the most recent ones. The last two variables in the model are concentration of poverty and social status. These variables come from 2000 census data at the block group level where the student resides. Concentration of poverty is based on two reverse-coded indicators: (1) the log of the percentage of male residents over age 18 employed one or more weeks during the year and (2) the log of the percentage of families above the poverty line. Social status is based on two indicators: (1) the log of the percentage of employed persons 16 years old or older who are managers or executives and (2) the mean level of education among people over 18.