



# Executive Summary

## Leveling the Playing Field for High School Choice: Results from a Field Experiment of Informational Interventions

Sean P. Corcoran, Jennifer L. Jennings, Sarah Cohodes, Carolyn Sattin-Bajaj

### OVERVIEW

School choice policies aim to reduce inequality in educational outcomes by allowing families to access schools outside their own neighborhoods. As school choice options have grown across the country, so has our knowledge that not all families are equally prepared to navigate them. Without efforts to ensure that disadvantaged families have the information and supports needed to identify, apply, and gain admittance to higher-performing schools, the effects of choice policies on inequality will be limited.

New York City's high school choice program, in which every 8th grader is required to submit an application ranking up to 12 school choices, provides the dual challenges of scale and complexity for students and families. The sheer number of options (more than 750) is daunting. That the factors affecting students' odds of admission differ across schools makes this process especially complex.

Our analysis of high school applications in NYC finds that disadvantaged students—including free lunch eligible, black and Hispanic, and students who do not speak English at home—are more likely to choose and subsequently “match” (be assigned) to high schools with lower graduation rates. If complexity and lack of information are part of the explanation for the gaps we observe, simplified information about school options may help level the playing field.

To better understand how information can help disadvantaged students access higher-performing high schools, we conducted a randomized experiment in 165 high-poverty NYC middle schools that together educate almost 20,000 students. This experiment, conducted during the 2015-16 school year, assigned participating schools to a control group or to one of three intervention groups. All intervention groups received a custom list of 30 high schools with a graduation rate of 70% or higher and within 45 minutes by public transportation from the middle school. Two of the groups also received supplemental lists highlighting academically non-selective high schools or high schools organized by their academic interest area. We found that:

1. Students who received our custom lists used them when making choices. They were more likely to apply to our specific high school recommendations than students who did not receive our lists.
2. Students who received our custom lists were more likely to receive their first choice high school and were less likely to match to a high school with a graduation rate below 70%. Students both applied to schools at which they had higher odds of admission and avoided lower-performing schools on their applications.
3. Both disadvantaged and advantaged students used the custom lists to make choices. However, in some cases advantaged students saw greater benefits from them, by applying and matching to more schools on our custom lists.

Taken together, our findings demonstrate that providing simplified and customized information to middle school students can increase the quality of schools to which they match. Beyond simply inducing students to apply to higher-performing schools, these supports should help students identify schools where their odds of admission are higher. At the same time, broad-based informational interventions will not necessarily reduce inequality, since both disadvantaged and advantaged students respond to and benefit from them. Academic selectivity at some high schools may further inhibit some students from benefitting from information about higher-performing options. Absent other system-level changes, more targeted interventions may be needed to reduce disparities in high school choices and assignments.

## High School Choice in NYC

The NYC Department of Education requires all 8th graders to submit an application ranking up to 12 academic programs from more than 750 offered in 440 high schools citywide. High school choice is complex in NYC, with programs varying in admissions method, priorities, and academic interest area. Academically screened programs consider grades, test scores, attendance, and other criteria, while non-screened programs prioritize residential location or attendance at a school fair or open house. Most students are offered a school placement in the first round of matching. In 2015-2016, 48% of students were matched to their first-choice school and 75% were matched to one of their top three choices.

While four-year graduation rates have risen over the past decade in NYC, graduation rates still vary considerably across schools. We examined differences in the graduation rates of students' high school choices and placements in the year prior to our study (2014-2015) and found notable gaps for certain student populations. On average, low-income, black and Hispanic, and students who do not speak English at home were more likely to choose and subsequently match to high schools with lower graduation rates. These gaps were smaller but persistent even when comparing students with similar achievement. Low income and otherwise disadvantaged students were also less likely to attend a school open house, which can increase students' chance of admission to some of their choices. For example, only 38% of free lunch eligible students who ranked an academically non-selective "limited unscreened" school as their top choice signed in at an open house for priority admission. Failing to do so reduces their chances of matching to the school, especially if it is in high demand.

## The "Fast Facts" Interventions

We developed a one-page informational tool called "Fast Facts," a customized list of 30 high schools for each middle school in our study. All Fast Facts high schools were within a 45-minute commute from the middle school and had a graduation rate of 70% or higher. We designed Fast Facts to be an accessible starting point and a useful reference for school performance information and admissions requirements. The intent was not for students to limit their search to these schools, but to begin with an initially smaller set of choices, and to be more aware of higher-performing schools in their proximity.

We recruited 165 schools from the more than 500 schools serving 8th grade students in NYC, focusing on the highest poverty schools in the city. Schools in the study were disproportionately located in the Bronx and Brooklyn, and enrolled a higher share of Hispanic students, English learners (ELs), and free lunch eligible students than the citywide average. From the 165, we assigned middle schools to a control group or to one of the following three intervention groups:

### Fast Facts only (FF1):

Students received the Fast Facts list described above. The front of the sheet listed high schools along with their borough, graduation rate, travel time by public transportation (from the middle school to the high school), the page in the Directory of New York City High Schools on which students could seek more information, and admissions method(s). The back of the sheet explained admissions methods in plain language and offered guidance for applying to schools of each type.

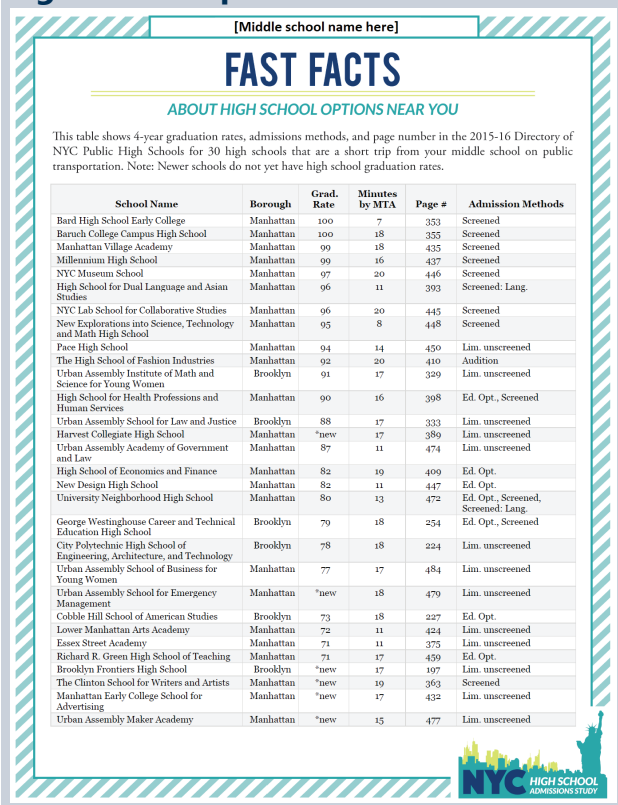
### Fast Facts plus academically non-selective school supplement (FF2):

Students received a Fast Facts list and a supplementary list of non-selective "limited unscreened" high schools that give priority admission to students who attend an open house or information session and sign in. This group also could opt-in to receive weekly text message reminders about open house dates, times, and locations.

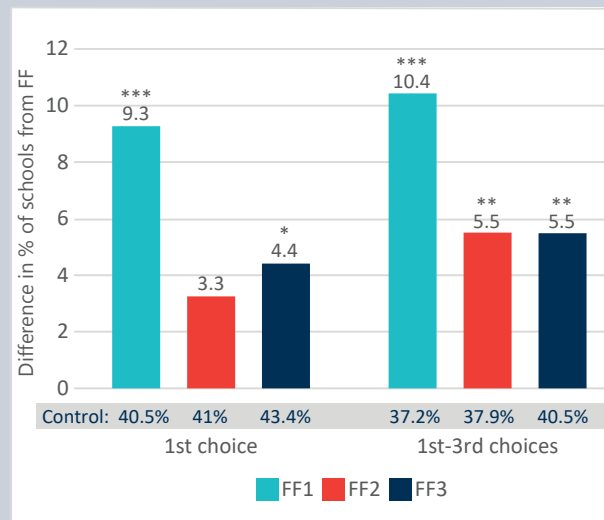
### Fast Facts plus academic interest area supplement (FF3):

Students received a Fast Facts list and a supplementary list that grouped high school programs into seven academic or career interest areas, such as Performing & Visual Arts, Health Professions, and Business & Communication. This supplement was designed to help students easily find high schools that align with their interests.

Figure 1. Sample Fast Facts List



**Figure 2. Impact on Percent of Choices from Fast Facts**



Note: \* p<0.05 \*\* p<0.01 \*\*\* p<0.001

Materials specific to each intervention were delivered by trained research assistants to students, rather than to parents or school counselors. They were designed with student use in mind, although we encouraged students to share the information with their families. All written materials—including text messages sent to the FF2 group—were available in English and Spanish. Control schools did not receive any materials until after the study was complete.

**Did students use the information provided by the Fast Facts?**

Understanding whether students used the information we provided is complicated by the fact that high schools with higher graduation rates—like those on Fast Facts—receive more applications in general. To address this, we created Fast Facts lists for schools in the control group and calculated the percent of high schools their students chose from the list they would have received, had their school been assigned to receive one.

We found students in all three intervention groups were significantly more likely to apply to schools on their customized lists than were students in the control group. Figure 2 shows the effects of the interventions on the percent of first and top three high school choices drawn from the customized lists. Each is measured relative to the control group, which did not receive our intervention materials. FF1 students were 9.3 percentage points more likely to rank a Fast Facts high school as their first choice than students in the control group. Additionally, a 10.4 percentage point higher share of their top three choices were drawn from Fast Facts. To put this in perspective, this effect is equivalent to one in three students listing an additional Fast Facts high school among their top three choices. Students who

received Fast Facts alone (FF1) chose more schools from our customized lists than students who also received a supplementary list (FF2 or FF3).

**Did the Fast Facts interventions raise the graduation rates of students' choices and matches?**

Students receiving the Fast Facts lists did not apply to higher-performing high schools, on average, but they were less likely to apply and match to a low graduation rate school (<70%) than students in the control group. Additionally, students receiving Fast Facts alone (FF1) matched to schools with a 1.7 percentage point higher graduation rate, on average, a statistically and practically significant effect (Figure 3A). Students receiving Fast Facts alone were 6.3 percentage points less likely to match to a school with a graduation rate below 70%, a 14.6 percent reduction relative to the control group. The effect was again smaller for students who received a supplementary list. Students receiving Fast Facts and

**Figure 3. Impact on Graduation Rates**

Figure 3A. Impact on Graduation Rates

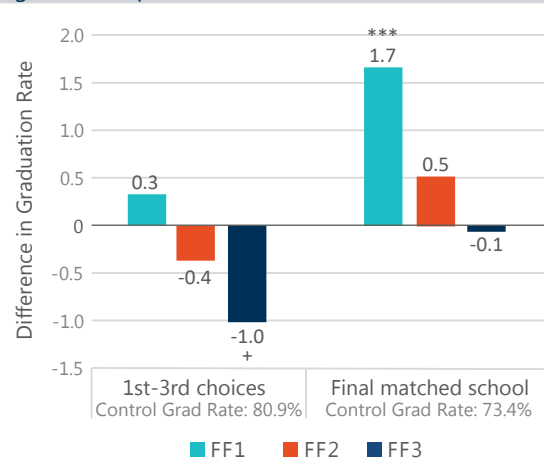
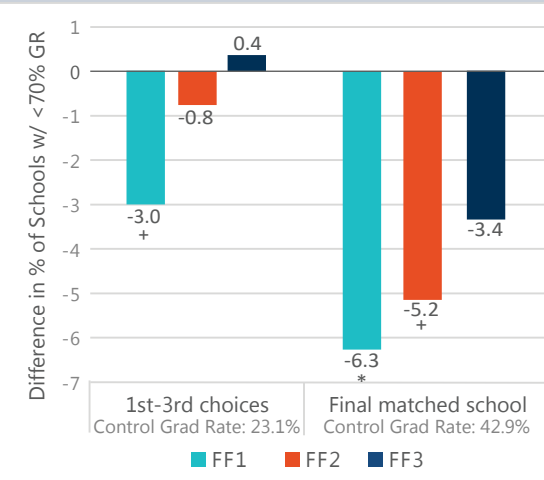
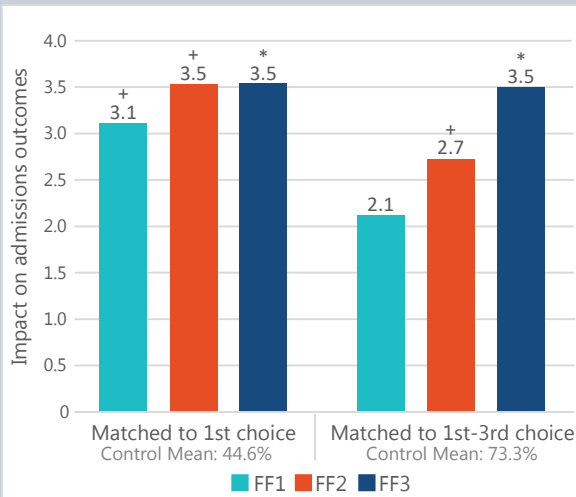


Figure 3B. Impact on Choosing Schools with <70% Graduation Rate



Note: + p<0.10 \* p<0.05 \*\* p<0.01 \*\*\* p<0.001

**Figure 4. Impact of intervention on admissions outcomes**



Note: + p<0.10 \* p<0.05

the non-selective supplement (FF2) or the interest area supplement (FF3) were 5.1 and 3.0 percentage points less likely to match to a low graduation rate school, respectively. Of these, only the FF2 effect was statistically significant.

It is notable that none of the interventions had a positive impact on the average graduation rates of students' choices. This is partly explained by the high graduation rate of the control group's choices, which averaged 81% for their top three. It may also seem counterintuitive that FF1 students matched to higher-performing schools while not applying to higher performing schools, on average. This is possible if the interventions shifted applications toward comparably-performing schools where the likelihood of admission was higher. Indeed, students receiving the Fast Facts and supplemental lists were more likely to apply to academically non-selective schools and schools in their home borough where they were more likely to have priority admission status. As a result, students in these schools were 3.1 to 3.5 percentage points more likely to be matched to their first-choice school (Figure 4).

**Did the effects of the intervention vary by student subgroups?**

Both disadvantaged and comparatively advantaged students used our informational tools to make their school choices. However, disadvantaged students were no more likely to use them than their more-advantaged counterparts in the same schools, and in some cases advantaged students appeared to benefit more from them, by applying and matching to more schools on our custom lists. Higher-achieving, white, and Asian students applied to more Fast Facts schools, on average, than lower-achieving, black, and Hispanic students, and

these students saw a greater reduction in their percent matched to schools with lower graduation rates. A notable exception are students in non-English-speaking households, a subgroup that represented nearly half our study sample. These students were more likely than students who speak English at home to draw their choices from the intervention lists and to avoid lower-performing high schools as a result.

Figure 5 shows the estimated effects of the Fast Facts interventions by language spoken at home, race/ethnicity, and academic achievement on the percent of students' top three choices from Fast Facts and the percent matching to a high school with a graduation rate below 70%. Rather than showing separate effects for the three interventions, we show a combined (average) effect.

**Figure 5. Impact of intervention on subgroups**

Figure 5A. % of 1st-3rd choices from FF

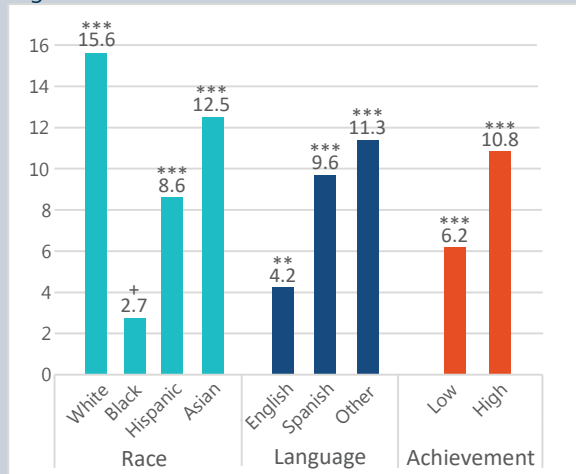
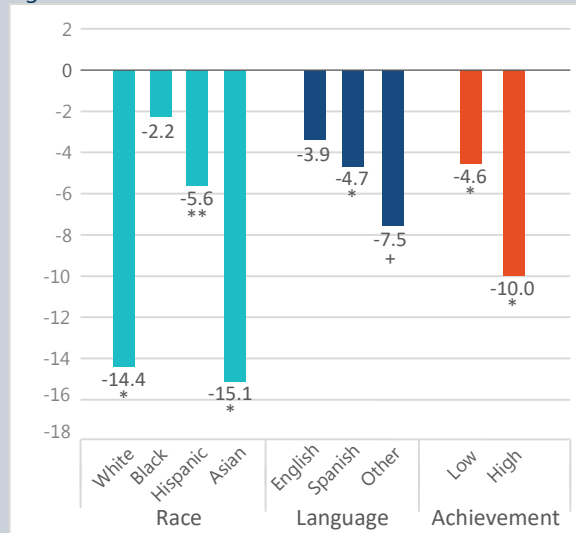


Figure 5B. Graduation rate below 70%: match



Note: + p<0.10 \* p<0.05 \*\* p<0.01 \*\*\* p<0.001

As Figure 5A shows, the Fast Facts interventions led students who speak Spanish or another language at home to apply to more Fast Facts schools in their top three than students who speak English at home. Similarly, the interventions led higher-achieving, white and Asian students to list more schools from Fast Facts than lower-achieving, black, and Hispanic students. This had varying impacts on the likelihood of being matched to a first-choice school. While the effects were positive for all groups, we saw smaller effects for Hispanic students and students in non-English-speaking households. This may be because higher-achieving, white, and Asian students are more likely to meet the requirements of academically screened schools. The net effect on the graduation rate of student's matched school was positive for all subgroups, with the largest effect for Asian students (+1.8 percentage points) and students in the top quartile in math (+1.3 percentage points). Finally, we found large and statistically significant reductions for nearly all subgroups in the likelihood of matching to a school with a graduation rate below 70%, with the largest effects for white and Asian students, (14.4 and 15.1 percentage points, respectively). See Figure 5B. While the subgroup differences we found are interesting and warrant additional research, we emphasize that—in most, but not all cases—the differences between subgroups are not statistically significant.

## Lessons for Policy and Practice

We found that students receiving our custom Fast Facts lists were significantly more likely to apply to schools on these lists than students in control schools. They did not apply to schools with higher graduation rates, on average, but were less likely to match to a school with a graduation rate below 70%. Students receiving the basic Fast Facts list matched to schools with a higher graduation rate on average. Effects on the quality of the matched school operated primarily through application to schools where students had higher odds of admission. These schools included less academically selective schools, schools with lower demand (in terms of applications per seat), and schools located in the student's home borough, where they are more likely to have geographic priority. Many of these schools could be considered “under the radar” options that are performing comparatively well but are less well-known to students.

By design, all schools in our study served predominately disadvantaged student populations (e.g., low-income, ELs, and lower-achieving). However, not all students in these schools are equally disadvantaged, or face the same set of challenges in the high school choice process. Because disadvantaged and comparatively advantaged groups vary in their access to and use of information, we might have expected our interventions to reduce disparities in choice behavior and outcomes. The idea here is that more advantaged groups are already near a ceiling of informa-

tion use, so disadvantaged groups have more to gain. Our findings suggest reasons to be wary of this claim, since the observed effects were not larger for disadvantaged students. We implemented school-level interventions because these most closely mimicked the actions a school district might take. More narrowly targeted information may help reduce gaps but would be more difficult to implement in practice.

It is worth noting several limitations of our study. First, we were only able to randomize our informational tools at the school, rather than student, level. This limited the number of different comparisons we could make. It also limited our ability to customize the information to each student's needs, compelling us to create lists that would be useful to a diverse population of students in each school. More personalized information could potentially elicit greater usage and impact. Second, although our materials were delivered to a large number of students, we cannot extrapolate our findings to a setting in which all schools receive such materials. An intervention that encourages more students to apply to already oversubscribed schools will not necessarily improve equity or overall access to school quality. To avoid this type of congestion, informational materials should attend to both school quality and odds of admission. Fortunately, we did not observe a glut in demand at top-performing schools in our study, but an increase in the percentage of students receiving their top choice. Finally, our intervention used trained research assistants to deliver materials to students in their classroom. In practice, informational supports would likely be provided digitally via a website or by school counselors. In future work, we will examine the extent to which students use information delivered through these means.

Read the full paper at:  
[www.nber.org/papers/w24471](http://www.nber.org/papers/w24471)

## Author Biographies

**Sean Corcoran** is an Associate Professor of Economics and Education Policy at New York University's Steinhardt School of Culture, Education, and Human Development.

**Jennifer Jennings** is a Professor of Sociology and Public Affairs at the Woodrow Wilson School, Princeton University.

**Sarah Cohodes** is an Assistant Professor of Education and Public Policy at Teachers College, Columbia University.

**Carolyn Sattin-Bajaj** is an Associate Professor of Education Policy and the Director of the Center for College Readiness at Seton Hall University.