Blueprint Labs

Using lottery data to evaluate charter school effectiveness

Overview

Lottery-based study methods are a valuable tool to understand the effectiveness of charter schools. Directly comparing test scores between charters and traditional public schools is like comparing apples to oranges. Simple differences in test scores can be a result of differences in students' abilities or backgrounds, rather than a school's quality. For this reason, researchers can consider using lottery data to compare students who are randomly offered a spot at a charter school with those who are not. Comparing lottery winners and losers over time reveals differences in outcomes driven only by charter school attendance, allowing for an apples-to-apples comparison.

This guide provides information on the types of school lottery data that are necessary to conduct this research.

Required Data

A few key pieces of information need to be included in a lottery dataset:

Category	Variable
Student lottery outcomes (for each applicant)	**Initial offer**: Who received an offer to attend the school on lottery day?
	Ever offer: Who received an admissions offer, even after lottery day?
	Lottery number: What was the random order of students on lottery day?
	Waitlist number (if different from lottery number)
	Admissions offer date: When did an applicant receive an offer, if ever?
Lottery rules and details	**Priority groups**: Which applicants were given preference in the lottery? Common examples include applicants with siblings who already attend or are offered a spot at the school, students who live close to the school, and children of teachers and staff.
	School: School the student applied to
	Year: School year the student applied for
	Application submission date: Did the student apply after the deadline?
Student identifiers	**First, middle, and last names**
	Date of birth
	Grade: grade the student applied to

Student lottery outcomes

First, it is important to know which students applied to a school and which applicants were offered a seat. It is better to obtain the random number each student was assigned in the lottery, allowing verification that offers to attend the school coincide with the random ordering of students on lottery day.

Lottery rules and details

To ensure the comparison of students with the same likelihood of being offered a seat, it is important to know the rules of the lottery. For example, some applicants may be given preference in the lottery based on where they live or if they have siblings attending the school. Some applicants may be bumped up the offer list if they are applying with a sibling who receives an offer. Additionally, students who apply after the deadline may be ranked by their application date, rather than by a random lottery number. This information is essential for making apples-to-apples comparisons of charter applicants.

Student identifiers

Finally, it is important to have information about applicants to identify them in the state's administrative records, such as their name, date of birth, and grade.
This information may come from many different sources and files. As long as students can be identified in each file (i.e., by name and date of birth or by an identification number), it is possible to compile information across files. Additionally, files can contain additional variables we haven't listed. After processing and cleaning the data, it will look something like this:

ID	Name	Birth Date	Year	School	Grade	Priority	Submit Date	Lottery #	Offer Date	Outcome
00	Sarah Smith	3/8/12	2021-2022	BP Charter	3	Sibling attends	12/2/20	1	4/1/21	Enrolled
01	John Jeff Johns	5/2/11	2021-2022	BP Charter	3	In zone	2/12/21	2	5/22/21	Enrolled
02	Jane Jansen	6/1/12	2021-2022	BP Charter	3	None	1/3/21	3		Waitlist
03	Lou Lars	5/9/11	2021-2022	BP Charter	4	In zone	2/26/21	1	4/1/21	Declined
04	Jacob Jacks	8/3/11	2021-2022	BP Charter	4	In zone	1/1/21	2		Waitlist

If you have additional questions, please contact chartercollab@mitblueprintlabs.org.