What Do Educator Job Applications Reveal About Preferences for Schools?

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Abstract

Educator labor markets vary considerably within and across school districts, yet direct evidence of how prospective educators weigh school characteristics when making job decisions is limited. Using applicant tracking data from 19 U.S. school districts, we analyze two distinct forms of applicant choice: initial application decisions to single-school job postings and explicit school preference indicators within multi-school job postings. We find that single-school postings in districts serving higher proportions of historically disadvantaged students receive fewer applications, but that this pattern does not hold across schools within a district. In our analysis of applicants' choices across schools associated with the same job posting, we find applicants tend to indicate a good deal of flexibility regarding their willingness to work in different schools. However, schools with higher percentages of White students and schools in higher-income neighborhoods were significantly more likely to be marked as preferred. We also find evidence of preference heterogeneity: Asian and Black applicants are significantly more likely than White applicants to indicate a preference for working in schools located in lower-income neighborhoods, serving higher percentages of students eligible for free or reduced-price lunch (FRPL), and higher percentages of Black students.

1. Introduction

Teacher quality is seen as an important lever for influencing student outcomes; a well-established literature demonstrates their influence on students' short-run achievement on standardized tests (e.g., Aaronson et al., 2007; Goldhaber & Hansen, 2013), non-test outcomes (e.g., Jackson, 2018), and longer-term outcomes including college-going behavior and earnings in the labor market (e.g., Chamberlain, 2013; Chetty et al., 2014). There is also evidence of "teacher quality gaps," i.e., teachers are unevenly distributed across schools and schools serving higher percentages of historically disadvantaged students tend to have less access to more qualified and effective teachers (EdTrust-Midwest, 2025; Goldhaber et al., 2015, 2018; James et al., 2022; Rodriguez et al., 2023).[1]

Differences between schools in the qualifications of newly hired teachers appears to be a contributor to these gaps (Goldhaber et al., 2023). However, there is only limited research on the extent to which this is related to differences in applications to schools, with schools serving more disadvantaged student populations tending to have thinner application pools (Boyd et al., 2011; Bates et al., 2025; James et al., 2023; Goldhaber et al., 2025; Laverde et al., 2025). In this paper, we seek to add to the understanding of applicants' preferences for working in different types of schools by analyzing how school characteristics relate to the supply of both teacher applicants and applicants for principal and assistant principal positions and to do this with harmonized data

[1] In using the terms "historically disadvantaged students" and "disadvantaged students" we are referring to students who are from low income households and/or of Black, Hispanic, or Native American race or ethnicity. We use these terms to acknowledge that the educational and economic disparities facing these groups are not incidental but reflect documented histories of exclusion, discrimination, and disinvestment in schools serving these communities (Ladson-Billings, 2006).

both within and across districts and charter organizations.[2] To our knowledge, this is the first study of educator job applications with data across multiple employers.

We explore applicants' school preferences using rich data from an applicant tracking system (ATS) operated by Nimble Hiring, PBC. (henceforth "Nimble"). Nimble provides services to a wide range of school districts and charter organizations that use the platform to post job openings, receive and screen applications, and track applicants' advancement in the hiring process.

Application data where candidates reveal choices between schools are valuable for understanding teacher preferences but are relatively scarce. Where available, often they are not suitable for estimating preferences for specific schools because it is a common practice among school systems to post pooled positions, limiting the visibility of specific locations. In this study, we use two features of the Nimble platform to analyze applicant preferences. One allows candidates to apply to job postings associated with a single-location and the other allows candidates to choose a subset of schools they are interested in from among all the schools associated with a pooled job posting. The latter is important as it is usually difficult to disentangle the characteristics of the school from the job.

We use these two types of data to address the following research questions:

1. What do educator application patterns reveal about their preferences for school characteristics?
2. What do applicants' selections from a menu of schools associated with a job posting reveal about educator preferences for school characteristics?
3. Is there heterogeneity in preferences across applicant characteristics?

[2] A large body of research demonstrates the importance of principals to student achievement and teacher retention (Grissom et al., 2021), but the supply side of the school-leader labor market has received little attention.

4. To what degree do the preferences of school leaders correspond with those of teachers?

We find some support in teacher application patterns for the long-recognized notion that schools serving higher numbers of disadvantaged students face staffing difficulties, but school demographics are not predictive of differences in application volume *within* school districts. When able to choose from a menu of schools associated with a job posting, applicants tend to indicate a good deal of flexibility regarding their willingness to work in different schools. However, schools with higher percentages of White students and schools in higher-income neighborhoods were significantly more likely to be marked as preferred. We also find evidence of preference heterogeneity. Compared to White applicants, Asian and Black applicants are significantly more likely than to indicate a preference for working in schools located in lower-income neighborhoods, serving higher percentages of students eligible for free or reduced-price lunch (FRPL), and higher percentages of Black students. For school leadership positions, we find little evidence that applicants' school preferences are related to student body demographics. However, these findings should be treated with caution due to the small number of principal and assistant principal job postings in the data.

These findings contribute to a fuller understanding of the preferences of teachers for different types of schools, which is fundamental to crafting policies that make employment in public schools desirable in general, and to addressing inequities between schools in the distribution of teachers.

2. Background on School Preferences

Hiring outcomes are the result of a two-sided matching process determined by the preferences of both hiring managers and prospective applicants. Therefore, policies aimed at reducing gaps in quality that stem from hiring outcomes are likely to benefit from a thorough

understanding of preferences for working in different types of schools. Most studies, however, seek to understand preferences by observing who is employed by schools because applications to schooling positions are rarely observed. Boyd et al. (2013), for instance, used a two-sided matching model and administrative data from several school districts in New York to analyze the matching of elementary teachers to their first jobs. They found that teachers had preferences for geographic proximity to place of residence, schools with smaller proportions of students in poverty, and for White teachers, a preference for working in schools that served smaller percentages of minority students. Preferences for economic demographics are also reflected in transfer behavior, with teachers exhibiting a tendency to move from schools with higher proportions of students from low-income households and to schools with lower proportions of those students (Lankford et al., 2002; Boyd et al., 2011). Goldhaber et al. (2023) examined data on the employment, transfers, and attrition of teachers in Washington and concluded that a significant portion of the teacher quality gap is related to the characteristics of the teachers who are hired.

Other evidence on teachers' school preferences is derived from observations of pre-service teachers who are seeking employment. Engel et al. (2014) studied the behavior of Chicago Public Schools (CPS) job fair participants. Consistent with Boyd et al. (2013), they found a preference for schools that were closer to one's residence. A one kilometer increase in the distance (as the crow flies) between a participant's home address and a school was associated with an 8% decrease in the probability that the prospective teacher would apply to that school. They also found that schools with higher proportions of students eligible for free or reduced-price lunch (FRL) received fewer applications and that job fair participants were more likely to apply to schools that served more students who matched their own race or ethnicity.

The findings on race and ethnicity from Boyd et al. (2013) and Engel et al. (2014) are consistent with research by Cannata (2010), who collected survey and interview data on the preferences of new teacher candidates navigating the job search process. She found that while teacher candidates stated a preference for schools with administrative support, collegiality, and adequate resources, their job search decisions tended to prioritize feelings of familiarity and comfort-based perceptions of social and cultural characteristics of schools and districts.[3]

As noted above, an aspect of the teacher-school matching process that has received relatively little attention, and which is the focus of our analysis, is the supply of teacher applicants. One study that does address this topic is James et al. (2023), who provide evidence on school-level variation in the supply of applicants to classroom teaching positions in Boston Public Schools. They found that schools with higher levels of applicant supply tended to serve fewer students eligible for FRPL, fewer English language learners, more high-performing students (in both math and ELA), and more White and fewer Hispanic students. This is consistent with the evidence on teacher preferences for different school characteristics described above.

Two recent single-district studies examine teacher preferences using internal transfer data from districts in the Midwest and North Carolina. Laverde et al. (2025) and Bates et al. (2025) identify preferences for fewer disadvantaged students alongside a preference for shorter commutes. However, because both studies rely on closed internal transfer systems, their findings reflect the preferences of the incumbent workforce and may lack external validity regarding the broader supply of external applicants entering the market.

[3] The finding that prospective teachers prioritize feelings of familiarity is consistent with studies finding that teacher candidates tend to find employment in districts that are close to where they received their teaching credentials and their hometown (Boyd et al., 2005, Goldhaber et al., 2014; Krieg et al., 2016; Reininger, 2012).

In prior work using the same job application data used in this paper, we looked at how applicant supply varies across school districts, subject areas, and over the course of the hiring season (Goldhaber et al., 2025). We found that applicant supply, as measured by the number of unique applicants per opening, was negatively associated with the percentage of students in a school district eligible for free or reduced-price lunch but not significantly associated with the percentage of underrepresented minority (URM) students.[4] Applicant supply also varied according to subject area and timing, with job openings posted early in the hiring season receiving roughly twice as many applications as jobs posted in the month-and-a-half prior to the start of the school year.

In comparison to the evidence on the preferences of teachers for working in different types of schools, much less is known about the preferences of other school personnel, including principals and assistant principals. Using administrative data from Tennessee, Grissom et al. (2019) found that schools serving larger proportions of students from low-income households, students of color, and students with low academic achievement are disproportionately led by principals who are less qualified and less effective. While this is consistent with the evidence on gaps in teacher quality discussed above and is suggestive of the types of schools in which school leaders prefer to work, we are unaware of more direct evidence on the preferences of school leaders.

3. Data

3.1 Data Sources

[4] For the purposes of this paper, we define underrepresented minority students as those of Black, Hispanic, or Native American race or ethnicity who historically, have been underrepresented among students with positive academic outcomes (Musu-Gillette et al., 2017).

This study utilizes application data from Nimble, an applicant tracking system (ATS) that supports hiring processes for a diverse array of educational organizations, including traditional public schools, independent charter schools, and charter management organizations (CMOs). For the purposes of our analysis, we restrict the sample to public K-12 school districts. We are able to link the schools in these organizations to detailed information about school characteristics maintained by the National Center for Education Statistics (NCES) Common Core of Data (CCD). Additionally, in most school districts there are multiple schools at each grade level, which allows us to analyze applicant preferences across schools within an organization. This is often not the case for charter school organizations.

The Nimble data include records of job postings and applications submitted between January 2019 and September 2024. Each job posting record provides information including the date it was created, the job title, the number of positions advertised (FTEs), and unique identifiers for the hiring organization. Application records contain de-identified applicant identifiers, enabling us to track how many applications were submitted per job and the set of jobs that each applicant has applied to. Importantly, a single job posting may represent multiple job openings and may be associated with several schools and some job postings may not be associated with any specific school.[5] However, school districts often either post jobs for a single location, or, when a position is associated with multiple schools, applicants in some districts are given the opportunity to express interest in *a subset of* schools, or to indicate *flexible preferences*, signaling a willingness to teach in other locations associated with a job posting.

[5] Job postings unassociated with a school may occur when the job opening is for a district-level position, when the position involves interacting with students in multiple schools, or when an organization is looking to hire a candidate and determine where to place them at a later date.

The focus of our analysis is the relationship between school characteristics and levels of applicant interest for job openings associated with those schools. To obtain information about school characteristics, we match organizations and schools from the job application data to administrative records from the CCD using school and district names and geographic identifiers.[6] This enables linking of job application patterns to school-level student demographic composition and eligibility rates for free or reduced-price lunch (FRPL) programs, which proxy for low family income. We also link schools to School Neighborhood Poverty (SNP) estimates generated by the NCES Education Demographic and Geographic Estimates (EDGE) program.[7] The SNP may provide a more nuanced measure of poverty than FRPL program data, particularly in cases where schools qualify for the Community Eligibility Provision (Fazlul et al. 2023).

3.2 Analytic Sample

As noted above, the analysis is confined to public K–12 school districts. Within this group, we further limit the sample to paying clients of Nimble at or above a minimum tier of customer support.[8] Applying these filters results in a dataset comprising job postings and applications from 19 distinct public K–12 school districts. Nimble is a platform operating in districts across the U.S. This provides a diverse, cross-sectional, convenience sample that is observably quite similar to the population of U.S. schools.[9] However, few of the school districts

[6] These include the Directory, Membership, Staffing, and Free and Reduced Lunch, and Geographic files, available at https://nces.ed.gov/ccd/files.asp (accessed July 9, 2025).

[7] Documentation of the SNP data is available at https://nces.ed.gov/programs/edge/docs/EDGE_SIDE_PUBSCH_FILEDOC.pdf (accessed October 12, 2025).

[8] These paying clients receive standardized training and implementation support, making them more likely to engage with the platform consistently and thoroughly. Nimble is available under a state-level contract to a large number of non-paying clients who are eligible for a basic level of service at no cost. However, usage of applicant statuses to denote progress in the hiring pipeline is uneven among this group in comparison to clients who pay for Nimble's standard support model.

[9] We assessed the generalizability of our sample to the population of U.S. schools using The Generalizer software (Tipton & Miller, 2025). We measure the generalizability of the regular-district schools sample to the population of U.S. regular-district schools by examining sample versus population match on observable moderators of potential heterogeneity: school size, urbanicity, number of schools in district, student percent free and reduced price lunch,

in the analytic sample appear to be in the same labor market as one another; the applicant pools of the districts we analyze exhibit little overlap, with fewer than 5% of applicants in our analytic sample submitting applications to multiple districts in a given year. As such, our pooled results without district fixed effects are mainly descriptive of differences in teacher applications across places rather than of any teacher's choice between nearby, different places. For this reason, we focus on results from within-district, cross-school choices in models that include hiring organization fixed effects.

Our analytic focus is on job postings for classroom teaching roles and school leadership positions (i.e., principals and assistant principals). We identify relevant positions using O*NET occupational codes embedded in the data, in combination with job titles.[10] Specifically, we retain postings with O*NET codes beginning with "25-", which broadly correspond to educational occupations. From this set, we exclude roles where direct classroom instruction or school leadership is not the primary duty—such as instructional coordinators, teaching assistants, and library personnel. Additional filters are applied using keywords to remove positions associated with counseling, coaching, therapy, extracurricular programs, virtual instruction, summer school, pre-K, and substitute teaching. We also omit postings designated *internal only*, which are restricted to applications from current staff members.

As described below, we conduct two analyses of applicants' school preferences that utilize different analytic approaches and subsets of data. The first analysis considers how the volume of job applications varies across schools. The second analysis considers the probability that an applicant indicates a preference for working in a school when given the option to choose

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percent female, percent White, percent Black, percent Hispanic, percent ELL, and neighborhood median family income, percent of civilians unemployed, percent with a bachelors' degree or more, and percent speaking English only. This analysis produced a generalizability score of 0.80, on a 0 to 1 scale, indicating high generalizability.

[10] O*NET codes are available at https://www.onetonline.org/find/all (accessed July 10, 2025).

from a set of schools associated with a job posting. Here, we describe the analytic samples used to conduct each of these analyses. We term the first as the *Single School Opening* sample and the second as the *Multi-School Opening* sample. The *Single School Opening* sample comprises the set of job postings for classroom teaching and school leadership positions described above that are associated with a single school. We exclude job postings associated with multiple schools from this analytic sample because we cannot precisely link job applications to specific schools.[11]

The *Multi-School Opening Sample* comprises the set of job postings for classroom teaching and school leadership positions described above that are associated with multiple schools and that give applicants the opportunity to indicate preferences for working in specific schools. For these job postings, a section of the application form with the heading "School Preferences" presents the menu of all schools with an opening for the specific job and then instructs applicants to "Select all schools you're interested in." Additionally, applicants can check either or both of the following boxes (or leave both blank) when providing school preference information: "*I'm interested in <u>all</u> opportunities, regardless of location*" (*ALL*) and/or "*I'm open to being contacted about opportunities at other locations*" (*OTHER*). When candidates in these districts select specific schools from the menu — forgoing the ALL or OTHER options — their choices constitute a revealed preference over which schools they are willing and unwilling to work in, holding the district and job constant.

[11] For jobs associated with multiple schools, we explored the approach of treating each application-school combination as a distinct application. Unfortunately, this appeared to substantially overstate application volume in some cases. As shown in **Figure A1** in the Appendix, when multi-school job postings are included, the school-level distribution of applications per opening is wider and contains more outliers than when the sample is restricted to single-school job postings. We also found that the correlation between school-level applications per opening and school characteristics differ when multi-school job postings are excluded/included (see **Table A1** in the Appendix). For example, the correlation between applications per opening and the percentage of underrepresented minority students at a school is -0.33 when multi-school job postings are excluded and 0.23 when they are included.

Applicants who *do* select the *ALL* option are effectively communicating that they are interested in the job regardless of location–i.e., they do not indicate any preference. For applicants who select the *OTHER* option about willingness to be contacted about other opportunities, their selection of schools is more indicative of where they would prefer to work than where they are willing to work.

Defining the choice set available to each applicant is complicated by districts being able to add schools to the menu of choices. Additions may be made manually or dynamically such that whenever a new opening is associated with a job posting, the menu of schools updates accordingly. While we do not have precise records of when schools are added to the menu, we do observe when a school-level opening is created. Additionally, we observe application dates and can use the first time a school is selected as preferred for a particular job to infer when a school first appeared on the menu. Here, the *ALL* option is helpful since whenever an applicant selects *ALL*, each of the schools on the menu is automatically marked as selected (*ALL* is selected on over one third of applications). We exclude schools from the choice set associated with an application if the application date precedes both of the following: the earliest date a school is marked as preferred; and if available, the date that the school-level opening was created (available for about three quarters of job-school combinations).[12]

The observation levels in the *Single School Opening* (panel A) and *Multi-School Opening* (panel B) samples are presented in **Table 1**. For the *Single School Opening* sample, we determine the number of openings associated with each job posting based on the number of FTE reported for the job, the number of hires reported for the job, and the job title.[13] We observe

[12] This excludes 16,798 application-school combinations out of a total 122,080 (14%).

[13] Following Goldhaber et al. (2015), in cases where the number of hires exceeds the reported FTE, we use the number of hires to measure the number of openings. In cases where FTE and hires are unreported, we assume there is one opening, or two openings if the job title implies multiple openings.

1,910 job postings for teaching positions associated with 2,599 openings across 19 school districts and 257 schools. Over 12,000 unique applicants submitted 26,746 applications to these job postings. The sample sizes for principal and assistant principal job postings are considerably smaller with 83 and 40 job postings respectively, though these job postings drew over 2,500 applications. Fourteen districts and 70 schools are represented among principal job postings, and 8 districts and 30 schools are represented among assistant principal job postings.

In comparison to the *Single School Opening* sample, the *Multi-School Opening* sample is more limited in terms of the number of districts and schools it covers. For teaching positions, we observe 269 job postings comprising 2,404 job-school links across 6 school districts and 189 schools. For school leadership job postings, the sample is particularly sparse. We observe a total of only 9 job postings associated with 69 job-school links and 681 applications (115 for principals and 450 for assistant principals). This limits the scope for statistical inference and generalizability.

3.3 Descriptive Statistics

Here, we describe the characteristics of our analytic samples and how our measures of applicant interest (application volume and school preferences) vary across schools. Note that applicant characteristics are self-reported and that some applicants do not report any gender or race/ethnicity (10% and 8% of applicants in the *Single School Opening* and *Multi-School Opening* samples, respectively). We present descriptive statistics for the applicants and schools in our analytic samples in **Table 2**. The applicant pools in both samples are diverse and differ across samples. The largest racial/ethnic group in both samples is White applicants, who represent 56% of the applicants in the *Single School Opening* sample and 40% of applicants in the *Multi-School Opening* sample. We observe substantially more Asian applicants in the *Multi-School Opening* sample (23% vs. 11%). The samples also differ in terms of the percentage of

applicants with prior teaching experience: 66% in the *Single School Opening* sample compared to 80% in the *Multi-School Opening* sample.

Our two samples also differ with respect to school characteristics because they cover distinct sets of jobs and reflect varying district practices regarding multi-school postings. Here, note that the *Multi-School Opening* sample is dominated by two large urban school districts that tend to use district-wide pooled job postings (as shown in Table 1, 6 out of 19 districts are in the *Multi-School Opening* sample). On average, the schools in the *Multi-School Opening* sample serve substantially higher percentages of students who are Black and lower percentages of students who are White, while the average percentages of Asian and Hispanic students are similar. Schools in the *Multi-School Opening* sample also serve higher proportions of FRPL-eligible students, but are located in somewhat higher-income areas, as measured by the income-to-poverty ratio (IPR) from NCES's School Neighborhood Poverty estimates. These compositional differences should be kept in mind when interpreting the results of each analysis.[14]

In our analysis below, we investigate the degree to which applicant interest in teacher and school leadership job postings is related to school characteristics. The measure of applicant interest we use to analyze the preferences in the *Single School Opening* sample is the number of applications per opening (*Application Volume*), calculated at the job level. We present the distributions of *Application Volume* for teaching, principal and assistant principal job postings in **Figure 1**. For teachers, the median job has seven applications per opening, and the distribution is

[14] Regarding the generalizability of our analysis , note that the schools in the *Single School Opening* sample serve a substantially higher percentage of students eligible for FRPL (59.0%) and a lower percentage of White students (35.7%) than U.S. public schools overall (approximately 52% and 47%, respectively). The *Multi-School Opening* sample is even further from the national distribution — with average FRPL eligibility of 69.6% and White enrollment of just 15.2% — suggesting that findings from that analysis may be most applicable to large urban districts and should be interpreted cautiously in the context of more suburban or rural settings.

concentrated under roughly 20 with a long tail of jobs receiving up to 70 applications per opening. We observe a similar pattern for principal teaching jobs, but with a higher median volume of applications (12). Application volume is more evenly distributed for assistant principal job postings, which have a median value of 23 applications per opening.

The measure of applicant interest we use to analyze preferences in the *Multi-School Opening* sample is the probability an applicant marks a school as "preferred." We present the distribution of probabilities that an applicant marks a school as preferred in **Figure 2**. We calculate these probabilities at the job-school level. For example, if Job Posting j is associated with 10 schools and receives 100 applications, we would calculate the probability P_{sj} as the number of applications indicating a preference for school s divided by 100. For each job type, we observe a fairly even distribution of probabilities, with moderate clustering around zero. Median probabilities are 0.41 for teaching jobs, 0.37 for principal jobs, and 0.50 for assistant principal jobs.

Much of our analysis will focus on how applicant interest in working in different schools varies *within districts*. To identify any potential relationship between measures of school characteristics and applicant interest, we must observe meaningful levels of within-district variation in those measures. To assess the level of variation in our analytic sample, we calculate the standard deviations of school characteristics across the schools within each district and plot these standard deviations against the number of schools in each district in **Figure 3**. We do this for the 19 school districts in our analytic sample (indicated by red markers) and for all districts in the U.S. that fall within the same size range, as measured by the number of schools (between 4 and 72 schools). We use measures of district characteristics from the most recent year available.

We find that levels of within-district variation in school characteristics are generally consistent with that observed in similar-sized districts across the U.S. However, some of the smaller and mid-size districts in our analytic sample exhibit relatively little variation in some measures, including URM%, Black% and IPR. Additionally, the largest district in our sample exhibits virtually no variation in the percentage of students eligible for FRPL due to the fact that nearly every school in the district participates in the National School Lunch Program under the Community Eligibility Option, which allows high-poverty schools and districts to provide meals at no cost to students without collecting household applications. As is evident in comparing the bottom left FRPL% and bottom right (income-to-poverty ratio) panels of Figure 1, we can see that this school district *does* exhibit a relatively high degree of variation across schools in neighborhood poverty.

Prior to developing our empirical approach below, it is useful to consider how the school characteristics we study relate to our measures of applicant interest and to one another. We begin by looking at the correlations between the number of applications per opening and a series of school characteristics in the *Single School Opening* sample in **Table 3**. For teaching positions (in the top panel), we find relatively strong negative correlations between *Application Volume* and various school characteristics – URM% (-0.21), Black% (-0.18), and FRPL% (-0.26). We also find that most school characteristics are strongly correlated with one another, including each of the demographic characteristics. Our two poverty measures are also strongly correlated with one another (-0.44) and with most of the demographic measures.

For school leadership job postings, the correlations between *Application Volume* and school characteristics differ from what we observe for teaching jobs. For both principal and assistant principal jobs, we find positive correlations between *Application Volume* and URM%

(0.07), Black% (0.59), and FRPL% (0.24). The correlations between school characteristics also differ, reflecting the fact that only a subset of schools is represented in the principal and assistant principal samples (70 and 30 schools, respectively). Also note that the observation levels in our school leadership samples are relatively small (83 and 40 job postings).

Turning to the *Multi-School Opening* sample, we calculate preference probabilities at the job-school level as the proportion of applicants to a job who indicated a preference for a school. Correlations between this measure of applicant preferences and school characteristics are presented in **Table 4**. For teaching positions, we find negative correlations between preference probability and URM%, Black%, and FRPL%, and positive correlations with Hispanic% and IPR. For school leadership positions, we observe relatively strong correlations between the probability that a school is marked as preferred and several school characteristics, though the patterns differ for principal and assistant principal job postings. As with the *Single School Opening* sample, the sample sizes for school leadership job postings are quite small with 19 and 50 job-school combinations for principal and assistant principal job postings, respectively.

Finally, to gauge how *Application Volume* and preference probabilities vary with school characteristics, we use kernel-weighted local polynomial smoothing to present local averages of application volume (**Figure 4**) and preference probabilities (**Figure 5**) across student characteristics. In Figure 4, we observe some non-linearities in the relationships between *Application Volume* and some school characteristics which are of interest in thinking about how to model those relationships. For example, for teaching jobs, the relationship between *Application Volume* and Black% drops steeply between roughly 0% and 15% but is fairly flat between 20% and 90%. Linear models may obscure some of the relationships between

Application Volume and school demographics. The patterns for principal and assistant principal job postings are comparatively irregular, as are the plots in Figure 5.

4. Empirical Approach

We conduct two sets of analyses. The first examines the relationship between application volume and school characteristics using the *Single School Opening* sample. The second examines the degree to which school characteristics predict the propensity of applicants to indicate a preference for working in a particular school using the *Multi-School Openings* sample.

4.1 Single School Openings

We explore the degree to which applicant interest in teacher and school leadership job postings varies according to school characteristics by regressing a measure of application volume on school characteristics. We measure application volume by calculating the number of applications per opening for each job posting (APO_j). The school characteristics we consider are consistent with those described in Section 3.3: URM%, Black%, Hispanic%, FRPL%, and IPR.

Measuring application volume at the job level allows us to control for two non-school factors that may also influence application volume. In prior work that analyzed district-level variation in applicant supply and the seasonality of job postings (Goldhaber et al., 2025), we found that the number of unique applicants per opening varied substantially according to subject area and when a job was posted.[15] Accordingly, we account for subject area and timing in estimating the following linear regression model:

$$APO_j = \alpha_0 + \alpha_1 Char_j + \alpha_2 Subj_j + \alpha_3 Weeks_j + \alpha_4 D_d + \tau Y_t + \varepsilon_j, \quad (1)$$

[15] In their analysis of job application patterns in Boston, James et al. (2023) also found a strong relationship between when a job was posted and the number of applications it received.

where $Char_j$ is a vector of the school characteristics described in Section 3.3, $Subj_j$ is a categorical variable representing the subject area of the job posting, $Weeks_j$ is the number of weeks prior to the start of the school year that the job was posted, D_d is a vector of district characteristics that may influence applicant supply including average minimum salary and total expenditures per pupil, Y_t is a vector of year indicators, and ε_j is an error term clustered at the school district level.[16] We estimate separate sets of models for teaching, principal, and assistant principal job postings.

As shown in Table 3, the school characteristics we consider are correlated with one another, with correlation coefficients for the sample of teaching jobs ranging between 0.102 (Hispanic% and IPR) and 0.765 (Black% and URM%). Therefore, we estimate specifications of the model represented in equation 1 separately for each school characteristic. School characteristics are represented in $Char_j$ as continuous variables and given potential non-linearities in the relationship between school characteristics, we also represent school characteristics as categorical variables indicating the quartile to which each school belongs. We calculate two sets of quartile indicators at the school level. The first is calculated at the school level across all schools in the analytic sample. The second set of quartile indicators is calculated across the schools within each school district since teacher labor markets are highly localized.

Applicants' preferences for working in different types of schools may be reflected both by how they sort across school districts and how they sort across schools within districts. To differentiate between variation in application volume driven by differences across school districts from variation driven by differences across schools, we estimate specifications of the

[16] Average minimum salary is determined using minimum salary data reported in the job posting data. Total district expenditures per pupil are obtained from the CCD. We use data from the most recent school year available (2021-22).

series of models described above that include district fixed effects. We prefer these models. Because our district sample is not dense in local areas, cross-district choices are largely not feasible for any applicant and not informative. In prior work, we found that teacher applicant supply, as measured by the number of unique applicants per job opening, varied substantially across school districts (Goldhaber et al., 2025). The district fixed effects models will control for local factors that are likely to influence application volume, such as salary levels, cost of living, and proximity to teacher education programs.

4.2 Multi-School Openings

Our second approach to analyzing applicant preferences for working in different types of schools focuses on job postings associated with multiple schools where applicants can indicate a preference for working in one or more schools by checking a box next to those schools.[17] These direct indications of preference measure something more specific than the preferences revealed by applying to a job posting, which are reflected in our measure of application volume. Applying to a job suggests a *willingness* to work in a particular school, even if it is not one's first or second choice. In contrast, applying to a job and marking a school as "preferred" reveals a preference for that school over the other unmarked schools associated with that job.

To analyze the relationship between schools' characteristics and the probability that an applicant marks a school as "preferred," we use the following conditional logit model:

$$P_{is} = \frac{e^{\beta Char_s}}{\sum_j e^{\beta Char_j}}. \quad (2)$$

In equation 2, P_{is} is the probability that application i indicates a preference for school s, $Char_s$ is a vector of school characteristics as defined above, and j indexes the set of schools associated

[17] Recall that as shown in Table 2, we observe this type of data for only a subset of school districts and jobs.

with job posting j. We cluster standard errors at the job level. As in our analysis of application volume, we estimate specifications of the model represented in equation 2 where each school characteristic is entered separately due to the strong correlations between some school characteristics.

To explore whether there is heterogeneity in the relationship between school characteristics and preferences, we estimate variants of the model in equation 2 that interact $Chars_s$ with a series of categorical measures of applicant characteristics, including race/ethnicity, gender, and having prior teaching experience. We also use interactions to explore whether the relationship between school characteristics and preferences differs according to whether applicants check a box indicating, *I'm open to being contacted about opportunities at other locations*. Note that applicants who check the box indicating, *I'm interested in <u>all</u> opportunities, regardless of location,* are excluded from the regression analysis because they do not indicate any preference between schools.

5. Results

5.1 Single School Openings

We present regression results for models analyzing the relationship between the number of applications per opening and a series of school characteristics in **Table 5**.[18] As noted above, because these characteristics are correlated with one another, we provide baseline estimates that enter them into separate regressions. For each school characteristic considered, we estimate the model with and without school district fixed effects. As described in section 4.1, each model includes categorical controls for subject area and year and a continuous measure of the number of weeks prior to the start of the school year to account for variation in applicant supply across

[18] We do not present results for White% because the correlation between URM% and White% is roughly 90%.

subject areas and over the course of the hiring season. Models estimated without district fixed effects also include controls for minimum salary level and total district expenditures per pupil, and standard errors are clustered at the district level.

The results from regressions estimated without district fixed effects are generally consistent with the conventional understanding that schools serving higher percentages of historically disadvantaged students face greater staffing difficulties. Specifically, we find that URM% (-0.058**), Hispanic% (-0.060**), and FRPL% (-0.114***) are statistically significant predictors of lower application volume.[19] However, when district fixed effects are included, the relationship with FRPL% is greatly attenuated and no longer statistically significant, while the coefficients on URM and Black student percentages become positive but small and statistically insignificant. This suggests that the initially observed negative relationship between student demographics and application volume is driven more by the overall supply of applicants to the district than by applicants systematically avoiding high-URM and high-FRPL schools within districts.

The analysis of application volume for principal and assistant principal jobs reveals a mixed picture compared to teaching positions, but an important caveat is that we have quite limited numbers of job postings in the sample (83 for principals and 40 for assistant principals). For principal jobs, a statistically significant positive relationship was found between application volume and the percentage of Black students (+0.508**). As district fixed effects are added, the coefficient on Black% drops to half the size but remains significant. We do not find evidence of a negative relationship between application volume and jobs associated with schools serving larger proportions of disadvantaged students. Overall, these results point to a potential

[19] When we regress application volume on URM%, FRPL%, and IPR together, only the coefficient on FRPL% remains statistically significant (-0.132***) in models without district fixed effects (see **Table A2** in the Appendix).

counterintuitive finding that schools in wealthier districts do not perform any better in attracting principal candidates. Finally, there is little evidence of variation in preferences across these dimensions for assistant principal jobs.

To account for potential non-linearities in the relationship between school characteristics and application volume, we estimate models with quartile measures of school characteristics. Results for teaching jobs are presented in **Table 6** and results for principal and assistant principal jobs are available in **Tables A5** and **A6** in the appendix. We calculate quartiles across all schools in the analytic sample (even numbered columns) and across schools within each district (odd numbered columns). These non-parametric representations of school characteristics that account for potential non-linearities paint a similar picture; for example, schools in the second through fourth quartiles of FRPL% show significant differences in application volume relative to schools in the first quartile, ranging from 4.6-6.9 applications per quartile change (about twice as large as the .11 average increase per percent change estimated parametrically). URM% and Black% also show similar patterns while Hispanic% is positive and significant for the top category only. However, the coefficients are mostly insignificant once we include district fixed effects. Overall, while there are some non-linearities disproportionately affecting the lowest quartile, the conclusions remain the same; there is some evidence that disadvantage reduces recruitment across districts but not within.

To further explore the between- and within-district associations between school characteristics and application volume, we calculate between- and within-district application volume gaps following Goldhaber et al. (2015). Specifically, we compare mean application volume between schools in the bottom quartile of each school characteristic distribution and schools in the top three quartiles, and decompose this total gap into a district component —

reflecting the degree to which bottom-quartile schools are concentrated in districts with lower overall application volume — and a within-district component, reflecting the residual gap among schools within the same district. Results are presented in **Table A7** in the Appendix. Consistent with the regression-based results in Tables 5 and 6, the total application volume gaps for URM%, Black%, and FRPL% are large in absolute terms — ranging from approximately 6 to 8 fewer applications per opening for schools in the bottom quartile — and are almost entirely attributable to the district component. For URM%, Black%, and FRPL%, the district component accounts for approximately 100–104% of the total gap, with the within-district component being negligibly small and slightly negative, indicating that bottom-quartile schools do not attract systematically fewer applications than higher-quartile schools within the same district.[20] Taken together, these descriptive results reinforce the core finding from the regression analyses: the observed association between school disadvantage and application volume reflects differences in applications across districts rather than across schools within districts.

5.2 Multi-School Openings

For the subset of jobs with school preference data, we predict the probability that an applicant to a job marks a school as "preferred" given the set of schools associated with a job. As noted above, these direct indications of preference measure something more specific than the preferences revealed by applying to a job posting, which are reflected in our measure of application volume. Applying to a job suggests a *willingness* to work in a particular school, even if it is not one's first or second choice. In contrast, applying to a job and marking a school as

[20] The pattern for Hispanic% is more muted, with a smaller total gap of roughly 0.8 applications per opening that is split more evenly between the two components (67% district, 33% within), though neither component is large in absolute magnitude. For IPR, bottom-quartile schools — those in the lowest-income neighborhoods — attract roughly 3 fewer applications per opening than schools in higher-income areas, with approximately 80% of this gap attributable to the cross-district component.

"preferred" reveals a preference for that school over the other unmarked schools associated with that job. As with the analysis of application volume, we separately enter school characteristics into a series of regression models to assess the relationship between each characteristic and applicant preferences. Results are presented in **Table 7A**. Keep in mind that these models necessarily exclude the 41% of applications where the applicant indicated, "*I'm interested in all opportunities, regardless of location*" since all schools were automatically marked as preferred in those cases.

For teaching jobs, we find that schools with higher URM% are significantly less likely to be marked as a preferred school by applicants and that schools with higher White% and IPR are significantly more likely to be preferred. Applicants to principal positions are more likely to indicate a preference for schools with higher Asian%, Hispanic%, and White%, and lower URM% and Black%. We do not find significant relationships in the analysis of assistant principal job postings. While we find some significant relationships between school characteristics and preferences, the magnitudes are relatively modest. For example, the average marginal effect of URM% is 0.006, such that a 20-percentage point increase in URM% (roughly one SD) would correspond to a 1.2 percentage point increase in the probability of the school being preferred. Overall, 30% of schools in the regression sample are marked as preferred. Note that these models include applications where applicants did (and did not) indicate an openness to opportunities at other schools, so the findings reflect a mix between tiered preferences and willingness to work at different types of locations.

Model estimates restricted to only those 30% of applications that *did not* indicate interest in any other locations, other than the ones marked as preferred, are presented in **Table 7B**. This is based on high stakes signaling for which schools candidates are willing to work in. Here the

analysis shows that, for teachers, there is a preference for working in schools with lower percentages of URM and Black students and higher percentages of White students. This is generally consistent with the results in Table 7A, but the magnitudes of the relationships are larger among these applicants who do not indicate openness to other opportunities.

To consider the possibility that applicants' preferences for working in different schools varies according to their own race/ethnicity, we allow the coefficient on the school characteristic considered in each regression to vary according to applicant race. In **Table 8**, we estimate models where each school characteristic is interacted with applicant race/ethnicity, with White applicants as the reference category. In column 1 (school characteristic = URM), we find a negative relationship (-0.008**) between the percentage of URM students at a school and the probability that it will be marked as "preferred" by an applicant. Regarding the interactions, we find that this relationship is significantly more positive among Asian and Black applicants and somewhat stronger (marginally significant) among Hispanic applicants, than it is among White applicants.

Asian, Black, and Hispanic applicants, and applicants who do not report their race/ethnicity, show stronger tendencies than White applicants to prefer schools serving more disadvantaged student populations. This is demonstrated by the findings in column 1 discussed above as well as the findings in columns 6 and 7; the relationship between FRPL% is significantly more positive among Asian and Black applicants than among White applicants and the relationship between IPR is significantly more negative among each group, suggesting a relative preference for working in schools in areas with lower-income households. These findings highlight that teacher preferences are not uniform and that non-White teachers are

significantly more likely to prefer working in schools with higher URM student populations and lower socioeconomic standing.

We run similar models for applications to principal and assistant principal positions, presented in **Table 9**. Because very few applications are from applicants of a race/ethnicity other than Black or White, we condense the race/ethnicity categories to Black, White, and Other. For principal applicants, we find little evidence that preferences vary according to applicant race/ethnicity, though Black applicants are less likely to indicate a preference for schools serving higher proportions of Hispanic students and schools in higher-income neighborhoods, than are White applicants. Regarding job postings for assistant principal positions, Black applicants are more likely than White applicants to indicate a preference for schools serving higher percentages of Black students.

6. Discussion and Conclusion

One reason to be hopeful about the capacity to improve teacher quality through better hiring is that, contrary to conventional wisdom, school districts often have meaningful choice among candidates at the job level (Grout, 2025). Historically, the supply of newly trained teachers has tended to outstrip demand for new hires (Cowan et al., 2016). Although shortages exist—particularly in certain subject areas and geographic areas—evidence suggests that shortages are often highly localized, with shortages and surpluses often coexisting (Edwards et al., 2025). What remains less clear, however, is how much application volume varies across school systems and individual schools and how this might be related to candidates' underlying preferences for different kinds of jobs and school environments.

This paper utilizes unique data from an applicant tracking system to analyze educator preferences using the universe of applicants across 19 US school districts. We interpret two different forms of applicant choice over hiring schools during the application process. Our *Single*

School Opening sample uses the volume of applications to single-school job openings to capture applicants' initial decisions to apply for an opening at a school. Our *Multi-School Opening* sample isolates applicants' decisions to mark specific schools as "preferred" from a menu of available positions associated with the same job posting. The distinction in the *Multi-School Opening* sample is important—it helps us disentangle preferences for different position types from the characteristics of the schools where they are available, something that is often hard to parse (Boyd et al., 2011). By analyzing these two distinct types of choices across a wide range of school districts, we add to the evidence on teachers' preferences for working in high-need schools, which the literature has linked to persistent gaps in teacher quality (e.g., Goldhaber et al., 2023).

Our most credible estimates suggest that teacher applicants do not systematically avoid high-poverty schools after entering a district's application system. Instead, lower application volumes at these schools reflect a broader shortage of applicants to districts serving higher concentrations of historically disadvantaged students. These findings contrast with evidence of negative within-district relationships between student disadvantage and application decisions reported for Boston (James et al., 2023), Chicago (Engel et al., 2014), and New York City (Boyd et al., 2011).

A key difference between our analysis and these prior studies is that we examine a wider range of districts located mostly outside of major cities — and, relatedly, districts that occupy a less dominant position in their local teacher labor markets. New York City, for instance, is a single citywide system enrolling over one million students across more than 1,800 schools, leaving teachers who live and work there with limited opportunity for meaningful cross-district choice. Chicago and Boston, while not as dominant, similarly account for large shares of teacher

employment in their respective local markets. By contrast, many districts in our sample operate in metropolitan areas alongside numerous competing districts, giving them more modest shares of the regional labor market — and giving teachers more realistic outside options.

Our finding that applications do not significantly vary *within* districts across school types does not necessarily mean that applicants do not have preferences for particular types of schools. In the *Multi-School Opening* sample (where applicants are asked about their preferred schools), most applicants (70%) indicated they were open to being contacted about opportunities at schools other than their preferred locations; about 40% indicated that they were interested in all opportunities, regardless of location. But among the 30% of applicants who indicated strong school preferences, those preferences favored schools serving more White students and schools in higher income neighborhoods over schools serving historically disadvantaged students.

The within-position preference estimates are modest. Meaningful differences in school composition correspond to relatively small changes in the probability that a school is marked as preferred, while neighborhood income appears to be the most substantively important predictor in the pooled models. The results are therefore directionally consistent with the literature on disadvantage avoidance, but smaller in magnitude, suggesting that once applicants have already selected into a district and position, the remaining school-level sorting margin may be weaker than studies based on single-district transfer systems imply.

This raises the question of why school characteristics appear to matter less than the literature suggests, while district-level sorting remains meaningful even in descriptive comparisons. One possibility is that teachers do not approach job search as a sequence of discrete school-level choices, but instead take a longer-horizon view of their careers. Districts differ along consequential dimensions — salary schedules, benefits, geography, reputation, and future

advancement opportunities — and entering a district may itself constitute a significant career commitment, particularly when switching later may entail forfeiting seniority or job security. Under this view, schools still matter to teachers, but school-level preferences may take a back seat at the point of entry, when the district-level decision looms largest.

Several strands of evidence support the plausibility of a district-first, career-long view of teacher job search. Qualitative work suggests that applicants often focus on the district rather than the school, relying on familiarity and comfort when deciding where to apply (Cannata, 2010). Teacher labor markets are also notably geographically localized: teachers tend to work closer to where they grew up than other college-educated workers, and proximity plays a central role in where they ultimately land (Boyd et al., 2005; Reininger, 2012). Administrative mobility data point in the same direction. Although some teachers change schools within a given year, cross-district movement is far less common — NCES data imply an annual cross-district move rate of only about 3.5 percent (National Center for Education Statistics, 2024).

Taken together, these patterns are consistent with a framework in which teachers first seek entry into a preferred local district and only later sort more finely across schools as they accumulate information and internal opportunities. Our results fit together naturally under this interpretation. The descriptive cross-sectional evidence shows that applicants are drawn disproportionately to more affluent districts; once district fixed effects are included, however, that relationship disappears — suggesting the aggregate pattern is not driven by strong school-level sorting at the point of initial application. Similarly, when applicants compare schools within the same job posting, most indicate broad flexibility, though among those who do express preferences, the direction is consistent with disadvantage avoidance.

That our school-level estimates are smaller than those in much of the prior literature is also sensible under this framework. Much of that literature focuses on a single district and is heavily shaped by transfer applications — contexts in which teachers already have established district ties, richer information about individual schools, and clearer inside options (e.g., Boyd et al., 2011; Bates et al., 2025; Laverde et al., 2025). Our sample, by contrast, is plausibly dominated by applicants who are new to the district. These applicants have weaker information, fewer internal options, and stronger reasons to prioritize the district-level decision over school-level sorting at the point of entry.

Our data do not allow us to test this district-first interpretation directly, since the districts in our sample do not form dense sets of nearby competitors. We therefore treat the cross-district patterns as descriptive rather than structurally identified estimates of district choice. Still, this margin is worth studying, and there are few existing ways to do so, as U.S. application-data studies have focused far more on internal transfers, a single district, or a single hiring venue than on applications across multiple districts in a common market (Boyd et al., 2011; Engel et al., 2014; Bates et al., 2025). For that reason, we view our cross-district results as descriptive evidence consistent with the district margin being important, especially for new applicants, while the within-position results suggest that the school margin is present but weaker at the entry stage. One implication is that school-level preferences may become more consequential later in the career, after teachers have entered a district and can pursue better matches through internal transfers or other within-organization moves.

The patterns discussed so far pool across applicants, but our school preference results also point to meaningful heterogeneity in school preferences by applicant race/ethnicity. Black and White teacher applicants appear to differ in terms of the type of schools in which they prefer

to teach. They are significantly more likely to indicate a preference for schools serving more Black and White students, respectively—a pattern consistent with findings from other studies of teachers' school preferences discussed in section 2 (Cannata, 2010; Boyd et al., 2013; Engel et al., 2014). Asian and Black applicants are also significantly more likely than White applicants to express a preference for working in higher poverty schools.

We also examine patterns among principal and assistant principal job applicants, although these findings are more suggestive given the small number of jobs we observe. That said, for *Single School Openings*, we find little evidence that student demographics predict application volume, with one exception: schools serving higher percentages of Black students receive more applications for principal positions. For our *Mutli-School Job Postings* sample, we find some evidence that principal applicants prefer schools serving lower shares of under-represented minority students and higher shares of White students; but again, the small number of postings and applications in this sample (4 job postings and 60 applications) warrants a cautious interpretation.

This study's contribution to the literature on how applicant preferences shape teacher labor markets is the introduction of additional nuance. We broaden the range of districts studied and our findings on within-district application patterns contrast with those from prior studies; we find that disparities in application volumes for high-need schools arise primarily from differences *across* districts rather than systematic avoidance of particular schools *within* districts. While our findings regarding applicants' choices from menus of schools are broadly consistent with the existing literature about teachers' preferences for working with fewer disadvantaged students, we nevertheless find a willingness among applicants to work in a wide range of schools in a given district. These distinctions have implications for policy and research. For example, our results

suggest efforts to improve staffing may benefit from a focus on strengthening district-level recruitment, compensation, and working conditions, rather than relying solely on school-level incentives or transfers. Our work also raises questions for future research about how teacher preferences might interact with district hiring and recruitment practices (e.g., information provision). More broadly, our results suggest that understanding where teachers choose to apply (and why) requires attention not only to schools, but to districts.

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Tables and Figures

Table 1. Observation Levels in Analytic Samples

	Teachers	Principals	Assistant Principals
Panel A: Single School Opening Sample			
Job Postings	1,910	83	40
Openings	2,599	83	44
Applicants	12,441	1,088	947
Applications	26,746	1,303	1,260
School Districts	19	14	8
Schools	257	70	30
Panel B: Multi-School Opening Sample			
Job Postings	269	4	5
Job Posting-School Links	2,404	19	50
Applicants	6,652	115	450
Applications	7,858	131	450
Unique School Districts	6	1	3
Unique Schools	189	16	40

Table 2. Descriptive Statistics for Applicants and Schools in Analytic Samples

	Single School Opening Sample	Multi-School Opening Sample
Applicant Characteristics		
Gender		
Female	.63	.66
Male	.33	.33
Other/Not Reported	.04	.02
Race/Ethnicity		
Asian	.11	.23
Black	.15	.19
Hispanic	.08	.10
White	.56	.40
Other/Not Reported	.10	.08
Experience		
Years of experience	8.8	9.3
Has prior teaching experience	.66	.80
Observations	14,476	7,669
School Characteristics		
Race/Ethnicity of Students		
URM%	60.4	78.2
Asian%	4.0	6.6
Black%	20.3	41.7
Hispanic%	34.2	31.3
White%	35.7	15.2
Measures of Poverty		
FRPL%	59.0	69.6
IPR	300.0	332.9
Observations	275	199

Notes: Applicant characteristics are self-reported. URM is underrepresented minority. FRPL is free or reduced price lunch. IPR is income to poverty ratio. Applicants who apply for jobs in different years and/or to different job types (teacher, principal, or assistant principal) are treated as distinct. School characteristics are calculated using statistics from the most recent year that the school appears in the analytic sample.

Table 3. Correlations between Applications per Opening and School Characteristics in the Single-School Opening Sample

Teaching Jobs	APO	URM%	Asian%	Black%	Hisp%	FRPL%
URM%	-0.210					
Asian%	-0.054	0.040				
Black%	-0.181	0.765	-0.104			
Hispanic%	-0.104	0.660	0.158	0.032		
FRPL%	-0.258	0.739	-0.034	0.651	0.360	
IPR	0.098	-0.321	0.489	-0.354	-0.102	-0.441
Observations = 1,910						
Principal Jobs	APO	URM%	Asian%	Black%	Hisp%	FRPL%
URM%	0.074					
Asian%	-0.297	-0.335				
Black%	0.578	0.372	-0.290			
Hispanic%	-0.260	0.812	-0.214	-0.224		
FRPL%	0.237	0.572	-0.655	0.491	0.350	
IPR	-0.443	-0.250	0.674	-0.433	-0.053	-0.7526
Observations = 83						
Assistant Principal Jobs	APO	URM%	Asian%	Black%	Hisp%	FRPL%
URM%	0.200					
Asian%	-0.319	0.093				
Black%	0.164	0.689	-0.182			
Hispanic%	0.184	0.830	0.244	0.187		
FRPL%	0.182	0.702	0.290	0.416	0.652	
IPR	-0.200	-0.405	0.482	-0.292	-0.296	-0.173
Observations = 40						

Notes: Correlations are calculated at the job level. URM is underrepresented minority. Hisp is Hispanic. FRPL is free or reduced-price lunch. IPR is income to poverty ratio.

Table 4. Correlations between Preference Probabilities and School Characteristics in the Multi-School Opening Sample

Teaching Jobs	Pr(pref)	URM%	Asian%	Black%	Hisp%	FRPL%
URM%	-0.066					
Asian%	0.093	-0.716				
Black%	-0.144	0.662	-0.524			
Hispanic%	0.138	-0.084	0.129	-0.800		
FRPL%	-0.114	0.633	-0.609	0.781	-0.502	
IPR	0.147	-0.707	0.684	-0.680	0.336	-0.715
Observations = 2,404						
Principal Jobs	Pr(pref)	URM%	Asian%	Black%	Hisp%	FRPL%
URM%	-0.393					
Asian%	0.347	-0.924				
Black%	-0.406	0.981	-0.882			
Hispanic%	0.306	-0.532	0.419	-0.683		
FRPL%	0.012	-0.121	-0.029	-0.128	0.051	
IPR	0.209	-0.477	0.346	-0.451	0.152	0.054
Observations = 19						
Asst. Principal Jobs	Pr(pref)	URM%	Asian%	Black%	Hisp%	FRPL%
URM%	-0.187					
Asian%	0.157	-0.441				
Black%	-0.279	0.692	-0.373			
Hispanic%	0.204	0.223	-0.016	-0.542		
FRPL%	-0.158	0.389	-0.221	0.618	-0.339	
IPR	0.197	-0.438	0.472	-0.180	-0.249	0.110
Observations = 50						

Notes: Correlations are calculated at the job-school level. Preference probabilities (Pr(pref)) are calculated at the job-school level as the proportion of applicants who indicated a preference for a school. URM is underrepresented minority. Hisp is Hispanic. FRPL is free or reduced-price lunch. IPR is income to poverty ratio.

Table 5. Are School Characteristics Predictive of Application Volume?

School Characteristic	URM	URM	Black	Black	Hispanic	Hispanic	FRPL	FRPL	IPR	IPR
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Teaching Jobs										
School Characteristic	-0.058**	0.011	-0.019	0.028	-0.060**	-0.014	-0.114***	-0.006	0.035	0.013
	(0.026)	(0.016)	(0.037)	(0.018)	(0.028)	(0.017)	(0.030)	(0.017)	(0.358)	(0.251)
District Fixed Effects		Y		Y		Y		Y		Y
Observations	1,910	1,910	1,910	1,910	1,910	1,910	1,910	1,910	1,910	1,910
R-squared	0.232	0.309	0.222	0.310	0.229	0.309	0.256	0.309	0.221	0.309
Principal Jobs										
School Characteristic	0.147	0.005	0.508**	0.267**	-0.014	-0.051	0.050	0.006	-0.890	-0.421
	(0.106)	(0.063)	(0.173)	(0.105)	(0.049)	(0.052)	(0.072)	(0.064)	(0.550)	(0.718)
District FE's		Y		Y		Y		Y		Y
Observations	83	83	83	83	83	83	83	83	83	83
R-squared	0.370	0.634	0.532	0.668	0.316	0.639	0.320	0.634	0.326	0.636
Assistant Principal Jobs										
School Characteristic	0.074	-0.076	0.314	0.154	-0.017	-0.221	0.155	-0.004	-3.845	4.220
	(0.128)	(0.413)	(0.237)	(0.267)	(0.187)	(0.330)	(0.327)	(0.315)	(4.007)	(6.064)
District Fixed Effects		Y		Y		Y		Y		Y
Observations	40	40	40	40	40	40	40	40	40	40
R-squared	0.21	0.525	0.251	0.53	0.202	0.532	0.206	0.525	0.225	0.533

Notes: The dependent variable in each model is the number of applications per opening associated with each job posting. Each school characteristic is entered into a separate regression model, as indicated by the column headings. URM is underrepresented minority, FRPL is free or reduced price lunch, IPR is income to poverty ratio. School characteristics are percentages of students (0 to 100) with the exception of IPR, which is the ratio of household income in each school's neighborhood that exceeds the poverty threshold. Each model includes categorical controls for subject area and year and a continuous measure of the number of weeks prior to the start of the school year. For the models estimated without district fixed effects, each model includes controls for the average minimum salary reported in job posting data and total district expenditures per pupil reported in the CCD (2021-2022 school year), and standard errors are clustered at the district level. *** p<0.01, ** p<0.05, * p<0.1.

Table 6. Are School Characteristics Predictive of Application Volume for Teaching Jobs using Quartile Measures of School Characteristics?

School Characteristic	URM (1)	URM (2)	Black (3)	Black (4)	Hispanic (5)	Hispanic (6)	FRL (7)	FRL (8)	IPR (9)	IPR (10)
Bottom Quartile	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
	-	-	-	-	-	-	-	-	-	-
2nd Quartile	-4.540***	0.081	-6.255***	-0.420	0.602	1.065	-4.384***	0.342	0.203	0.802
	(1.069)	(0.663)	(0.812)	(0.683)	(0.871)	(0.655)	(0.888)	(0.625)	(0.623)	(0.616)
3rd Quartile	-6.390***	0.778	-7.511***	-1.136*	-0.546	0.985	-6.560***	0.379	0.148	1.597***
	(1.739)	(0.627)	(1.259)	(0.643)	(1.057)	(0.629)	(1.856)	(0.631)	(1.713)	(0.615)
Top Quartile	-4.583***	0.736	-6.109***	-0.321	-4.343**	0.258	-6.083**	0.521	1.934**	0.240
	(1.384)	(0.702)	(1.082)	(0.691)	(1.825)	(0.666)	(2.521)	(0.712)	(0.834)	(0.621)
Quartile calculated within-District?		Y		Y		Y		Y		Y
District Effects?		Y		Y		Y		Y		Y
Observations	1,910	1,910	1,910	1,910	1,910	1,910	1,910	1,910	1,910	1,910
R-squared	0.245	0.310	0.265	0.310	0.229	0.310	0.261	0.309	0.215	0.312

Notes: The dependent variable in each model is the number of applications per opening associated with each job posting. Each school characteristic is entered into a separate regression model, as indicated by the column headings. URM is underrepresented minority, FRPL is free or reduced price lunch, IPR is income to poverty ratio. School characteristics are percentages of students (0 to 100) with the exception of IPR, which is the ratio of household income in each school's neighborhood that exceeds the poverty threshold. Each model includes categorical controls for subject area and year and a continuous measure of the number of weeks prior to the start of the school year. For the models estimated without district fixed effects, each model includes controls for the average minimum salary reported in job posting data and total district expenditures per pupil reported in the CCD (2021-2022 school year), and standard errors are clustered at the district level. *** p<0.01, ** p<0.05, * p<0.1

Table 7A. Are School Characteristics Predictive of Applicants Indicating a Preference for Working in a School?

School Characteristic	URM	Asian	Black	Hisp.	White	FRPL	IPR
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Teaching Jobs							
School Characteristic	-0.003*	0.001	-0.002	-0.001	0.004**	-0.003	0.046**
	(0.002)	(0.003)	(0.001)	(0.002)	(0.002)	(0.002)	(0.023)
Observations	47,452	47,452	47,452	47,452	47,452	47,452	47,452
Groups (Applications)	2,976	2,976	2,976	2,976	2,976	2,976	2,976
Clusters (Job Postings)	238	238	238	238	238	238	238
Principal Jobs							
School Characteristic	-0.009***	0.064***	-0.008***	0.018***	0.010***	0.335	0.093
	(0.001)	(0.010)	(0.001)	(0.003)	(0.002)	(0.238)	(0.122)
Observations	309	309	309	309	309	309	309
Groups (Applications)	60	60	60	60	60	60	60
Clusters (Job Postings)	4	4	4	4	4	4	4
Asst. Principal Jobs							
School Characteristic	-0.003	-0.003	-0.010	0.019	0.003	0.007	0.329
	(0.012)	(0.020)	(0.007)	(0.014)	(0.016)	(0.029)	(0.340)
Observations	2,030	2,030	2,030	2,030	2,030	2,030	2,030
Groups (Applications)	172	172	172	172	172	172	172
Clusters (Job Postings)	5	5	5	5	5	5	5

Notes: URM is underrepresented minority, FRPL is free or reduced price lunch, IPR is income to poverty ratio. School characteristics are percentages of students (0 to 100) with the exception of IPR, which is the ratio of household income in each school's neighborhood that exceeds the poverty threshold. Standard errors are clustered at the job posting level. *** p<0.01, ** p<0.05, * p<0.1

Table 7B. Are School Characteristics Predictive of Applicants Indicating a Preference for Working in a School Among Applicants Who Do Not Indicate Openness to Other Schools?

School Characteristic	URM	Asian	Black	Hisp.	White	FRPL	IPR
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Teaching Jobs							
School Characteristic	-0.006**	0.006	-0.003*	-0.003	0.007***	-0.006	0.043
	(0.002)	(0.005)	(0.002)	(0.002)	(0.003)	(0.004)	(0.033)
Observations	27,375	27,375	27,375	27,375	27,375	27,375	27,375
Groups (Applications)	1,455	1,455	1,455	1,455	1,455	1,455	1,455
Clusters (Job Postings)	203	203	203	203	203	203	203
Principal Jobs							
School Characteristic	-0.012***	0.095***	-0.010***	-0.012	0.014***	0.250	0.052
	(0.000)	(0.035)	(0.002)	(0.021)	(0.001)	(0.309)	(0.165)
Observations	121	121	121	121	121	121	121
Groups (Applications)	22	22	22	22	22	22	22
Clusters (Job Postings)	3	3	3	3	3	3	3
Asst. Principal Jobs							
School Characteristic	0.000	-0.009	-0.004	0.012**	-0.000	0.000	0.025
	(0.007)	(0.026)	(0.007)	(0.006)	(0.009)	(0.016)	(0.303)
Observations	466	466	466	466	466	466	466
Groups (Applications)	40	40	40	40	40	40	40
Clusters (Job Postings)	5	5	5	5	5	5	5

Notes: URM is underrepresented minority, FRPL is free or reduced price lunch, IPR is income to poverty ratio. School characteristics are percentages of students (0 to 100) with the exception of IPR, which is the ratio of household income in each school's neighborhood that exceeds the poverty threshold. Standard errors are clustered at the job posting level. *** p<0.01, ** p<0.05, * p<0.1

Table 8. Do Preferences of Applicants to Teaching Positions Vary by Applicant Race/Ethnicity?

School Characteristic:	URM	Asian	Black	Hisp.	White	FRPL	IPR
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
School Char.	-0.008***	0.011***	-0.006***	-0.003	0.010***	-0.009***	0.139***
	(0.002)	(0.004)	(0.002)	(0.002)	(0.002)	(0.002)	(0.024)
*App. Race*School Characteristic*							
Asian	0.012***	-0.020***	0.010***	0.005**	-0.014***	0.014***	-0.229***
	(0.002)	(0.005)	(0.003)	(0.002)	(0.003)	(0.002)	(0.031)
Black	0.014***	-0.033***	0.010***	0.001	-0.017***	0.023***	-0.186***
	(0.003)	(0.010)	(0.002)	(0.004)	(0.003)	(0.005)	(0.048)
Hispanic	0.006*	-0.015**	-0.003	0.005	-0.003	0.007	-0.098**
	(0.003)	(0.007)	(0.003)	(0.004)	(0.004)	(0.004)	(0.040)
White	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
	-	-	-	-	-	-	-
Mixed Race	0.004	0.003	0.005	-0.002	-0.008	-0.002	-0.039
	(0.005)	(0.009)	(0.005)	(0.004)	(0.006)	(0.007)	(0.060)
Not Rep./Missing	0.010*	-0.017	0.007	0.005	-0.010	0.007	-0.142**
	(0.005)	(0.010)	(0.005)	(0.005)	(0.007)	(0.007)	(0.063)
Observations	47,524	47,524	47,524	47,524	47,524	47,524	47,524
Groups (Applications)	2,976	2,976	2,976	2,976	2,976	2,976	2,976
Clusters (Job Posts)	238	238	238	238	238	238	238

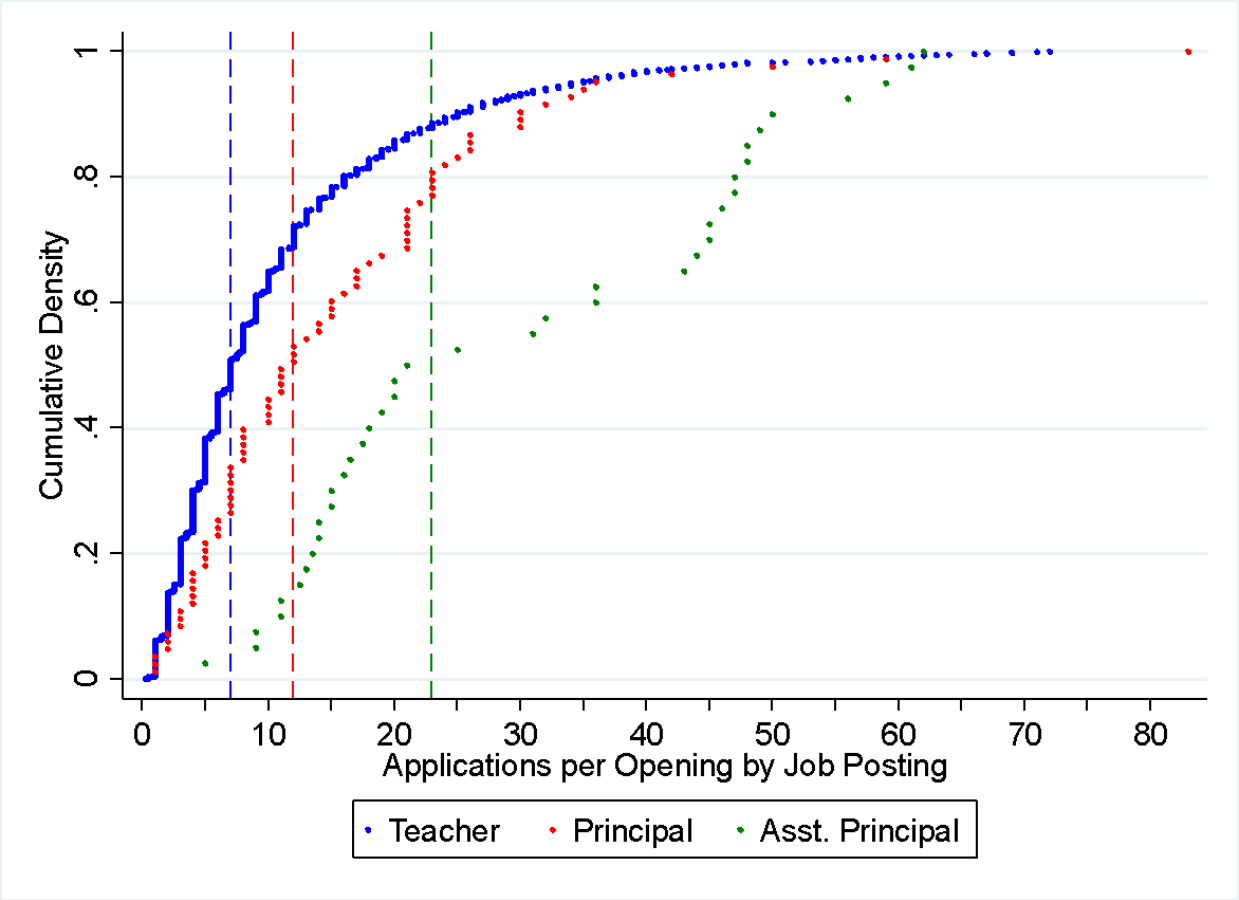
Notes: URM is underrepresented minority, FRPL is free or reduced price lunch, IPR is income to poverty ratio. School characteristics are percentages of students (0 to 100) with the exception of IPR, which is the ratio of household income in each school's neighborhood that exceeds the poverty threshold. Standard errors are clustered at the job posting level. *** p<0.01, ** p<0.05, * p<0.1

Table 9. Do Preferences of Applicants to School Leadership Positions Vary by Applicant Race/Ethnicity?

School Characteristic	URM	Asian	Black	Hispanic	White	FRL	IPR
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Principal Jobs							
School Characteristic	-0.008	0.031	-0.011*	0.118***	0.009	-0.387	0.340*
	(0.011)	(0.093)	(0.006)	(0.015)	(0.012)	(1.292)	(0.181)
*Appl. Race*School Characteristic*							
Black	0.002	0.030	0.007	-0.157***	-0.003	1.178	-0.441***
	(0.018)	(0.172)	(0.010)	(0.017)	(0.020)	(1.763)	(0.168)
White	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
	-	-	-	-	-	-	-
Other	-1.946***	38.274***	-1.746***	0.685	2.158***	1.503	0.671
	(0.162)	(3.403)	(0.150)	(0.914)	(0.175)	(1.292)	(0.420)
Observations	309	309	309	309	309	309	309
Groups (Applications)	60	60	60	60	60	60	60
Clusters (Job Posts)	4	4	4	4	4	4	4
Asst. Principal Jobs							
School Characteristic	-0.006	0.013	-0.013**	0.017	0.005	0.008	0.520
	(0.014)	(0.029)	(0.007)	(0.017)	(0.019)	(0.031)	(0.422)
*Appl. Race*School Characteristic*							
Black	0.006	-0.009	0.009**	-0.001	-0.006	-0.001	-0.341
	(0.006)	(0.020)	(0.004)	(0.004)	(0.008)	(0.002)	(0.242)
White	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
	-	-	-	-	-	-	-
Other	0.007	-0.067**	-0.015**	0.026*	0.001	-0.009	-0.418
	(0.010)	(0.032)	(0.006)	(0.015)	(0.008)	(0.025)	(0.342)
Observations	2,030	2,030	2,030	2,030	2,030	2,030	2,030
Groups (Applications)	172	172	172	172	172	172	172
Clusters (Job Posts)	5	5	5	5	5	5	5

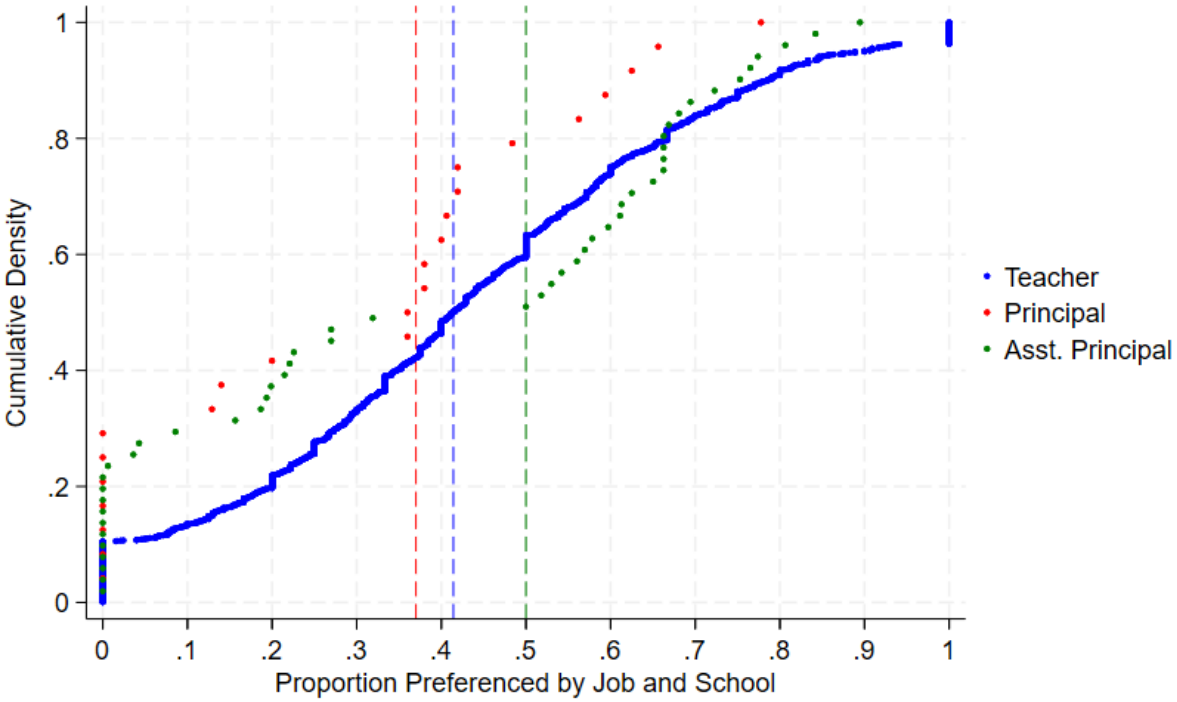
Notes: URM is underrepresented minority, FRL is free or reduced price lunch, IPR is income to poverty ratio. School characteristics are percentages of students (0 to 100) with the exception of IPR, which is the ratio of household income in each school's neighborhood that exceeds the poverty threshold. Standard errors are clustered at the job posting level. *** p<0.01, ** p<0.05, * p<0.1

Figure 1. Distribution of Applications per Opening by Job and Job Type



Note: Applications per opening is calculated at the job level. The vertical lines represent median values.

Figure 2. Distribution of Preference Probabilities by Job-School Combination



Notes: The proportion preferenced is calculated at the job-school level. Each job considered here is associated with openings at two or more schools. Applicants can select multiple schools as "preferred" or choose not to select any schools. The vertical lines represent median values.

Figure 3. Within-District Variation in School Characteristics

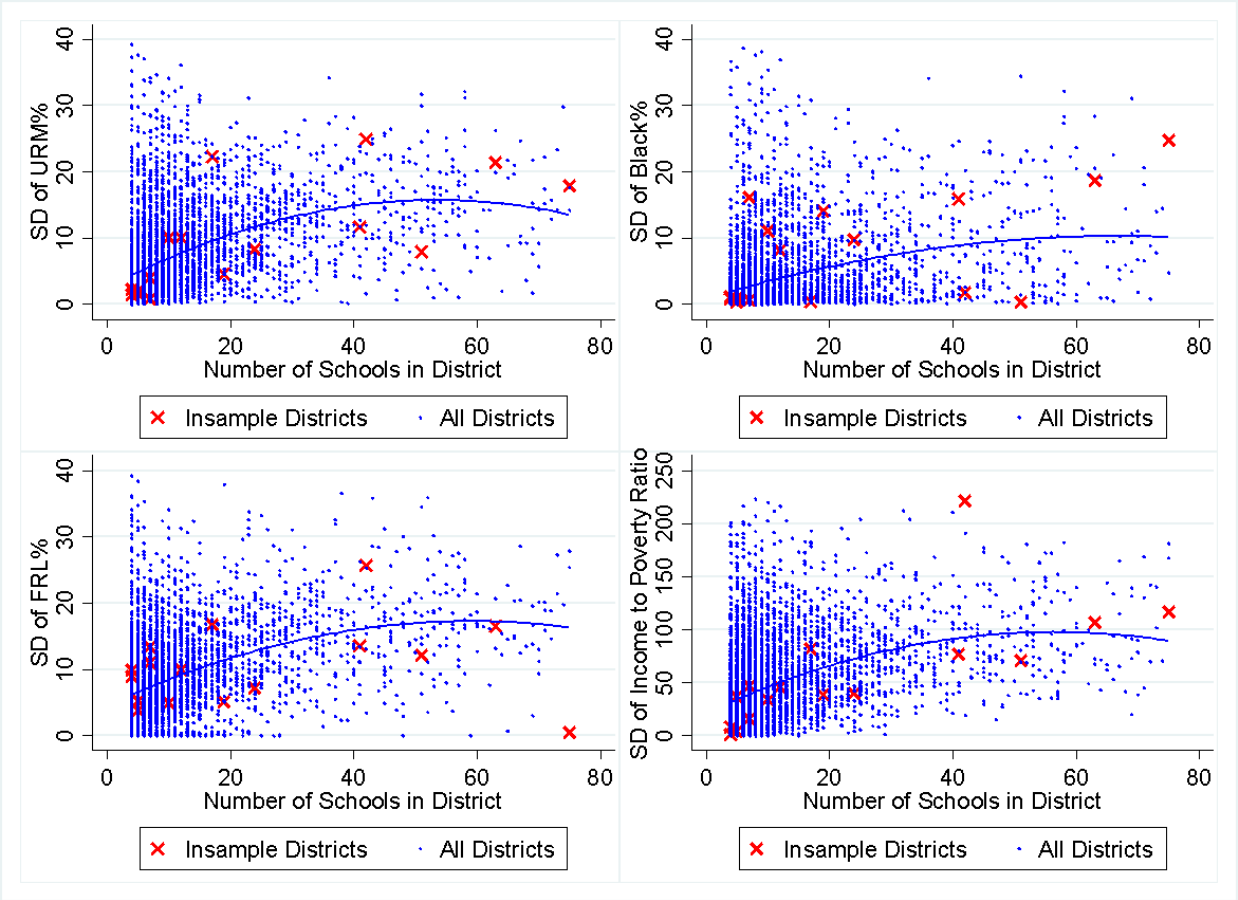
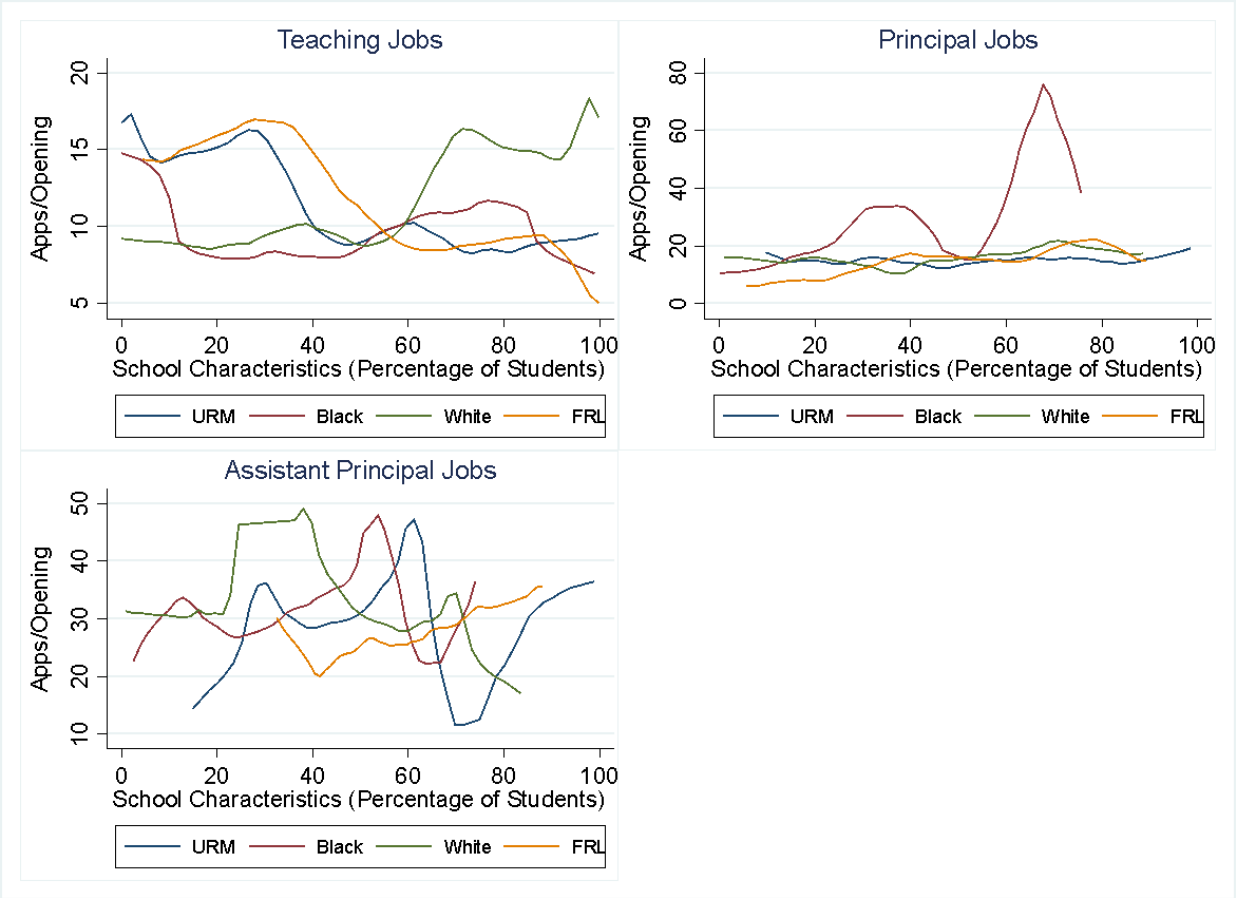
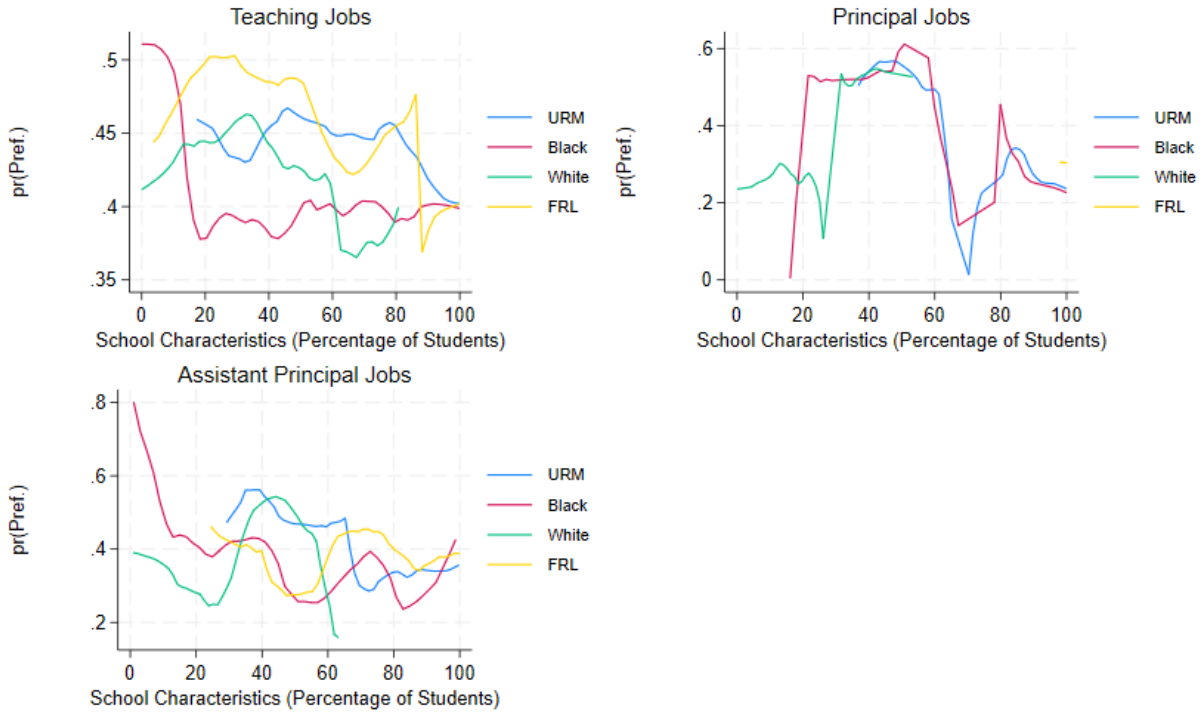


Figure 4. Local Means of Applications per Opening by School Characteristics



Notes: The observation level is the job posting. Plots are generated using kernel-weighted local polynomial smoothing with a bandwidth of 5 percentage points.

Figure 5. Local Means of Preference Probabilities by School Characteristics



Notes: The observation level is each job posting-school link. Plots are generated using kernel-weighted local polynomial smoothing with a bandwidth of 5 percentage points.

Appendix of Supplemental Tables and Figures

Supplemental Tables

Table A1. School-Level Correlations between Applications per Opening and School Characteristics

	Teacher Jobs	Principal Jobs	Asst. Principals Jobs
Panel A: Pearson Correlations with Applications per Opening			
All Jobs			
URM%	.23	.21	.20
Black%	-.04	.56	-.05
White%	-.31	-.08	-.17
FRPL%	.13	.40	-.15
IPR	.02	-.49	-.11
Observations (schools)	419	79	103
Single-School Jobs Only			
URM%	-.33	.07	.33
Black%	-.26	.19	-.10
White%	.36	-.04	-.30
FRPL%	-.35	.13	.19
IPR	.02	-.17	-.31
Observations (schools)	257	70	30
Panel B: Spearman (rank-order) Correlations with Applications per Opening			
All Job Postings			
URM%	.30	.22	.19
Black%	.15	.64	.04
White%	-.35	-.11	-.14
FRPL%	.20	.48	-.03
IPR	-.08	-.55	-.15
Observations (schools)	419	79	103
Single-School Jobs Only			
URM%	-.27	.04	.24
Black%	-.36	.29	-.12
White%	.29	-.05	-.20
FRPL%	-.34	.11	.13
IPR	.11	-.14	-.37
Observations (schools)	257	70	30

Notes: Correlations are calculated at the school level. School characteristics are averaged across the years that each school appears in the sample. URM is underrepresented minority. FRPL is free or reduced-price lunch. IPR is income to poverty ratio.

Table A2. Are School Characteristics Predictive of Application Volume for Teaching Jobs?

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
URM%	-0.058**	0.011					0.018	0.023	0.006	0.024
	(0.026)	(0.016)					(0.022)	(0.020)	(0.024)	(0.021)
FRPL%			-0.114***	-0.006			-0.128***	-0.021	-0.132***	-0.020
			(0.030)	(0.017)			(0.032)	(0.022)	(0.037)	(0.022)
IPR					0.000	0.000			-0.748	0.056
					(0.004)	(0.003)			(0.709)	(0.279)
District Fixed Effects		Y		Y		Y		Y		Y
Observations	1,910	1,910	1,910	1,910	1,910	1,910	1,910	1,910	1,910	1,910
R-squared	0.232	0.309	0.256	0.309	0.221	0.309	0.256	0.309	0.260	0.309

Notes: The dependent variable in each model is the number of applications per opening associated with each job posting. Each school characteristic is entered into a separate regression model, as indicated by the column headings. URM is underrepresented minority, FRPL is free or reduced price lunch, IPR is income to poverty ratio. School characteristics are percentages of students (0 to 100) with the exception of IPR, which is the ratio of household income in each school's neighborhood that exceeds the poverty threshold. Each model includes categorical controls for subject area and year and a continuous measure of the number of weeks prior to the start of the school year. For the models estimated without district fixed effects, each model includes controls for the average minimum salary reported in job posting data and total district expenditures per pupil reported in the CCD (2021-2022 school year), and standard errors are clustered at the district level. *** p<0.01, ** p<0.05, * p<0.1

Table A3. Are School Characteristics Predictive of Application Volume for Principal Jobs?

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
URM%	0.147	0.005					0.264*	0.000	0.260*	-0.037
	(0.106)	(0.063)					(0.125)	(0.159)	(0.134)	(0.167)
FRPL%			0.050	0.006			-0.178*	0.006	-0.193*	-0.014
			(0.072)	(0.064)			(0.095)	(0.163)	(0.105)	(0.165)
IPR					-0.009	-0.004			-0.300	-0.849
					(0.005)	(0.007)			(0.911)	(1.101)
District Fixed Effects		Y		Y		Y		Y		Y
Observations	83	83	83	83	83	83	83	83	83	83
R-squared	0.37	0.634	0.32	0.634	0.326	0.636	0.396	0.634	0.396	0.637

Notes: The dependent variable in each model is the number of applications per opening associated with each job posting. Each school characteristic is entered into a separate regression model, as indicated by the column headings. URM is underrepresented minority, FRPL is free or reduced price lunch, IPR is income to poverty ratio. School characteristics are percentages of students (0 to 100) with the exception of IPR, which is the ratio of household income in each school's neighborhood that exceeds the poverty threshold. Each model includes categorical controls for subject area and year and a continuous measure of the number of weeks prior to the start of the school year. For the models estimated without district fixed effects, each model includes controls for the average minimum salary reported in job posting data and total district expenditures per pupil reported in the CCD (2021-2022 school year), and standard errors are clustered at the district level. *** p<0.01, ** p<0.05, * p<0.1

Table A4. Are School Characteristics Predictive of Application Volume for Assistant Principal Jobs?

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
URM%	0.074	-0.076					0.061	-0.076	0.005	-0.046
	(0.128)	(0.413)					(0.164)	(0.423)	(0.173)	(0.430)
FRPL%			0.155	-0.004			0.071	0.002	0.020	0.025
			(0.327)	(0.315)			(0.415)	(0.323)	(0.382)	(0.328)
IPR					-0.038	0.042			-3.681	4.195
					(0.040)	(0.061)			(4.497)	(6.368)
District Fixed Effects		Y		Y		Y		Y		Y
Observations	40	40	40	40	40	40	40	40	40	40
R-squared	0.21	0.525	0.206	0.525	0.225	0.533	0.211	0.525	0.225	0.533

Notes: The dependent variable in each model is the number of applications per opening associated with each job posting. Each school characteristic is entered into a separate regression model, as indicated by the column headings. URM is underrepresented minority, FRPL is free or reduced price lunch, IPR is income to poverty ratio. School characteristics are percentages of students (0 to 100) with the exception of IPR, which is the ratio of household income in each school's neighborhood that exceeds the poverty threshold. Each model includes categorical controls for subject area and year and a continuous measure of the number of weeks prior to the start of the school year. For the models estimated without district fixed effects, each model includes controls for the average minimum salary reported in job posting data and total district expenditures per pupil reported in the CCD (2021-2022 school year), and standard errors are clustered at the district level. *** p<0.01, ** p<0.05, * p<0.1

Table A5. Are School Characteristics Predictive of Application Volume for Principal Jobs using Quartile Measures of School Characteristics?

School Characteristic	URM	URM	Black	Black	Hispanic	Hispanic	FRL	FRL	IPR	IPR
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Bottom Quartile	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
2nd Quartile	-3.644	-2.335	2.580	-1.382	0.154	-4.973	3.232	0.064	-11.574*	7.155**
	(3.752)	(3.471)	(1.687)	(3.330)	(4.518)	(3.514)	(2.460)	(3.470)	(5.645)	(3.076)
3rd Quartile	-1.208	-2.532	10.764**	3.528	5.448	-5.250	11.149**	1.295	-11.731*	3.257
	(5.623)	(3.283)	(4.111)	(3.279)	(8.544)	(3.215)	(5.150)	(3.007)	(5.953)	(3.114)
Top Quartile	1.457	3.061	22.819***	3.187	-3.713	-4.037	0.409	-0.609	-18.350**	-1.316
	(5.501)	(3.393)	(6.782)	(3.231)	(5.078)	(3.477)	(1.447)	(3.420)	(6.172)	(3.498)
Quartile calculated within-District?		Y		Y		Y		Y		Y
District Fixed Effects?		Y		Y		Y		Y		Y
Observations	83	83	83	83	83	83	83	83	83	83
R-squared	0.122	0.630	0.342	0.628	0.177	0.629	0.194	0.613	0.294	0.652

Notes: The dependent variable in each model is the number of applications per opening associated with each job posting. Each school characteristic is entered into a separate regression model, as indicated by the column headings. URM is underrepresented minority, FRPL is free or reduced price lunch, IPR is income to poverty ratio. School characteristics are percentages of students (0 to 100) with the exception of IPR, which is the ratio of household income in each school's neighborhood that exceeds the poverty threshold. Each model includes categorical controls for subject area and year and a continuous measure of the number of weeks prior to the start of the school year. For the models estimated without district fixed effects, standard errors are clustered at the district level. *** p<0.01, ** p<0.05, * p<0.1

Table A6. Are School Characteristics Predictive of Application Volume for Assistant Principal Jobs using Quartile Measures of School Characteristics?

School Characteristic	URM	URM	Black	Black	Hispanic	Hispanic	FRL	FRL	IPR	IPR
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Bottom Quartile	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
	-	-	-	-	-	-	-	-	-	-
2nd Quartile	10.822*	-6.395	-13.861	6.434	17.177***	-1.105	9.076*	-11.230	0.712	-12.968
	(5.639)	(7.799)	(7.562)	(9.408)	(4.241)	(8.234)	(4.464)	(7.096)	(3.378)	(10.252)
3rd Quartile	2.389	0.006	-9.456*	7.942	14.725	-2.211	19.548***	-3.795	-8.308	-3.804
	(12.212)	(7.522)	(4.542)	(7.947)	(7.989)	(8.342)	(5.381)	(5.979)	(8.062)	(7.341)
Top Quartile	16.998*	-1.259		1.997	11.678	-4.748	18.270	0.323	8.735	-5.084
	(8.068)	(7.611)		(8.886)	(8.011)	(11.823)	(10.664)	(8.949)	(21.866)	(6.750)
Quartile calculated within-District?		Y		Y		Y		Y		Y
Observations	40	40	40	40	40	40	40	40	40	40
R-squared	0.243	0.563	0.195	0.574	0.225	0.554	0.180	0.601	0.189	0.582

Notes: The dependent variable in each model is the number of applications per opening associated with each job posting. Each school characteristic is entered into a separate regression model, as indicated by the column headings. URM is underrepresented minority, FRPL is free or reduced price lunch, IPR is income to poverty ratio. School characteristics are percentages of students (0 to 100) with the exception of IPR, which is the ratio of household income in each school's neighborhood that exceeds the poverty threshold. Each model includes categorical controls for subject area and year and a continuous measure of the number of weeks prior to the start of the school year. For the models estimated without district fixed effects, standard errors are clustered at the district level. *** p<0.01, ** p<0.05, * p<0.1

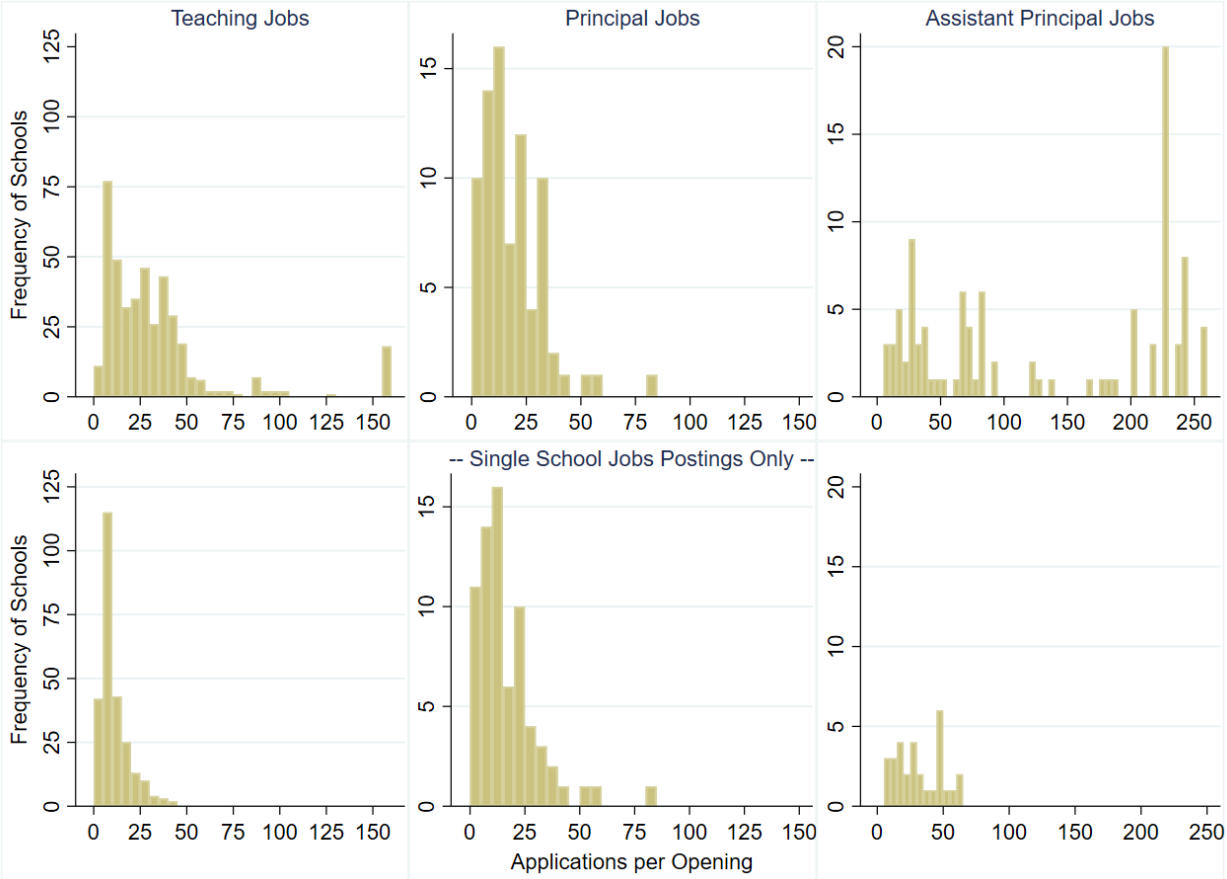
Table A7. Between and Within-District Gaps in Mean Application Volume

	Bot-Q APO	Top-3 APO	Total gap	District	Within	% District
URM%	15.32	9.3	6.02	6.29	−0.27	104.5%
Black%	16.76	8.97	7.79	7.81	−0.02	100.2%
Hispanic%	11.61	10.83	0.78	0.52	0.26	67.1%
FRPL%	16.1	9.15	6.95	7.09	−0.14	102.0%
IPR%	8.92	11.89	−2.97	−2.38	−0.59	80.1%

Notes: The table presents a decomposition of the gap in application volume per opening between schools in the bottom quartile and schools in the top three quartiles of each school characteristic distribution, following the approach in Goldhaber et al. (2015). School characteristic quartiles are calculated across all schools in the analytic sample. The total gap is the difference in mean application volume per opening between bottom-quartile and top-three-quartile schools. The district component reflects the portion of the total gap attributable to bottom-quartile schools being disproportionately located in districts with lower overall application volume; it is calculated as the difference in district-mean application volume between bottom-quartile and top-three-quartile schools, where district means are computed across all schools in the district regardless of quartile status. The within-district component is the residual, calculated as the total gap minus the district component, and reflects variation in application volume between bottom- and top-three-quartile schools within the same district. The percent district and percent within columns express each component as a share of the total gap. For IPR (income-to-poverty ratio), higher values indicate higher-income neighborhoods, so bottom-quartile schools are those located in the lowest-income areas. The sample is restricted to single-school teaching job postings as described in Section 3.2. URM is underrepresented minority. FRPL is free or reduced-price lunch. IPR is income-to-poverty ratio.

Supplemental Figures

Figure A1. Applications per Opening



Notes: The number of applications per opening is calculated at the school level.