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How Do Charter Schools Compete for Teachers?

A Local Perspective

Betheny Gross & Michael DeArmond

ncsrp working paper # 2010-1

center on **reinventing** public education
University of Washington
2101 North 34th Street, Suite 195, Seattle, WA 98103 206.685.2214 www.crpe.org

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How Do Charter Schools Compete for Teachers? *A Local Perspective*

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AN INITIATIVE OF THE NATIONAL CHARTER SCHOOL RESEARCH PROJECT

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MARCH, 2010

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University of Washington Bothell

2101 North 34th Street, Suite 195, Seattle, WA 98103 206.685.2214 www.ncsrp.org

The contents of this report were developed in part under a grant from the Department of Education (#U282N060007). However, those contents do not necessarily represent the policy of the Department of Education, and you should not assume endorsement by the Federal government.

How Do Charter Schools Compete for Teachers? A Local Perspective

When policymakers and researchers debate personnel policies in public education, they sometimes hold up charter schools as examples of the benefits of a freer and more competitive approach to attracting and retaining teachers (Hoxby, 2002; Kowal, Hassel, & Hassel, 2007; Merseth et al., 2009; Podgursky, 2006; Podgursky & Ballou, 2001). Because charter schools are free from many state and district regulations and dependent on choice-based enrollment, they have both the opportunity and incentive to use personnel policies that most conventional public schools avoid, such as hiring non-traditional applicants, offering performance-based incentives, and relying on at-will employment contracts. Some argue that these and other non-traditional personnel policies allow charter schools to attract an academically talented and potentially more effective teacher workforce than conventional public schools (Hoxby, 2002; Podgursky, 2006).

To date, most of the evidence about innovative charter school personnel policies comes from on-average comparisons between charter schools and conventional public schools. True to form, these comparisons suggest that charter schools on-average pay teachers differently, dismiss teachers more freely (Podgursky & Ballou, 2001; Podgursky, 2006), and hire different types of teachers (Hoxby, 2002; Burian-Fitzgerald, Luekens, & Strizek, 2003; Podgursky, 2006) than traditional public schools. These studies suggest that charter schools have a generalized capacity to use non-traditional personnel policies, at least on the margin. But there are good reasons to wonder whether on-average comparisons of charter schools and conventional public schools overlook important variation within the charter school sector. After all, an individual school's personnel

policies may depend in part on local circumstances, including the local supply of teachers relative to demand, the financial resources available to the school, state regulations, and the behavior of competing employers. And so, in addition to asking, “Do charter schools, on average, use different personnel policies?” we should also ask, “When and where do charter schools do things differently—and with what consequences?” If charter schools are to inform larger debates in public education about human capital and personnel policies, a more localized perspective is an important piece of understanding the possibilities and limits of a less regulated system.

With that in mind, this paper offers an exploratory look at how charter schools compete for teachers across local contexts. The data come from an original survey of hiring practices in charter schools and their local school districts in six-states. The analysis focuses on two areas of personnel practice: recruitment and compensation. On balance, very few of the surveyed charter schools use compensation and recruitment practices that distinguish them from their local districts. Charter schools tend to recruit and hire teachers on the same timeline as their local districts (or lag behind). When charter schools pay teachers extra incentives for certain subject-areas, such as mathematics, their local school districts often do the same. Charter schools are more apt to distinguish themselves by using merit pay, but still only about a third of charter schools report offering it. Moreover, when we control for local labor market conditions and organizational characteristics, the most consistent predictor of whether a charter school has larger applicant pools and is more satisfied with its applicant pools is the performance of its students, not its personnel practice—with one intriguing exception: charter schools that use merit pay when their local districts do not appear to be more satisfied with the quality

of their applicant pool. All of this implies that getting the applicants a school wants perhaps has less to do with high-profile policies regarding hiring timelines or compensation and more to do with the quality of the school itself.

To help set the stage for our analysis we begin with some background on the importance of localizing discussions about personnel policy and briefly review the two personnel policy areas addressed in the paper: recruitment and compensation. Then we describe the survey of charter school directors and geographically matched school district human resource directors in six states (California, Hawaii, North Carolina, Rhode Island, and Texas). Finally we present our findings and end with a summary and discussion of implications.

Background

The Importance of Local Context

Much of the descriptive research on charter school teachers relies on on-average comparisons, either at the national (e.g., Burién-Fitzgerald et al., 2003; Podgursky, 2006) or state-level (e.g., Miron & Applegate, 2007). When it comes to the competition for teachers, however, the nature of teacher labor markets suggests that more localized perspectives are needed as well.

Evidence from traditional public schools suggests that teacher labor markets are highly localized. Balter and Duncombe's (2005) survey of human resource practices in 488 school districts in New York State suggests that only about a quarter of school districts place job advertisements in newspapers outside of their local area (only 1% do so in out-of-state newspapers). Their survey also found that less than a third of districts make

recruiting trips to non-local colleges (30%), compared with a solid majority (68%) for local colleges (larger districts appear more likely to conduct wider searches than smaller ones, though wide searches are still in the minority). Boyd et al.'s (2005) well-cited study of teacher labor markets in New York State provides a particularly vivid illustration of the localness of teacher labor markets. Boyd and colleagues found that teacher labor markets in New York were geographically very small, with most people taking teaching jobs close to where they grew up and, to a lesser extent, where they went to college. This finding is consistent with Strauss et al.'s (2000) earlier study of Pennsylvania districts, which found that a "high proportion of hired teachers are simply those that the district knows best, their own graduates" (p. 405).

To the degree that charter school and traditional public school labor markets overlap - and there are reasons to believe that they do¹ - this localism has important implications for understanding how charter schools compete for teachers. The local nature of teacher labor markets means that individual charter schools will likely face very different applicant attraction problems, depending on where they are located. Assuming that charter schools are, as advocates hope, responsive to their surrounding market, they may adopt different strategies to compete for teachers depending on local conditions. Rynes & Barnes (1990), for example, hypothesize that firms in tight labor markets will be more willing to engage in non-traditional attraction strategies, like salary inducements or

¹ One indication of this overlap is the fact that nationally the majority of teachers in both traditional public schools and charter schools hold regular state teaching certificates (93.0 for traditional publics and 70.3 for charter schools) (Podgursky, 2006). Results from the six state survey used in this paper also suggest that the majority of charter school applicants are teachers who work in traditional public schools or are recent college graduates with training in education. Although exceptional charter schools such as KIPP and High Teach High may have access to a national labor pool, it seems reasonable to assume that many charter schools engage in a much more restricted and localized search for candidates and that many of those candidates might consider working in conventional public schools - or, at a minimum, are eligible to do so.

“going to market” sooner to recruit applicants, while firms in surplus labor markets will prefer more traditional recruitment practices (e.g., few inducements; passive search). As small autonomous organizations, charter schools should, in theory, be more responsive to labor market contingencies than traditional public school districts; national and statewide comparisons, however, cannot tell us much about whether they are or not.

At the same time, differences in state rules and regulations may influence the choices charter schools make about how to compete for teachers. In some states, legislation requires charter schools to operate under the same certification rules as traditional public schools; in others, charter schools have more freedom over whom they hire. To the degree that non-traditional candidates are attracted by non-traditional inducements (like performance incentives or subject area bonuses) and more traditional teacher candidates are attracted by traditional hiring practices, these state-level rules may influence a school’s personnel practices. Other areas that vary by state regulation include teacher compensation, regulations regarding the movement of teachers between the charter and public school sectors (Brewer & Ahn, forthcoming), and the types of organizations that can authorize charter schools (Hassel, Ziebarth, & Steiner, 2005). As with certification, these various rules may encourage charter schools to act more or less like conventional public schools.

If we start thinking about how differences *within* the charter sector might inform the way schools compete for teachers, additional contingencies emerge. A school’s ability to pay, for example, may affect the types of strategies it uses (Rynes & Barber, 1990). All else equal, a school with more resources is in a better position to offer higher salaries or special bonuses than a school with fewer resources; under-resourced schools may, by

contrast, rely on less costly strategies, like going to market quickly. The small amount of evidence that exists on charter school resources suggests that charter schools' ability to pay relative to their local districts varies widely across the charter sector. Speakman and Hassel's (2005) study of funding in 27 localities, for example, suggests that gaps between the charter and traditional public school sectors can range anywhere between 5% in per pupil resources in some communities to over 24% in others (in general charter schools are on the losing end of these gaps). In addition to ability to pay, Rynes & Barber (1990) hypothesize that an organization's applicant attraction strategy may be a function of vacancy characteristics, implying that schools might be more likely to try non-traditional approaches if they have relative unattractive working conditions. Given that long standing patterns of teacher recruitment and retention tend to favor relatively advantaged schools (Guarino, Santibañez, & Daley, 2006), schools serving disadvantaged student populations may find themselves more willing to use non-traditional applicant attraction strategies.

In short, more localized and contextualized comparisons of practice and strategy are needed to understand how the charter school reform is playing out with regards to personnel policy and what it implies for public education in general. With this in mind we investigate two personnel practices in this paper: the timing of recruitment activities (i.e., when schools go to market and make job offers) and teacher compensation (both the level and structure of pay). Both areas have important implications for teacher quality.

Recruitment timing

Studies of traditional public schools suggest that school districts that recruit and hire early may have an advantage in attracting teachers, in both number and quality. This finding is largely suggested by the negative example of slow moving urban districts, where

collectively bargained transfer policies (Levin, Mulhern, & Schunk, 2005), budgeting timelines (Levin & Quinn, 2003), and bureaucratic norms (Murphy & DeArmond, 2003) can push hiring decisions late into the summer. In essence, slow moving districts find themselves outflanked by more timely competitors. As Levin and Quinn (2003) note, “The most serious issue [with recruitment timing] is that many of the best candidates, who have the most options [are]...the most likely to abandon hard-to-staff districts in the face of hiring delays.” (p. 5).

In theory, recruitment timing should be less constrained in charter schools. Uncertainty about enrollment numbers and state disbursement practices may cause some delays, but for the most part charter schools have more freedom over when they go to market to look for teachers and when they make job offers. If they use this freedom to “get a jump” on the competition, they may have a competitive advantage over slower rivals, an argument common in the private sector (e.g., Rynes et al., 1980; Soleberg, 1967).² Whether or not charter schools do so (or if it matters) cannot be answered easily without comparing charter schools to the local competition.

Compensation

Compensation is an important and concrete way schools and districts make themselves more attractive to applicants. Compared with recruitment timing, far more is known about compensation in charter schools. In terms of the level of pay, national comparisons suggest that charter schools on average pay their teachers less than conventional public schools (NCES 2002). There is, however, a fair amount of variation

² In studying schools, Levin and Quinn (2003) suggest that slow districts lost the best applicants to quicker rivals, but it is unclear whether the best applicants would jump at early offers if they come from what they perceive as less desirable employers.

within the charter sector (Malloy & Wohlstetter, 2003). Riley (2000), for example, finds that charter schools in California offer salaries roughly comparable to those offered by conventional public schools while Miron and Nelson (2000) find that average salaries in Pennsylvania's charter schools are far behind those in conventional public schools. How much these differences matter, however, is not clear. Studies of conventional public school teachers suggest that teachers' career decisions are sensitive to differences in wages (Baugh & Stone, 1982; Dolton & van der Klaauw, 1999; Murnane, Singer, Willet, Kemple, & Olsen, 1991), but the effects are fairly small (Hanushek, Kain, O'Brien, & Rivkin, 2005; Imazeki, 2007). Other studies find no statistically significant wage effects on conventional public school teacher mobility and instead suggest that teacher choices are influenced by working conditions and school culture (Smith & Ingersoll, 2004). This may particularly be the case for charter school teachers, who may be attracted to schools for philosophical reasons or a desire for autonomy (Malloy & Wohlstetter, 2003). In any case, the question of whether charter school offer higher or lower salaries to attract teachers—and whether salary levels actually matter for attraction outcomes—points again toward local comparisons, which are scant in the literature.

As for salary structure, national data suggest that charter schools are more likely than conventional public schools to use performance incentives and subject-area incentives (Podgursky & Ballou, 2001). Even so, like most conventional public schools, the majority of charter schools report using salary schedules to compensate teachers (Podgursky & Ballou, 2001; Podgursky 2006),³ although they appear to offer a slightly more front-loaded schedule than conventional public schools. National data from 2000 suggest that charter

³ That is, pay tables that provide predictable rewards for teachers based on their years of experience and degrees.

school starting salaries on average were about \$1,000 higher than school district salaries, but by the time charter teachers reach the highest step on the pay scale they averaged \$2,400 less than their district counterparts (NCES 2002).

As with salary level, sector-to-sector comparisons of salary structure may mask important differences. Although it may be that charter schools on average are more likely to use a particular structure than conventional public schools, it may be that certain structures are systematically clustered in local areas across both sectors. This appears to be the case at least when it comes to state-level policy. In states where charter schools are required to participate in their local district's collective bargaining agreement, the use of performance incentives is less likely than in states with no collective bargaining requirements for charter schools (DeArmond, Gross, & Goldhaber, 2007).

To explore how these local contingencies affect recruitment timing and compensation in charter schools we turn to a unique survey of charter school and traditional public school district personnel practices in six states.

Data

In the winter of 2007 the National Charter School Research Project's (NCSRP) Inside Charter Schools study administered a survey of personnel practices to charter schools and a matched sample of school districts in six states: Arizona, California, Hawaii, North Carolina, Rhode Island, and Texas. NCSRP chose these states because they represent a range of charter school legislation (Table 1). Charter schools in California, Hawaii, and Rhode Island are required to hire certified teachers; charter schools in Arizona and Texas have no teacher certification requirements (charters schools in North Carolina can hire some non-certified teachers). In terms of setting teacher salaries, charter schools in Hawaii

and Rhode Island are part of existing collective bargaining agreements, while charter schools in the other states set their own salaries. Only North Carolina and Rhode Island require traditional public school teachers to obtain a leave of absence if they want to teach in a charter school. All six states give charter school teachers access to their state's retirement system for public school teachers.

Table 1. Differences in Charter School Teacher Policy Across the Six States

	<i>Arizona</i>	<i>California</i>	<i>Hawaii</i>	<i>North Carolina</i>	<i>Rhode Island</i>	<i>Texas</i>
Does the state require charter teachers to be certified?	No	Yes	Yes	75% for elementary teachers; 50% for high school teachers	Yes	No
Does the state require salaries to be set by collective bargaining agreement?	No	Depends	Yes	No	Yes	No
Do traditional public school teachers need a leave of absence to teach in a charter?	No	No	No	Yes	Yes	No
Do charter teachers have access to the state's teacher retirement system?	Yes	Yes	Yes	Yes	Yes	Yes


Source: Education Commission of the States State Policies for Charter Schools Database.
http://www.ecs.org/html/offsite.asp?document=educationIssues%2FCharterSchools%2FCHDB_intro.asp

Using data from the six states' Departments of Education, NCSRP compiled a complete list of charter schools that were open in 2006 and had been in operation for at least three years. As Podgursky and Ballou (2001) argue, limiting the survey to relatively mature charter schools avoids the confusion of collecting information on policies that might still be "under construction" in new charter schools. NCSRP sent a survey of personnel practices to a random draw of half of the charter schools in each state [the other half of the schools received a survey about charter school leadership, see Campbell & Gross (2008)]. In addition, NCSRP sent a companion survey on personnel practices with nearly identical questions to human resource directors in each charter school's local school

district. To find the matched local districts NCSRP identified each charter school’s geographically closest traditional public school that served a similar grade span (e.g., elementary, middle, or high school⁴) and then surveyed that school’s home district.

NCSRP sent 718 surveys to charter schools and 330 to school districts. The achieved sample includes 375 charter schools (a 52% response rate) and 214 school districts (a 65% response rate) whose mean enrollment and student characteristics for the schools are shown in Table 2. Unfortunately, the small number of responses we received from Hawaii and Rhode Island (which have small charter school populations to begin with) limit our ability to analyze the importance of state-level policy differences.

Table 2: School Enrollment and Student Demographics for Sample

		Number of Schools
Enrollment	345	314.884058
Percent white students	345	42.63795
Percent African American students	345	13.96954
Percent Hispanic students	345	33.37101
Percent free or reduced lunch students	285	47.40268

For our analysis we rely on survey items sent to both the charter schools and traditional public schools that asked about the timing of various recruitment activities and teacher compensation policies. We focus our analysis on the relationship between these activities and two pre-employment outcomes reported on the survey: (1) the typical number of applicants per opening received by the school and (2) the school leader’s overall satisfaction with the applicant pool. Neither of these self-report outcomes is ideal, but the

⁴ K-12 charter schools were matched with the nearest elementary school.

school leader's satisfaction with the applicant pool have an intuitive appeal since it reflects the judgment of the person who in most cases is ultimately responsible for making the hiring decision (Ballou & Podgursky, 1998).

In addition to descriptive results, we conduct multivariate analyses using data on schools in Arizona, California, and Texas, where we had the most respondents and where we collected additional information on school-level performance (to capture possible differences in vacancy characteristics) and local labor market conditions (to capture the tightness/looseness of the local market). The school performance data comes from each state's education department website and was standardized using the mean and standard deviation for all charter schools within the state⁵. For labor market conditions we utilize county-level unemployment data from the Bureau of Labor Statistics' Local Area Unemployment Statistics program (averaged over three years) and county-level data on wages from the Bureau of Economic Analysis' Regional Economic Accounts program (also averaged over three years). We matched these county-level data to schools via zip codes.

⁵ We measured performance in California using that state's Academic Performance Index (API); in Texas we relied on the Standard Accountability Indicator (indicating students who met 2007 standard on the Texas Assessment of Knowledge and Skills (TAKS) in all grades tested); in Arizona, we had to create school-level measures. We did this using scale scores in math, writing, and reading for each grade in each school create a measure of each school's average 'distance' from the state's cut scores on its main assessment – the Arizona Instrument to Measure Standards (AIMS).

Findings

We begin with some descriptive analyses to consider whether recruitment timing or compensation practices in charter schools are different than those in their local school districts, and whether or not those differences are related to the size of the applicant pool and the school's satisfaction with the applicant pool.

Recruitment Timing

The survey covered the timing of four key recruitment activities: a) when the school (or district) typically becomes aware of the need to hire a teacher, either to fill a vacancy or a new position; b) when it typically begins advertising for open positions; c) when it conducts the majority of job interviews; and d) when it typically makes job offers. The survey items provided a list of months and asked respondents to check all those that apply.⁶

On balance, the four activities present a similar picture. When compared to their locally matched school districts, a minority - around two fifths - of charter schools appear on pace or ahead in recruitment timing. The majority of charter schools lag behind. Table 3 shows the percentage of charter schools that were “tied with” or “ahead” of their local district in recruitment timing for each of the four activities.

⁶ We assumed the start of the school year - September - as the beginning of time in these analyses; so what follows shows the relative pace of charter schools and their local districts on the four activities after the start of the school year.

Table 3. Recruitment Timing in Charter Schools and their Local districts

	Percentage of charter schools with recruitment timing that was “tied” with or “ahead” of their local districts
Aware of vacancies	43% n=145
Begin advertising	44% n=144
Conduct interviews	46% n=146
Make job offers	39% n=118

Contrary to what we might expect, it appears that charter schools are not capitalizing on their flexibility to get a ‘jump’ on the market. For the most part, their recruitment calendars mirror (or are slightly behind) their local districts. Indeed, only 7% of the charter schools in the survey were ahead of their local districts across all four activities. It is not clear why charter schools are not out ahead more. It may be that the slow moving school district is simply a straw man and that local districts have responded to charter schools and other pressures by moving up their recruitment timeline. Alternatively, it may be that the scale of hiring required by school districts is so relatively large that it requires an earlier timeline than the small scale hiring done by charter schools. Or, charter schools may simply be slow because they are struggling with uncertainty about enrollments, budgeting, or how to recruit effectively.

Descriptive statistics suggest that charter schools that *do* get a jump on the local competition have larger applicant pools. When we compare the number of applicants charter schools say they typically receive for an open position, those that are ahead of their local district on all four recruitment activities attract a mean of 14.8 applicants per opening

while those that are behind attract a mean of 10.7 applicants for each opening. However, cross-tabulations between recruitment timing and satisfaction with the applicant pool suggest that schools that get a jump on the competition are no more likely to be very satisfied with their applicant pools than charter schools that were behind their local districts. Although 35% of charter schools that are ahead on all four activities are very satisfied with their applicant pool compared with 27% of those who are behind, the difference is not statistically significant.

Compensation

The NCSRP survey includes information on both salary levels and salary structures in charter schools and their local school districts.

Salary Level

The salary level item follows verbatim questions used by the U.S. Department of Education's Schools and Staffing Survey, which ask about the normal yearly base pay (not including bonuses or extras) for a full time teacher with a BA and no teaching experience (BA0), with a BA and 10 years of teaching experience (BA10), a MA (or its equivalent in credit hours) and no teaching experience (MA0), a MA and 10 years of teaching experience (MA10), and the highest possible base pay for a teacher at the school.

As Figure 1 shows, charter school salary levels are generally lower than their local school districts. Charter schools generally pay their beginning teachers salaries that are \$2,200 less than their local districts. After ten years of experience, the BA gap closes to just over \$900. For charter school teachers with a masters degree, however, the gap grows as they gain more experience. These diminishing returns to experience echo findings from

national data that show charter school teachers losing ground financially as they gain experience (Burian-Fitzgerald, 2005).

Figure 1. Salary Level Differences between Charter Schools and their Local Districts.

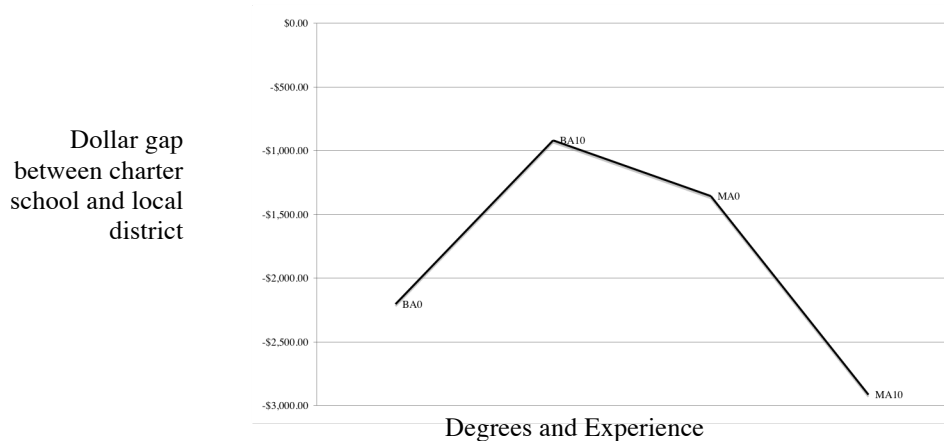


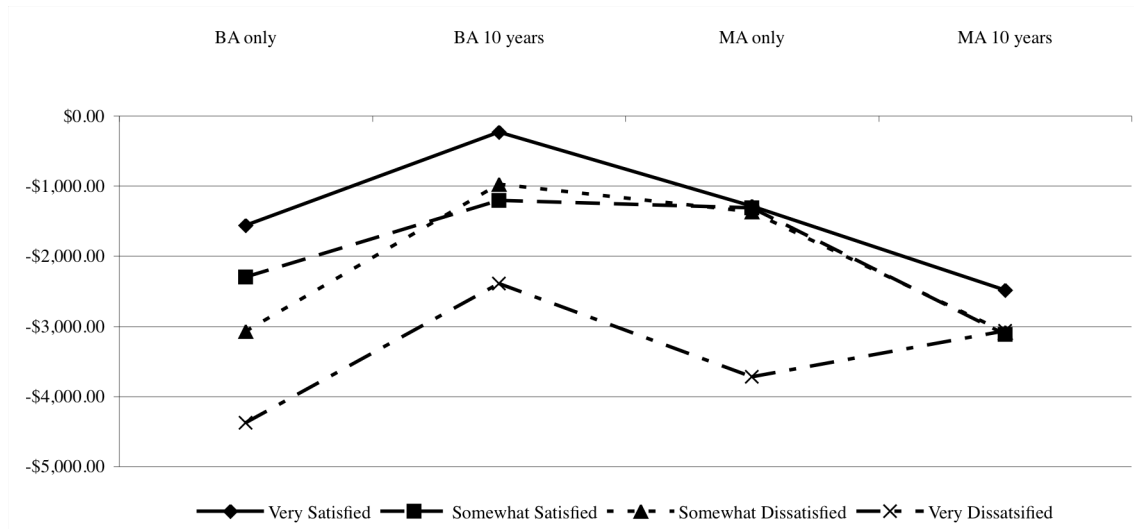
Table 4 shows the mean number of applicants per position for charter schools with different BA0 wage gaps relative to their local districts. The results do not suggest a particularly strong relationship between salary and the number of applicants, perhaps because of the absence of any controls for local labor market conditions and other factors - something we explore more fully below.

Table 4. Mean Number of Applicants Per Opening By Salary Differences

<i>Difference between charter school starting salary (BA0) and local school district starting salary (BA0).</i>	<i>Mean Number of Applicants per Opening</i>	<i>Number of charter schools</i>
\$3,000 or more behind local district	10.4	146
Between \$3,000 and \$1,999 behind local district	10.6	26
Between \$2,000 and \$999 behind local district	13.6	19
Between \$1,000 and even with local district	11.8	25
Between even and \$1,000 ahead of local district	10.4	29
Between \$1,000 and 1,999 ahead of local district	11.9	11
Between \$2,000 and \$2,999 ahead of local district	12.7	13
\$3,000 or more ahead of local district	13.7	20

By contrast, salary differences appear more important when it comes to satisfaction with the applicant pool. Figure 2 shows salary level differences separately for four groups of schools: those who are very satisfied with their applicant pool, somewhat satisfied, somewhat dissatisfied, and very dissatisfied. At the BA only level, it is clear that the most dissatisfied schools are the farthest behind their local districts and the most satisfied schools are the ones closet to their local district (though still behind). These differences converge somewhat when it comes to salary differences for more experienced teachers: school who are very satisfied, somewhat satisfied, somewhat dissatisfied, and very dissatisfied with their applicant pools offer about \$3,000 below their local districts.

Figure 2. Average Salary Differences by Satisfaction with the Applicant Pool



Salary Structure

The survey asked about two types of financial incentives: incentives for teachers who have subject matter expertise in hard-to-recruit fields, such as mathematics, science, and special education and incentives for outstanding individual performance (i.e., merit pay). These incentives could be a one-time bonus or an increase in a teacher’s annual wage. The overall results suggest that less than half of all schools in either sector use these incentives, though consistent with prior studies, charter schools are more likely to use them than are traditional school districts. Forty-four percent of charter schools report offering subject-area incentives compared to 40% of school districts; forty-three percent of charter schools report offering merit pay compared with only 13% of school districts.

Table 5 looks at the degree to which charter schools distinguish themselves from their local districts by offering incentives. Column 1 shows the percentage of charter schools using an incentive when their local district does not. Column 2 shows the

percentage of charter schools using an incentive when their local district does the same. Column 3 shows the percentage of charter schools not using an incentive when their local school district does use it. Column 4 shows percentages when neither sector uses the incentive.

Table 5. Charter School and Local District Use of Subject-Area and Performance Incentives

	Charter uses incentive but local district doesn't (1)	Local district uses incentive but charter doesn't (2)	Both charter and local district use incentive (3)	Neither charter nor local district use incentive (4)
Subject-Area Incentives	19.74%	21.68%	25.57%	33.01%
Performance Incentives	31.31%	5.78%	12.16%	50.76%

On balance, columns 1 and 3 suggest that charter schools are more likely to distinguish themselves from their local districts with merit pay than subject area incentives. Twelve percent of charter schools that offer merit pay are located near districts that also offer merit pay, whereas 26% of charters that offer subject area incentives are located near districts that also offer subject-area incentives.

Again turning to the number of applicants per position, there do not appear to be big differences in the size of the applicant pool between charter schools that distinguish themselves from their local districts by using incentives. The average number of applicants per opening for charter schools that distinguish themselves from their local districts by using merit pay is 11.6 compared to 11.1 for those who do not. Offering subject-area incentives when the local district does not offer them seems to correspond with greater success getting applicants. On average, charter schools that offered incentives in shortage

areas when their local district did not offer these incentives saw two more applicants per position than did charter schools that either match their district's incentive policy or offered no incentive when their local district did (12.7 versus 10.7). As for satisfaction with the applicant pool, separate cross tabulations between schools reporting to be very satisfied with their candidates and schools that offer a bonus (merit or shortage) when their local district did not, shows that schools getting an edge are not necessarily reporting better satisfaction with their candidates.

In sum, these descriptive results suggest that, at least when it comes to recruitment timing and compensation, the dynamism of the charter school sector is largely limited to offering performance incentives. When it comes to satisfaction with the applicant pool, however, it seems that overall pay level, relative to the local district, may matter more for being satisfied with the applicant pool. Next, using additional data on schools in Arizona, California, and Texas, we explore whether certain types of charter schools (e.g., schools that are more mature, schools that have seen more student success) are more likely to distinguish themselves from their local districts.

Multivariate Analyses

We begin our analysis of the relationship between school characteristics and applicant attraction strategies by conducting a series of regression models where the outcomes are binary responses coded 1 for charter schools that 'distinguish' themselves from their local districts and 0 otherwise. We consider three separate areas in which charters can distinguish themselves: in recruitment timing, in offering merit pay, and in offering subject-area incentives. Our predictors include rough measures of the tightness of the local labor market (average county-level unemployment and wages for 2005-2007),

organizational characteristics (a dummy indicating whether the charter school is managed by a school district; a dummy indicating whether it has been in operation for six years or more), and measures of school performance and student demographics. For each model we adjust the standard errors to allow for clustering by school district, under the assumption that some important factors may be operating under the district's sphere of influence at the local level. Because the interpretation of logistic regression coefficients can be awkward (they represent the increase in log odds of the outcome for a one unit increase in the covariate), we stick to qualitative interpretations in the discussion that follows.

Recruitment Timing

To examine variation in charter school recruitment timing relative to the local district we estimated models where the outcome indicates whether a charter school's recruitment was tied or ahead ($Y=1$) or behind ($Y=0$) its local district. We estimated separate models for the four activities described earlier (awareness of vacancies; advertising; conducting interviews; offering jobs) as well as a model where the outcome was being tied or ahead for *all four activities*. The results generally fail to find any statistically significant relationships between the predictors and whether a charter school's recruitment timing is on pace or ahead of its local district. As an illustration, Table 6 shows the results for models predicting whether or not schools are tied or ahead in terms of when they conduct interviews (a step in the process where charters arguably are far less constrained than traditional public schools). None of the covariates are statistically significant except for school performance, although we should be very cautious about this result given that the causality could easily run the other way (i.e., being more timely in interviewing might help increase performance).

Table 6. Logistic Regression Model Predicting Charter Schools “Tied or Ahead” in Conducting Interviews Compared to Their Local Districts

<i>Variables</i>	Charter school is tied or ahead of local district in conducting interviews (Y=1)
School in operation for 6 or more years (dummy)	-0.108 (0.369)
School is managed by local school district (dummy) †	-0.358 (0.369)
z-score school performance	0.461** (0.152)
Average county-level wage 2005-2007	0.000 (0.000)
Average county-level unemployment 2005-2007	0.168 (0.137)
% white students	0.004 (0.007)
% Free and Reduced Lunch Students	0.002 (0.005)
Texas dummy	-0.373 (0.627)
Arizona dummy	-0.073 (0.709)
Imputation flag for Free and Reduced Lunch	0.592 (0.603)
Constant	-0.579 (1.867)
N	244

*p<.10

**p<.05

†Excluded group includes charter schools that are independent school-level non- profits, charter schools that are managed by umbrella non-profit organizations, and charter schools that are managed by umbrella for-profits.

Compensation

Our models for compensation mirror those for recruitment timing. Here we restrict our analysis to salary structure (recall that as a group the charter schools lagged behind their local districts in terms of overall salary *level*). Table 7 presents the results for two models predicting whether or not charter schools distinguish themselves by offering merit pay (column 1) or subject-area pay (column 2) when their local school districts do not. The results suggest unsurprisingly that when charter schools are managed by school districts they are less likely to adopt either alternative pay structure. None of the other covariates of interest are statistically significant.

Table 7. Logistic Regression Models Predicting Distinctive Local Use of Incentives by Charter School (Robust standard errors in parentheses)

<i>Variables</i>	(1)	(2)
	Charter school uses performance incentives and local district does not (Y=1)	Charter school uses subject-area incentives and local district does not (Y=1)
School in operation for 6 or more years (dummy)	-0.062 (0.281)	0.077 (0.373)
School is managed by local school district (dummy)= z-score school performance in 2007	-1.517** (0.628)	-1.470** (0.612)
Average county-level wage 2005-2007	0.026 (0.186)	-0.021 (0.239)
Average county-level unemployment 2005-2007	0.000 (0.000)	0.000 (0.000)
	-0.159 (0.148)	0.068 (0.155)
% white students	-0.004 (0.007)	0.009 (0.010)
% Free and Reduced Lunch eligible students	0.002 (0.006)	0.006 (0.007)
Texas dummy	-0.218 (0.637)	-0.328 (0.740)
Arizona dummy	0.248 (0.581)	-0.882 (0.825)
Imputation flag for Free and Reduced Lunch	1.460** (0.581)	0.386 (0.817)
Constant	0.162 (1.731)	-1.449 (2.454)
N	252	237

*p<.10

**p<.05

†Excluded group includes charter schools that are independent school-level non- profits, charter schools that are managed by umbrella non-profit organizations, and charter schools that are managed by umbrella for-profits.

While these results do not paint a particularly compelling picture of who is and who isn't competitive, they are intuitive. Schools that are high performing are also likely to be out ahead of their local districts; schools that have closer organizational ties to local districts are less likely to experiment with non-traditional incentives in compensation.

Number of Applicants and Satisfaction with the Applicant Pool

Our initial descriptive analyses suggested that being ahead in recruitment timing might be related to the number of applicants a school is able to attract, but unrelated to how satisfied a school is with its applicant pool. The descriptive analysis also suggested that salary level differences are related to satisfaction with the applicant pool, but not quantity; neither merit nor subject area incentives initially appeared to be strongly related to either outcome. Here we revisit these relationships with more controlled, multivariate analyses in the four larger states.

We conduct two types of analyses: predicting the number of applicants per opening (using OLS models) and predicting whether a school is very satisfied ($Y=1$) with the quality of its applicant pool (using logit models). In both cases the outcomes are modeled as a function of the factors included in Tables 6 and 7 as well as new indicators of whether or not a charter school distinguishes itself from its local districts with non-traditional personnel practices. The results in Table 8 and Table 9 generally show that the only consistent predictor of satisfaction with the applicant pool is the school's performance, with one exception: schools that use merit pay appear more likely to be satisfied with their applicant pool.

Table 8. OLS Regressions Predicting Number of Applicants per Opening (Robust standard errors in parentheses)

<i>Variables</i>	(1)	(2)	(3)	(4)
School is on pace or ahead in all recruitment timing	2.281 (1.613)			
Difference between charter and local district in BA0 salary (\$1000nds)		-0.149 (0.290)		
Offer subject-area incentives when local district does not			3.079 (2.233)	
Offer merit pay when local district does not				2.199 (1.871)
School in operation for 6 or more years (dummy)	-2.941 (2.336)	-3.262 (2.220)	-3.735 (2.311)	-2.698 (2.105)
School is managed by local school district (dummy) †	-3.740 (2.738)	-2.994 (3.004)	-2.408 (2.717)	-3.043 (2.732)
School Performance	2.218** (0.680)	2.263** (0.784)	2.262** (0.775)	2.110** (0.734)
Average county-level wage 2005-2007	0.000** (0.000)	0.000* (0.000)	0.000** (0.000)	0.000** (0.000)
Average county-level unemployment 2005-2008	0.580 (0.605)	0.144 (0.490)	0.391 (0.570)	0.397 (0.491)
% white students	0.009 (0.033)	0.006 (0.036)	0.005 (0.034)	0.028 (0.034)
% Free and Reduced Lunch eligible students	-0.018 (0.029)	-0.010 (0.031)	-0.011 (0.031)	-0.001 (0.031)
Texas dummy	1.481 (3.574)	1.263 (4.264)	2.180 (3.677)	1.170 (3.546)
Arizona dummy	-1.046 (3.084)	-1.150 (3.351)	0.514 (3.193)	-2.014 (2.961)
Imputation flag for Free and Reduced Lunch	-4.594** (1.518)	-2.110 (1.554)	-3.691** (1.274)	-2.773** (1.634)
Constant	-0.469 (10.205)	2.600 (10.114)	-0.371 (10.156)	-0.325 (9.487)
N	192	190	186	198

*p<.10

**p<.05

†Excluded group includes charter schools that are independent school-level non- profits, charter schools that are managed by umbrella non-profit organizations, and charter schools that are managed by umbrella for- profits.

Table 9. Logit Regressions Predicting Satisfaction with the Applicant Pool (Robust standard errors in parentheses)

<i>Variables</i>	(1)	(2)	(3)	(4)
School is on pace or ahead in all recruitment timing	0.421 (0.355)			
Difference between charter and local district in BA0 salary (\$1000nds)		0.017 (0.037)		
Offer subject-area incentives when local district does not			-0.373 (0.465)	
Offer merit pay when local district does not				0.826** (0.290)
School in operation for 6 or more years (dummy)	0.362 (0.359)	0.338 (0.362)	0.324 (0.365)	0.465 (0.347)
School is managed by local school district (dummy) †	-0.269 (0.426)	-0.346 (0.430)	-0.411 (0.437)	-0.051 (0.430)
School Performance	0.726** (0.186)	0.646** (0.180)	0.700** (0.181)	0.631** (0.173)
Average county-level wage 2005-2007	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Average county-level unemployment 2005-2007	0.085 (0.153)	-0.024 (0.112)	0.088 (0.148)	0.017 (0.106)
% white students	0.009 (0.008)	0.011 (0.008)	0.012 (0.009)	0.011 (0.007)
% Free and Reduced Lunch eligible students	-0.001 (0.007)	0.004 (0.007)	0.001 (0.007)	0.001 (0.006)
Texas dummy	-1.028** (0.510)	-0.908* (0.514)	-1.013* (0.516)	-1.130** (0.502)
Arizona dummy	-1.009 (0.628)	-1.260** (0.581)	-0.986 (0.624)	-1.348** (0.552)
Imputation flag for Free and Reduced Lunch	-2.487** (0.939)	-0.979 (0.811)	-2.247** (0.982)	-1.381* (0.784)
Constant	-0.836 (1.852)	-0.511 (1.801)	-0.884 (1.821)	-0.716 (1.767)
N	239	237	235	249

*p<.10

**p<.05

†Excluded group includes charter schools that are independent school-level non- profits, charter schools that are managed by umbrella non-profit organizations, and charter schools that are managed by umbrella for-profits.

Conclusion

Some people hold up charter schools as examples of the benefits of a freer and more competitive teacher labor market. By virtue of incentives and opportunity, charter schools are thought to use non-traditional personnel policies that result in different and, by some measures, potentially more effective teachers. For the most part, these discussions frame charter school personnel innovation as a generalized capacity of all charter schools.

This paper takes a different approach by examining how charter school personnel practices vary across localities by comparing charter school recruitment timing and compensation practices to local school districts. On balance, the results suggest that charter schools are more likely to distinguish themselves by experimenting with merit pay than other types of pay incentives (both charters and school districts use subject-area incentives); they do not, however, appear to use their flexibility to engage in more timely recruitment activities. The results also suggest that being more competitive in terms of recruitment timing or compensation does not necessarily yield larger applicant pools or satisfaction with the application pool. The results also suggest that experiments in personnel policy, at least in the charter sector, are less likely when school districts retain close ties to charter schools.

Once we control for local labor market conditions and other organizational factors, student performance appears to be the strongest predictor of both the quality and quantity of a school's teacher applicants, at least as judged by its principals view of the applicant pool, suggesting that who you are—a high-performing school—may be more important than what you do when it comes to attracting human capital. It is unclear, however, whether higher performing schools are more satisfied with their applicants (and have

more of them) or if schools with larger and more satisfactory applicant pools are better performers. The same can be said of our finding that schools offering merit pay are more satisfied with their applicant pools; it may be that merit pay attracts better applicants, or it may be that schools that are happy with their applicant pools decide to reward their teachers by offering merit pay. In any event, these results suggest that using front-end personnel policy to address concerns about teacher quality and equity will likely require more policy intervention than just a freer and more competitive teacher labor market. They also suggest the importance of future research that looks more deeply at other personnel policies that charter schools may use to improve their human capital, including screening practices, induction practices, and on-going professional development. It may be that charter schools distinguish themselves in these and other personnel areas that are beyond the scope of this paper.

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