



## Teacher Hiring in the United States: A Review of the Empirical Research (2001-2020)

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Hiring quality teachers that best meet localized needs to provide students with authentic learning opportunities is crucial to both school and student success. Despite the clear importance of teacher hiring, especially in the current teacher labor market, a review of literature that synthesizes the full body of teacher hiring literature has long been missing from the field. This integrative literature review of 71 empirical studies in an era of federal accountability (2001-2020) provides a full portrait of K-12 teacher hiring research. In so doing, we identify what is known while also unearthing the many knowledge gaps that exist due to factors such as sample and methodological limitations. As such, this review of the literature provides practitioners and policymakers with a number of guideposts to help them with hiring decisions. This review also shows how much more there is to learn and signals to researchers where and how they might build off of the current knowledge base.

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**Abstract**

Hiring quality teachers that best meet localized needs to provide students with authentic learning opportunities is crucial to both school and student success. Despite the clear importance of teacher hiring, especially in the current teacher labor market, a review of literature that synthesizes the full body of teacher hiring literature has long been missing from the field. This integrative literature review of 71 empirical studies in an era of federal accountability (2001-2020) provides a full portrait of K-12 teacher hiring research. In so doing, we identify what is known while also unearthing the many knowledge gaps that exist due to factors such as sample and methodological limitations. As such, this review of the literature provides practitioners and policymakers with a number of guideposts to help them with hiring decisions. This review also shows how much more there is to learn and signals to researchers where and how they might build off of the current knowledge base.

*Keywords:* teacher hiring, teacher labor markets, recruitment, screening, selection

### **Teacher Hiring: A Review of the Empirical Research (2001-2020)**

Teachers are critical to student achievement (e.g., Rockoff, 2004), so effective teacher hiring policies and practice are fundamental to school success and improvement (e.g., Loeb et al., 2012). Yet within broader K-12 teacher labor market research, teacher supply issues have typically been prioritized over teacher hiring (e.g., Rothstein, 2015). To balance what we know, researchers have increasingly called for research on the demand side of labor markets in hiring (e.g., Cowan et al., 2016). Yet, the few efforts to review teacher hiring literature have been narrowly focused on specific hiring components and are becoming increasingly dated (e.g., Allen, 2006; Guarino et al., 2006; Rutledge et al., 2008). The picture of what is known about teacher hiring remains woefully incomplete. Based on our extensive searches, an integrative, systematic review of K-12 teacher hiring research conducted in the U.S. does not exist. In response, we have conducted an integrative literature review to identify the strengths, weaknesses, and trends of teacher hiring research literature and highlight what is known and unknown about where teacher supply and demand meet in teacher hiring.

This literature review is consequential for a number of reasons. Teacher hiring remains critical to school performance and student learning opportunities and life chances (e.g., Kraft, Papay, et al., 2020). Professional demands on teachers, however, only continue to increase (e.g., Kraft, Simon, et al., 2021). Postsecondary teacher education program enrollments and graduation numbers are in decline (Sutcher et al., 2016), and significant teacher shortages only add pressure for district and school leaders to make good hiring decisions (e.g., Castro, 2020). Issues of policy and practice are also shifting as principal influence and autonomy in hiring decisions seems increasingly common (e.g., Engel et al., 2018, Kraft, Papay, et al., 2020), and large data screening tools become more widely available in school districts (e.g., Cannata et al., 2017).

Given the ongoing changing nature of teacher hiring, making the current evidence plain can only help to inform policymakers and practitioners advance initiatives. We also anticipate this review being helpful for researchers to quickly determine what is known in the field, realize how much more there is to learn, and begin to fill the surprisingly significant gaps in knowledge that remain. In short, we see this systematic review of the literature as a call to action for practitioners, policymakers, and researchers to invest in understanding teacher hiring research, grapple with the significant implications of the research, and advance informed, intentional responses to prioritize making the best teacher hires for positive student learning opportunities.

### **Conceptual Framework**

We undertook an exploratory approach (e.g., Bossert et al., 1982) to teacher hiring informed by four sequential hiring phases—recruitment, screening, selection, and job offer (see Figure 1)—as defined in the occupational research field (Kogan et al., 1995) and leveraged in Rutledge and colleagues' (2008) seminal teacher hiring study. Each phase represents a distinct process.

We extended this framework to include the teacher candidate's *job search* experience, which involves the candidate's experience across the hiring phases. We also expanded the framework to include the candidate's choice to *accept or decline* a job offer. This revised framework guided our work to answer the following research questions intended to benefit the field and future research: (a) What methodologies have been used to study teacher hiring? (b) What has the research on teacher hiring found?

### **Methodology**

For this integrative review (Whittemore & Knafl, 2005), we followed a systematic research review design for reproducibility (Booth et al., 2012). We initially searched for extant

reviews of teacher hiring research, which yielded six focused areas of reviews that were uneven in recentness and search systematization. The first area addressed teacher recruitment into the profession and schools (two systematic searches; Allen, 2006; Guarino et al., 2006). The second reviewed economic approaches to teacher recruitment to the profession and schools (no systematic search; Loeb & Myung, 2020). The third area examined the localization of teacher labor markets (no systematic search; Engel & Cannata, 2015). The fourth addressed aspects of hiring decisions (no systematic search; Engel & Cannata, 2015). The fifth examined candidate screening and selection (no systematic search; Rutledge et al., 2008). The sixth examined the use of a commercial teacher selection instrument (meta-analysis; Metzger & Wu, 2008). We created a list of document search and code terms provided in the following section from these six areas and reviews along with seminal teacher hiring articles (e.g., Liu & Johnson, 2006).

### **Inclusion and Exclusion Criteria**

We first determined that studies were relevant only if they were explicitly connected to at least one of the teacher hiring phases in our framework or analyzed various teacher hiring policies and practices (e.g., sorting patterns). We categorized two types of studies as examining *processes* in themselves (i.e., clear actions in the hiring process, such as interviewing and selection) or *influencers* on hiring (i.e., conditions and attitudes that influence hiring processes, such as teacher preferences and teacher hiring policy). Any study focused on an influencer, however, had to relate clearly to one or more hiring phases to meet relevancy standards. We also classified studies analyzing the impact of hiring policies and practices as *general*, which almost exclusively (11 of 14) focused on teacher sorting and placement patterns.

We included studies (a) conducted in traditional U.S. public or charter K-12 settings; (b) focused on elementary teachers or teachers of either a core subject area (e.g., English) or special

education; and (c) that included data collection in an era of federal accountability (2001 or later up until the final date of our systematic search [December 31, 2020]). We limited our review to empirical research that met established criteria for quality worthy of inclusion in a systematic review. Dissertations were not considered. For quantitative studies, we used Guarino and colleagues' (2006) expectations for satisfactory answers to the following questions:

- (a) Did the sample adequately support the analyses performed?
- (b) Did the measures appear to be valid and reliable?
- (c) Did the researchers choose a statistical approach that appropriately modeled the phenomena under study?
- (d) Was the researchers' interpretation warranted by the findings? (p. 178)

For qualitative studies, we used Dixon-Woods and colleagues' (2006) standards for systematic reviews: (a) the authors clearly stated a study's aims and objectives, (b) the design is clearly explained and appropriate for the aims and objectives, (c) there is a clear account of how findings were reached, (d) method of analysis is appropriate and clearly communicated, and (e) data supporting conclusions and interpretations were provided.

### **Search Procedure**

We used EBSCO's *Education Research Complete* database, which holds indexing and abstracts from over 2,100 PK-20 education journals, and PsycINFO, which does the same for over 2,200 social science and behavioral journals. Search terms included a combination of *teacher* and each of (a) *hiring*, (b) *hire*, (c) three key hiring process phases unique to hiring (*job search*, *recruitment*, *job offer*), and (d) two terms in the literature that are highly associated with hiring process phases (*applicant*, *incentive*). *Screen\**, *interview*, and *selection* were not utilized because of their associations with empirical methods, which resulted in a collective yield of tens of thousands of articles. The initial search was limited to empirical peer-reviewed scholarly

journal articles published in English between 2001 and 2020 available in full text. Studies of screening tools/instruments' predictiveness of teacher outcomes were excluded unless they examined the instrument in use. Our initial search returned 3,217 articles, reduced to 2,731 after deleting duplicates (see Figure 2). We then reviewed abstracts and established interrater reliability (IRR) about whether to retrieve the complete article based on our inclusion criteria. After establishing an IRR above 95% on a random set of 30 abstracts, we independently coded the remaining abstracts—eliminating 2,608 of them—to determine if complete manuscripts should be coded.

We then reviewed the remaining 123 articles against our inclusion criteria, eliminating 32 studies because they did not meet relevance standards. We conferred about quality inclusion for each remaining study and excluded 26 more studies for not meeting the criteria. In cases where only portions of a study's findings met our quality criteria, we reported results only on the sections that met our inclusion criteria. We also reviewed all reference sections for additional citations and conducted subsequent GoogleScholar searches with the same search terms and inclusion criteria, which resulted in five additional empirical, non-peer-reviewed studies that met our standards for quality and Booth and colleagues' (2012) standards for including book chapters, reports, and working papers. Several widely cited studies did not meet inclusion criteria for lack of transparency and methodological approaches or descriptions that did not substantiate a study's findings. The final number of studies included in this review was 71.

### **Coding Procedures**

From our initial list of deductive codes derived from our research questions and dominant themes (e.g., fit, hirer preferences) seen in prominent studies (e.g., Harris et al., 2010) and reviews (e.g., Engel & Cannata, 2015), we coded eight studies meeting relevance criteria as a



“test.” We also coded whether studies followed an explicitly stated framework and, if so, whether the framework drew upon hiring research outside of education. We wrote analytic memos for each study that met all inclusion criteria. The first author coded approximately 75% of the remaining articles. We met weekly, however, for the duration of the coding process to discuss progress, emergent themes, inductive codes, and necessary coding revisions. As an additional means of ensuring we accurately captured the extant literature, a content specialist reviewed this paper and provided feedback and corrections prior to working paper submission (Shenton, 2004).

### **Findings: What methodologies have been used to study teacher hiring?**

Of the 71 studies reviewed, we categorized 34 as quantitative, 25 qualitative, and 12 mixed methods (see Table 1). Overall, we found a generally even balance in publication and data collection years (see Table 2), studies were predominantly focused on several aspects of hiring and data sources/actors, and research was generally conducted in large urban contexts. The sum of studies may also bely what is known as about 27% (19) of the studies come from just seven original data collection sites (see Table 3). Detailed descriptions of study contexts and methods follow.

### **Analyses**

Quantitative studies predominantly employed regression analyses (24 of 34), of which six utilized quasi-experimental methods and 14 provided descriptive findings pertinent to teacher hiring. Further, quantitative studies drew almost exclusively from administrative (20) and/or survey (17) data. Nearly all qualitative studies drew on interview data (23 of 25 studies). Interview-based studies differed in rigor and design, with some using purposive sampling for broader representation and others relying on convenience sampling from limited ranges of

participants (see Table 3 for fuller study descriptions). Few fully qualitative studies triangulated focal interview data with document analysis or other actor accounts.

### **Hiring Phase and Themes**

Findings largely focused on the first two hiring phases in hirers' perspectives and patterns in hiring and sorting. For the hiring process phases, findings were most frequently reported on recruitment issues: recruitment (25), screening (27), selection (10), job offer (7), and job accept/decline (2). Of influencers, there were 16 studies of hirer preferences and nine studies of candidate preferences, most of which were quantitative. Other themes in the research, in order of decreasing prevalence, were centralization/decentralization (11), policy (11), timing (11), fit (6), data use (5), information-rich hiring (4), race and ethnicity (4), and social networks (3). Only 10 studies directly related actions at any hiring phase to final hiring outcomes (e.g., contract signed), eight being quantitative, two qualitative, and one mixed methods.

In total, 42 studies reported findings focused on the hiring process (e.g., recruitment, selection), 10 of which were quantitative, 22 qualitative, and 10 mixed methods. Eighteen of the process studies came from six data collections. The 28 studies with findings focused solely on influencers (e.g., preferences, policy) and/or general hiring as one large process were overwhelmingly quantitative (22 quantitative, four qualitative, two mixed methods).

### **Participants**

The majority of studies (42 of 71) obtained data from people hiring candidates. Most of this majority subset of studies (37 of 42) analyzed data from principals. Just four studies reported process findings based on in-service teacher experiences as job candidates, and only seven studies elicited data from pre-service teachers either entering or preparing to enter the job market. Thirteen studies used in-service candidates as data sources, and 14 studies utilized data

from teachers who were not job candidates. Six studies drew from district leaders, and five based or supplemented findings with data from district and CMO human resources (HR) personnel.

### **Setting**

Study data collections varied in geographic range as 27 were contained within a single school district or CMO, 22 beyond a single district or CMO but within a single state, and 17 across multiple states. Four studies relied solely on teacher education programs for data, and one used national data from all states. However, discrepancies by locale were clear in cases where data were not collected from state administrative datasets (encompassing all locales) or across samples intended to be representative or purposively inclusive in some way of larger state or national populations. Twenty-one studies utilized data from three or more urban-centric locale codes as defined by Common Core Data (<https://nces.ed.gov/ccd/>), while a full 35 were collected from sites in one to two locales. All but one (34) of this latter group of studies utilized an urban locale, 24 of which were in large urban cities and six in mid-size cities. Only eight studies focused on hiring in small cities, suburbs, towns, or rural areas. Twelve studies collected data from K-8 schools, and only three studies used data solely from high schools (Grades 9-12); attention to differences in hiring by subject area was generally minimal, despite larger calls to do so in the field (e.g., Cowan et al., 2016).

### **Data Collection and Years of Publication**

We found no discernable pattern in publishing across time (see Table 2), though over 32% of hiring studies were published in the last three years of this review's investigation (2018-2020). However, a substantial number of teacher hiring studies were based on a few original data collection sites that account for almost a third of all studies reviewed. In total, 19 studies—all

from large urban or mid-sized districts—were published from seven data collection sites. Further, six prominent studies were published in the 2010s using data from 2006.

### **Findings: What does the research on teacher hiring tell us?**

We organize this findings section into three sub-sections based on our coding results. We begin by discussing general hiring patterns that are not specific to any phase. We then discuss findings dealing with each phase of the hiring process. Lastly, we discuss findings of influencers—including teacher and hirer preferences—on the hiring process.

#### **General Hiring Patterns**

We first report on *general hiring patterns* research that considers broader teacher labor market trends and links teacher applicants to final placement. These general hiring pattern studies revealed trends that helped situate subsequent sets of this review’s findings. This section focuses only on the teacher labor market literature meeting our review criteria (e.g., focus on teacher hiring) and is not an exhaustive review of the wider literature on the topic.

***Characteristics Increasing the Likelihood of Being Hired.*** Research has established that candidates in large urban districts typically migrated to schools demographically similar to those they attended or near where they lived (Boyd et al., 2005; Engel et al., 2014). Geographically limited job advertisements (Balter & Duncombe, 2008) and postings stating preferences for local candidates (Engel & Finch, 2015) might influence candidates. Balter and Duncombe (2008) found that roughly 50% of recent teacher hires had earned their bachelor’s degree, and almost 75% had earned their master’s degree from local colleges and universities. There is also strong evidence that student teaching experiences also predict candidates’ geographical preferences (Boyd et al., 2005; Cannata, 2010; Goldhaber et al., 2014; Krieg et al., 2016). Liu and Johnson

(2006), for example, found that almost 20% of novice teachers had been student teachers or paraprofessionals in the schools in which they formally began their teaching careers.

Teacher candidate characteristics were related to their school preferences and opportunities. Teachers from more prestigious colleges and universities or with higher certification exam scores have also been likelier than others to transfer within the district in New York City Schools (NYCS) (Boyd et al., 2011). Teachers with evidence of higher value-added scores have also been more likely to transfer to schools with higher student achievement levels than others (Loeb et al., 2012) and appeared to have greater odds of being hired (Boyd et al., 2011). Large-scale studies have found that student teachers who are White, suburbanites, and younger than their pre-service peers have been more likely to secure initial teaching employment than are others (D'Amico et al., 2017; Goldhaber et al., 2014). Bartanen and Grissom's (2019) study of hiring in Missouri and Tennessee found causal evidence that Black principals were more likely than White principals to hire Black teachers. Goldhaber and colleagues (2014) empirically demonstrated that, expectedly, student teachers in in-demand subject areas (e.g., science) were more likely to be hired than counterparts in other subjects.

***Importance of and Trends in the Timing of Hiring.*** When hiring occurs is important as teacher applicant pool quality, which appears to decrease late in the hiring season as the number of high-scoring candidates, dwindles (Lee, 2020). Moreover, winter and spring teacher applicants tend to have higher screening scores than summer applicants, which are in turn predictive of subsequent performance (Bruno & Strunk, 2019). Thus, job offers made earlier in the cycle could result in filling a position with a preferred candidate (Perrone & Eddy-Spicer, 2019) whereas late offers described seem to be detrimental to securing a desired candidate (Liu et al., 2008; Perrone & Eddy-Spicer, 2019). Earlier actual hiring (i.e., job offer accepted) was

found to be closely related to both higher odds of hiring teachers of color and new hire retention (Kraft, Papay, et al., 2020). The timing of hiring has an impact on student outcomes, too. Papay and Kraft (2016) revealed that delayed hiring predicted lower levels of subsequent student achievement in a large Southern district. This was later causally substantiated by Kraft, Papay, and colleagues' (2020) quasi-experimental study in Boston Public Schools (BPS).

Given the firmly established and critical relationships timing of hiring has with teacher quality (e.g., Bruno & Strunk, 2019) and student outcomes (Kraft, Papay, et al., 2020; Papay & Kraft, 2016), it is important to understand what normal hiring seasons are in order to contextualize related research. In absence of nationally representative data pertaining to hiring, though, the field is unable to fully situate hiring research, including around issues like timing of hiring processes. Below are varied empirical accounts of when hiring has generally taken place and factors that influence hiring timelines.

District leaders and principals may work on teacher hiring year-round, including gathering referrals from colleagues inside and outside their district (e.g., Castro, 2020; Engel & Curran, 2016). However, most principals in the available research, generally situated in large cities, appeared to delay assessing hiring needs in advance of district deadlines (DeArmond et al., 2010; Gross & DeArmond, 2010), though this finding was not universal (e.g., Castro, 2020). In partial response to the ongoing nature of the hiring process, districts may have deadlines for teachers to report an intention to retire, which in one study aided the district in preparing openings and the typical sequence of events that followed (DeArmond et al., 2010).

Research provided varied examples of timelines around vacancy postings and contract agreements, most usually vacancies posted in March or April with anticipation of holding interviews and making offers soon after (e.g., Balter & Duncombe, 2008; Engel & Curran,

2016). However, other studies provided examples of charter school leaders launching hiring cycles as early as October (Jabbar, 2018) and accounts of traditional public school (TPS) leaders in districts with teacher shortages beginning hiring before March as well (Castro, 2020). Hiring cycles can be as short as two weeks, but most depicted in the research were longer and ran across multiple rounds (e.g., first round for internal transfers, second and third rounds for student teachers and new applicants to the district) (DeArmond et al., 2010).

Few teacher contract agreements have been documented as completed or even initiated before late summer. Kraft, Papay, and colleagues (2020) classified on-time hires as made between June and August, reporting that prior to 2014, 26% of BPS hiring was completed between September and November. Earlier, Papay and colleagues' (2016) study found that 18% of teachers in a large district in the South were hired after the school year started. Liu and Johnson's (2006) study suggested substantial variation by state (less than 20% of their Florida new teacher hires were made before August while over 40% of their Michigan new teacher hires had one month or less to prepare for school). Regardless of state, studies have repeatedly found that schools with higher percentages of students in low-income households were more likely to make hiring decisions later in the process (e.g., Balter & Duncombe, 2008; Liu et al., 2008; Loubert & Nelson, 2010). Delayed hiring has also been found to be more common in urban schools than suburban or rural ones (Papa & Baxter, 2008), middle and high schools than elementary ones, and schools with higher percentages of minoritized students (Papay & Kraft, 2016).

Liu et al. (2008) detailed how policy and infrastructure largely drove the timing of the hiring process. They pointed out that urban districts disproportionately relied upon federal and state compensatory funding, elongating timelines and subsequently reducing the number and

quality of available candidates. Moreover, larger urban district human resource departments were slower to respond to administrator requests to make job offers than smaller suburban and rural counterparts. Although teacher transfer provisions in district collective bargaining agreements (CBAs) have been attributed with delaying the teacher hiring process (Donaldson, 2013), the timeliness of hiring between districts with and without CBAs appeared to be unaffected in Loubert and Nelson's (2010) study. Perhaps most compelling, though, is Kraft, Papay, and colleagues' (2020) more recent work that found that abolishing forced placement policies for tenured teachers resulted in earlier hiring, more diversity in hires, greater subsequent new teacher retention, and improved student achievement.

*Centralized / Decentralized Hiring and Principal Autonomy.* A full picture of how centralized or decentralized hiring is and how much autonomy principals have in hiring is largely unavailable. However, the breadth of relevant studies across settings provides valuable insights into the landscape and underlying mechanisms. Teacher hiring has frequently been depicted as decentralized (e.g., Castro, 2020; Liu & Johnson, 2006; Rutledge et al., 2010) and there are examples of large districts moving to greater hiring power at the school level (e.g., Kraft, Papay, et al., 2020). Yet, hiring can still entail a collaboration between district and school leaders (Cannata et al., 2017). For example, when a district launches recruitment initiatives and performs the first screen of applicant eligibility before delegating hiring duties to its principals, the hiring responsibility remains at the school level. Principal perceptions of their influence over the teacher hiring process increased substantially from 1987-88 to 2011-12, most dramatically in urban districts (Engel et al., 2018). While urban principals traditionally seemed to have had less autonomy than their suburban and rural peers (Engel et al., 2018; Papa & Baxter, 2008), their autonomy on average grew over time. Additionally, research has examined hiring in sites in



which principals reported high levels of screening and selection authority along with access to HR personnel (Engel & Finch, 2015; Simon et al., 2019).

Research findings around principals' views on district involvement in teacher hiring are mixed. Decentralized hiring may increase competition among schools within districts (Liu et al., 2008), but centralized hiring practices may reduce principals' beliefs that best-fit candidates will be hired (Donaldson, 2013). This tension was also unearthed in studies of charter school leadership (Jabbar, 2018; Simon et al., 2019). Principals have been documented as seeking autonomy in highly centralized hiring systems (Cannata et al., 2017; Rutledge et al., 2008), yet decentralized hiring in itself has not necessarily led to highly meaningfully informative interview experiences for the schools and candidates (Liu & Johnson, 2006). District policies around teacher seniority and timing of job announcement and interviews, for instance, can limit who is left in the candidate pool (Donaldson, 2013; Liu et al., 2008). Thus, good communication between district and school leaders has been found to be critically important (Simon et al., 2019) and to reduce hiring challenges (Opfer, 2011). These findings underscore the importance of coordinated district-level HR processes regardless of the level of centralization (Cannata et al., 2017).

## **Teacher Hiring Process**

### **Teacher Job Search**

Hiring is a two-way process. Therefore, it is vital to differentiate hirer and candidate roles, especially given the field's limited understanding of the demand side of the teacher labor market (Cowan et al., 2016). However, research has rarely captured the candidate's experiences or preferences in actual use in the hiring process. We only identified seven studies across 20

years of research focused on teacher experiences as candidates in the job market. Yet, the limited research points to a logical close relationship between job search and preferences.

*Candidate Knowledge of School and District/CMO.* What is known about candidate knowledge of job opportunities comes from five qualitative studies. To learn about job openings, teacher candidates in the past have relied upon district websites and job boards, social networks, and student/substitute teaching avenues (Cannata, 2010). Cannata (2011b) found that the majority of her 27 teacher candidate participants gained information about schools through the interview process (96%), the Internet (85%), professional networks (74%), and social networks (52%). She also reported that 62% of candidates felt they lacked information on which to base an employment decision. Perrone and Eddy-Spicer (2019) found that six of their eight recently hired study participants learned about their school of employment through professional experiences, colleagues, family, and friends. Similarly, Jabbar and colleagues (2019) concluded that the majority of their 127 participants in three mid-sized urban districts learned about position openings through their social networks.

Teacher candidates in the available research often relied on social networking as a job search strategy (e.g., Burns Thomas, 2020; Jabbar, 2018). Seventeen of the 27 candidates in Cannata's (2011b) study attributed professional and social connections with people in or having attended the school or district as advantageous in securing a position. Many of those candidates acknowledged connecting with principals, taking substitute positions, and submitting applications in person as strategies to expand their professional networks. Similarly, Jabbar et al. (2019) found that 40% of teachers in their sample leveraged professional networks to influence the hiring process, but charter teachers were more likely to have utilized them than TPS teachers.

Conversely, teachers without strong networks expressed concerns about being less likely to find a desirable teaching job than peers with more robust networks (Jabbar et al., 2019).

Despite clear strategies to pursue employment, teacher candidates described in the empirical literature had limited knowledge about whether the schools they applied to could meet their preferences. About half of the student teachers that Cannata (2010) studied wanted to work in specific districts because of comfort and convenience, but the vast majority did not seek information about schools unfamiliar to them. Furthermore, the majority of those student teachers used student demographics and achievement scores as their primary indicators of school working conditions.

### **Recruitment**

Research on teacher recruitment suggests the process can be intensive, but the overall scope of knowledge is limited. DeArmond and colleagues (2010) found that a group of more engaged school leader participants seemed to rely less on the district to identify good teacher candidates and displayed more consistency and coherence when reviewing candidate experiences, skills, and knowledge. Principals who actively recruited appeared more likely to work in higher-performing schools than their peers in Engel and Curran's (2016) study of hiring in a large urban district. To what extent the level of recruitment intensity and related efforts actually affect hiring outcomes, including teacher job acceptance and subsequent effectiveness, has not been examined empirically. Despite several studies highlighting the importance of recruitment efforts targeting teachers of color at the district (e.g., Burns Thomas, 2020; Ingle et al., 2011) and school (e.g., Simon et al., 2015; Simon et al., 2019) levels, research relating processes to outcomes is scarce.

Research also provided examples of greater intensity of recruitment in charter schools. The charter sector has been portrayed as creating clear recruitment messages to signal to candidates early who would make a good fit (e.g., DeArmond et al., 2010; Simon et al., 2015). Some research depicts CMOs as having full-time HR directors devoted to staff recruitment and principals who credit them for strong candidate pools (e.g., Simon et al., 2019; Torres, 2019), while other CMOs may assign recruitment responsibilities like writing job descriptions to principals (Laura, 2018). In public school districts, the district is usually responsible for formal staff recruitment efforts, such as advertising and job fairs (e.g., Engel, 2013; Rutledge et al., 2008), while principals may supplement these district-led efforts (e.g., Engel & Finch, 2015).

We turn now to review the research on recruitment (a) timing and (b) strategies.

***Recruitment Timing.*** This section focuses on recruitment efforts after job posting (e.g., candidates learn about openings) to review when active recruitment occurs. Research portrays public districts (e.g., DeArmond et al., 2012) and schools (e.g., Castro, 2020; Simon et al., 2019) as recruiting year-round, but most large-scale recruitment in the research has appeared as highly seasonal. District recruitment efforts have typically been recorded as in the spring for the following academic year (e.g., Balter & Duncombe, 2008), often not in or before March (Engel & Curran, 2016). More recent research highlights that some districts accept applications as early as February (Jacob et al., 2018), suggesting that district-level recruitment timelines are lengthening, especially for lower-performing urban districts where offers might be delayed (Balter & Duncombe, 2008). Although there were examples of CMOs beginning the process as early as the preceding fall (e.g., Jabbar, 2018), Gross and DeArmond's (2010) wide-scale comparison of 2006-07 district and charter recruitment timing revealed no statistically significant timing differences by charter status.

*Recruitment Strategies.* Only one study (Balter & Duncombe, 2008) measured the prevalence of various recruitment strategies on a large scale. The study found that (a) most New York State districts used multiple recruitment strategies, which (b) appeared to result in the hiring of more qualified teachers. Other studies, however, addressed advertisements, partnerships, student and substitute teachers, bridging, incentives, and job fairs. We report on those strategies below.

*Advertisements.* Balter and Duncombe (2008) reported that ads for teacher openings in 2004 New York State (excluding New York City) were found mainly in local newspapers. The use of television and radio, while infrequent, appeared to have been most common in large urban districts in New York State (Balter & Duncombe, 2008). Compared to suburban schools, urban and underperforming schools seemed less likely to advertise outside their districts but more likely to advertise outside their states (Papa & Baxter, 2008).

Online job postings, however, have been and continue to be central to teacher recruitment. Most New York State teacher job openings were placed online 15 years ago (Balter & Duncombe, 2008). More recently, analyses of websites revealed how one CMO—Knowledge Is Power Program (KIPP)—advertised differently than nearby public school districts. KIPP used more “student-centered messaging” (e.g., appeals to teamwork, public service opportunities) and less “teacher-centered messaging” (e.g., appeals to benefits/salary, professional growth) than geographically matched public districts in Shuls and Maranto’s (2014) study. KIPP websites also appeared to be more explicit about teacher advancement, professional growth opportunities, teamwork, and public service (Maranto & Shuls, 2012). It is important to note that the TPS districts Maranto and Shuls examined all operated disproportionately more schools—in some cases hundreds more—than their matched KIPP schools. Nonetheless, our review suggests that

these findings might be expected given the extant research suggesting that KIPP has established relationships with Teach for America (TFA), and TFA teachers tend to have geographically broader job searches (Brewer et al., 2016).

*Partnerships with Preparation and Postsecondary Programs.* Based on the pertinent research, developing partnerships seems to be a common way for districts, CMOs, and schools to recruit teachers. The effectiveness of the approach is empirically unknown. Districts and CMOs partner with local colleges and universities to increase their candidate pool by posting job notices on campus and in newsletters, contacting college faculty, supervising student teachers, and visiting local campuses (Castro, 2020; DeArmond et al., 2012; Jabbar, 2018; Rutledge et al., 2010). Teachers have also routinely earned their degrees from colleges and universities near their eventual full-time placement (Krieg et al., 2016). Engel and Finch (2015) reported that 62% of their sample principals found teacher candidates through local schools of education predominantly in public colleges and universities. Larger school districts, especially those labeled as high-needs have appeared to be more likely to recruit at both local and non-local colleges and universities in the past (Balter & Duncombe, 2008). There is also evidence of some schools recruiting teachers of color by developing relationships with historically Black colleges and universities as well as universities with high proportions of Black and Hispanic students (Simon et al., 2015).

Recruitment relationships with alternative teacher preparation programs received considerable attention in the research reviewed (e.g., Simon et al., 2019). TFA has been a standard pipeline for many CMOs (DeArmond et al., 2012; Torres, 2019) to such an extent that some districts have signed MOUs that protect positions for TFA members, place TFA members into non-shortage positions, and create subsequent pathways to leadership for TFA teachers

(Brewer et al., 2016). Jabbar (2018) also learned that seven New Orleans CMOs had contracts with TFA and/or TeachNOLA (operated by The New Teacher Project) to recruit teachers nationally. Thus, although TFA teachers account for a fraction of the teacher workforce, the organization has been quite prominent in teacher recruitment research.

*Student Teachers.* Student teachers comprise a potential teacher hiring pipeline. As noted earlier, where one student teacher teaches is closely tied to later job placement (Balter & Duncombe, 2008; Krieg et al., 2016). For example, about 10% of all newly-hired teachers in Liu and Johnson’s stratified random sample had been student teachers in their respective schools, while Goldhaber and colleagues (2014) found that 15% of student teachers in their Washington State sample went on to work in their internship sites. Some rationale principals have provided for hiring student teachers were that student teachers have already been observed (DeArmond et al., 2010; Engel & Finch, 2016) and could be prepared to work in a specific school in advance of hiring (e.g., Engel & Curran, 2016). Roughly half of the principals in Engel and Finch’s (2015) study hired student teachers—a practice more common in underperforming schools and K-8. A related alternative adopted by some CMOs included teachers-in-training programs, specifically designed to increase the number of teachers of color (Simon et al., 2015; Simon et al., 2019).

*Substitute Teachers.* Strategies to increase the local supply of teachers also included “recruiting substitute teachers, retired teachers, former teachers, and alternatively certified teachers or providing assistance for paraprofessionals to become certified teachers” (Balter & Duncombe, 2008, p. 46). High-needs urban districts appeared more likely to use these supply strategies than their non-urban counterparts (Balter & Duncombe, 2008). Hiring substitute teachers can be either a strategic recruitment approach or a last resort to fill a position that is

otherwise difficult to fill, the latter usually occurring in schools with substantial staffing challenges (Castro, 2020; Engel & Curran, 2016; Engel & Finch, 2015).

*Referrals.* School leaders sometimes leveraged referrals from district personnel (Engel et al., 2014) and teachers (Engel & Curran, 2016; Engel & Finch, 2015) as a recruitment strategy, especially in higher-performing schools (Castro, 2020). The body of literature suggested that the practice has been common in regions with teacher shortages (Castro, 2020) and CMOs in decentralized teacher labor markets (Jabbar, 2018), as well as within standalone charters (Laura, 2018). Referrals can include formal and informal processes to obtain recommendations that result in a filled position (e.g., Castro, 2020; Jabbar et al., 2020). The positionality and trust of those endorsing candidates added sizable reach within a network for some teacher candidates (DeFeo & Tran, 2019; Simon et al., 2019).

*Incentives.* Financial incentives for signing a contract were a commonly documented recruitment strategy in the 2000s (e.g., Liu et al., 2008). Balter and Duncombe (2008) found that nearly 75% of New York State superintendents reported using some pecuniary incentive strategy to recruit teachers. Strategies included stipends for supervising extra-curricular activities, teaching hard-to-staff content areas, and tuition costs. In underperforming schools, bonuses have resulted in greater likelihood of teacher candidates working in low-performing schools (\$20,000 loan forgiveness; Steele et al., 2010), increased numbers of teacher transfers from high- to low-performing schools within a district (\$20,000 in installments paid over two years; Glazerman et al., 2013), and larger numbers of National Board Certified Teachers (NBCTs) (\$5,000 for NBCTs working in high-poverty schools; Cowan & Goldhaber, 2018). The incentives examined by Glazerman and colleagues (2013) and Steele and colleagues (2010) were costly (e.g., \$14.5 million over two years in Steele et al.) and deemed unsustainable in their respective states.



Similar (e.g., Gross & DeArmond, 2010) and financial initiatives outside of salary bonus—including paying into the state retirement plan to recruit veteran teachers (Jabbar, 2018)—have also been documented as employed in charter schools. A limited amount of evidence also suggests that non-financial incentives, such as crediting teachers for experience outside of the district or even outside of education, have been leveraged with some success (Balter & Duncombe, 2008).

*Job Fairs.* Although job fairs have been used to screen applicants and can result in same-day job offers (Engel et al., 2014; Rutledge et al., 2008), the job fair's importance is most evident as a teacher recruitment strategy. Aspects of the job fair, usually organized by districts, have been captured in research set in large urban (Engel & Curran, 2016; Engel et al., 2014; Jabbar et al., 2020; Simon et al., 2019), mid-sized urban (Harris et al., 2010; Ingle et al., 2011; Rutledge et al., 2008; Rutledge et al., 2010), town and rural settings (Burns Thomas, 2020; DeFeo & Tran, 2019; Diamond et al., 2020), and some charter schools (Jabbar, 2018; Jabbar et al., 2019). In the largest study of hiring fairs, nearly 60% of Chicago principals preregistered for at least one of five district job fairs in 2006, with slightly lower principal attendance rates for schools with higher proportions of lower-income or Black students (Engel, 2013; Engel et al., 2014). Within a subsample of this group, a substantially higher proportion of high school principals than K-8 principals attended job fairs (Engel & Finch, 2015). The job fair appears to be the primary recruitment strategy for principals in some increasingly competitive hiring markets, with some principals attending every job fair in one particular geographic region (Castro, 2020).

We also found various accounts about who on the hiring side of the equation attends job fairs and why. Principals frequently attended fairs and developed teams of others (e.g., assistant principals, department chairs, and teachers), using various team configurations (e.g., creating

teams out of convenience or for a spectrum of feedback) (Rutledge et al., 2008). Burns Thomas (2020) described an administrator trying to increase the proportion of teachers of color by pulling applicants of color out of other schools' job fair lines. Evidence also indicated that teachers of color who attended job fairs could help recruit other teachers of color (Simon et al., 2015).

### **Application**

The application is technically part of the recruitment phase and necessary for the hiring process to continue beyond the initial recruitment and job search phases. It demonstrates the applicant's potential desire to work in the school or district and provides hirers with materials to initially evaluate the applicant's candidacy. The next two sections provide an overview of what the research shows with respect to the application part of the recruitment phase.

***Application Rates.*** Trends in application rates vary by school characteristics. School locale plays a major part in application numbers and applicant pool qualifications (DeArmond et al., 2010). In one study, the number of teacher applications for urban schools seemed relatively representative of that for suburban schools, but applications were fewer in urban schools with higher poverty rates and/or higher percentages of students of color (Opfer, 2011). School performance on standardized tests has also predicted higher numbers of applicants (Engel et al., 2014; Gross & DeArmond, 2010) and greater administrator satisfaction with the initial applicant pool within both TPSs and charter schools (Gross & DeArmond, 2010). Teachers with math and science degrees seem more likely to apply to schools with higher student proficiency rates, lower student poverty rates, and/or within proximity to their homes (Engel et al., 2014).

***Application Contents and Their Import.*** Despite the need for applications, their utility for candidate screening is not entirely clear in the literature outside of one study. Bruno and Strunk's (2019) longitudinal examination of hiring in Los Angeles Unified School District found

that positive references strongly predicted positive teacher evaluation scores (Bruno & Strunk, 2019). Otherwise, it is uncertain what application materials are of import, let alone what is usually required or how different materials are valued by hirers. Liu and Johnson (2006) found that the contents of new teachers' applications typically consisted of a resume, references, undergraduate transcripts, and a cover letter. About 40% of their sample also submitted portfolios, 20% submitted lesson plans, and a few submitted recorded lessons. One sample of 39 principals ranked employer recommendations as the most important of a list of application items, followed by colleague recommendations, portfolio quality, goals, transcripts, and videos of instruction (Rutledge et al., 2008). According to administrators in Painter and Wetzel's (2005) study, (a) teacher portfolios should be easy to navigate and access, and (b) hiring administrators placed value on teaching demonstrations in portfolios. Candidate references were included in many studies to varying degrees of importance (e.g., Cohen-Vogel, 2011, 2019; Goldring et al., 2015; Mertz, 2010).

### **Screening**

We considered screening in two parts. *First screen* represented any process used to narrow a larger pool of applicants to a smaller pool. *Final screen* described the final process hirers use to select from that smaller pool, which most often took the form of an interview.

***First Screen.*** Extant research suggests that the first screen usually occurs at the district or CMO level because applications are typically submitted there first (DeArmond et al., 2012; DeFeo & Tran, 2019). This screen balances rigorous review with competing time demands. District or CMO leaders have in some instances conducted the first screen to reduce the burden on principals (Cannata et al., 2017; Torres, 2019). Otherwise, hirers in TPSs (Perrone & Eddy-Spicer, 2019) and standalone charters (Jabbar, 2018) had to devote considerable time, with an

example of up to 24 work hours to interview, call references, and conduct background checks to fill a position (DeFeo & Tran, 2019). Thus, leveraging HR officers can be necessary to expedite the process when districts have the capacity to do so (Goings et al., 2020).

Given the complexity of many moving pieces, the intensity of first screens often varies. For instance, Cannata and colleagues (2017) described how one district simply screened for basic qualifications while another examined potential fit, incorporating a screening instrument, a two-stage phone interview, and a review of a lesson plan. Two CMOs in Simon and colleagues' (2019) study also reported initial phone interviews, while entire districts in Lee's (2020) study outsourced the first screen to a private company. Regardless of who conducted the first screen, it was usually depicted as including credential checks (e.g., Cannata, 2010; Simon et al., 2019).

Several studies also examined how principals used achievement data to inform the hiring of experienced teachers in tested subject areas. Over half of the principals in Cohen-Vogel's (2011) study requested performance history and/or test score data of applicants with prior teaching experience and nearly all principals spoke with applicants' current principals before making a hiring decision. Cannata et al. (2017) reported that about 66% of principals who were aware of available data used them, having relied more on observation scores than student achievement growth. When principals in Cannata and team's study sites did not use data to inform hiring, it was because they (a) were not always aware of available data, (b) could not easily access the data, (c) did not receive the data in time to use, and/or (d) did not know how to use the data with respect to hiring (Cannata et al., 2017; Goldring et al., 2015; Grissom et al., 2017).

District practices partly explained variation in principals' data use in the team's six large urban districts. District leaders may have held principals accountable for making hiring decisions

based on observation scores, value-added scores, and other measures (Grissom et al., 2017). However, according to Cannata and team (2017), commitment to data use varied across districts. They found that the culture of data use across a district signaled to principals about how and the extent to which they should use data when hiring teachers. Thus, principals in high-structure central office systems (i.e., central offices that were highly engaged in screening, directed principals in how to hire, and held principals accountable for hiring outcomes) used teacher observation scores when hiring transfer applicants more frequently than peers in low-structure central office systems did.

***Second Screen.*** An interview generally served as the second (and final) screen and was the most common screening strategy overall in the research reviewed. We turn now to provide details.

***Interviewers.*** Even where hiring processes were centralized, evidence suggests that principals eventually interview candidates for their schools. For example, Liu and Johnson (2006) reported that 80% of recently hired teachers interviewed a school's principal. That percentage has likely increased over the past 20 years as other reports in more recent years have noted the principal's inclusion in teacher candidate interviews across study settings (e.g., Engel & Finch, 2015; Harris et al., 2010; Kersten, 2008; Simon et al., 2019).

Interview panels—often assembled at the principal's request—comprising school, district, and community members appeared to be common in the research available (e.g., Engel & Finch, 2015; Simon et al., 2019). Overall, studies documenting various interview panel compositions provided two central and occasionally overlapping reasons for involving people beyond the principal: (1) district or state mandate, and (2) evaluating candidate fit. Rutledge and colleagues (2008) identified four typical interview panel configurations seen in the research:

convenience or availability, grade-level teams, departmental teams, and spectrum (intentionally representing various stakeholder groups). Teachers seemed to be commonly included in interview panels across school levels and TPS/charter status (DeArmond et al., 2012; Kersten, 2008), even if they might have been largely uninterested in participating (DeArmond et al., 2010). Assistant principals, department chairs, and team leaders in middle and high schools were also regularly included (Mertz, 2010). Sometimes parents and other community members were enlisted to offer insight into candidate fit with the community (e.g., Burns Thomas, 2020), though examples of this were rare. Districts sometimes included external interviewers in attempts to increase impartiality (e.g., Cannata et al., 2017). Principals (Mertz, 2010; Perrone & Eddy-Spicer) and district/CMO administrators (DeArmond et al., 2012; DeFeo & Tran, 2020) recounted involving others in the interview process to help determine candidate fit. Though promising, it is uncertain how effective such strategies are.

*Duration.* Length of teacher interview was not commonly reported and varied by context in the rare instances it was reported. One study recorded structured interviews lasting from 30 (urban schools) to 40 (suburban and rural schools) minutes (Papa & Baxter, 2008). Yet, many principals indicated that they felt only about half that time was needed for interviews at job fairs to be useful (Rutledge et al., 2008). Interviews documented in charter schools—namely those within CMOs—were recorded as longer than in TPSs (DeArmond et al., 2012; Jabbar, 2018; Torres, 2019), sometimes including stages that occurred across multiple days (Simon et al., 2019).

*Interview Protocol.* Reliance on interview protocols appeared to take two forms in the available literature. In the first one, districts suggest or mandate that schools follow an interview protocol to elicit useful information, reduce bias, and/or ensure adherence to hiring laws

(DeArmond et al., 2010; Harris et al., 2010). However, the use of an interview protocol across schools in a single district seemed to be a common practice (Mertz, 2010) that could result in predictable, inauthentic interactions with teacher candidates (Simon et al., 2019). In the second approach, the district allowed principals to develop their own interview protocols or adapt the districts' protocol (Rutledge et al., 2008) and there were examples of districts sponsoring workshops to assist principals in developing quality protocols (DeArmond et al., 2010). Some districts required that any question asked of one candidate be asked of all candidates (Perrone & Eddy-Spicer, 2019).

The nature of interview questions was typically aligned with general hirer preferences. For instance, principals ask questions to gauge candidate experience, strengths and weaknesses, discipline/classroom management, long-term goals, and interest in the school (Mertz, 2010). Although candidates are often familiar with a standard line of questioning (e.g., Mertz, 2010), interview protocols are used to determine candidate fit with the school—including with other teachers, students, and/or community—and its mission (Simon et al., 2019), especially in CMOs (DeArmond et al., 2012; Torres, 2019). The interview protocol can also be a strategy to convey the school's mission and norms to increase candidate interest (Simon et al., 2019).

*Information-rich Interviews and Realistic Job Previews.* An *information-rich* interview provides hirers and candidates “with multiple opportunities and vehicles to exchange information with one another” (Liu & Johnson, 2006, pp. 331-332). A *realistic job preview* is a component of an information-rich interview in which the candidate receives accurate information about the position and school. We enfold the realistic job preview into the information-rich interview for brevity.

The research is clear that the quality of information exchange during an interview is vital for candidates to better learn school contexts and job requirements (DeArmond et al., 2012; Simon et al., 2019), believe in their fit for a school (Torres, 2019), increase how well they eventually fit (Liu & Johnson, 2006), and have overall higher levels satisfaction (DeArmond et al., 2012) and alignment with the school mission and job requirements (Ellis et al., 2017). However, the evidence also suggested that the teacher interview process often lacks the exchange of meaningful information from the hirer, candidate, or both. For example, hiring teams were often recorded as meeting with teacher candidates only to ask interview questions (e.g., DeArmond et al., 2010). Limited interactions and reduced information exchanges have been found to limit the ability to provide candidates with a realistic job preview (Liu & Johnson, 2006). Indeed, hiring research in public schools rarely noted signs of information-rich hiring (e.g., walkthrough, meeting other faculty, demonstration lesson). Perhaps in part, these deficiencies are extensions of geographic (DeFeo & Tran, 2019) and financial/resource (DeFeo & Tran, 2019; Perrone & Eddy-Spicer, 2019) barriers that limit opportunities for interview experiences and such create an uneven playing field.

There might also be lessons to consider from more-resourced schools in the charter sector. Multiple site visits, interactions, and demonstration lessons appeared more regularly a part of the hiring process in CMOs studied (DeArmond et al., 2012). CMO teachers in one study also reported high levels of accuracy regarding job previews (Torres, 2019) compared to the results of an earlier, larger-scale study (Liu & Johnson, 2006). New charter teachers also reported receiving key information about a school's mission, teacher and student characteristics, supports, and principal leadership style (Torres, 2019).



*Demonstration Lesson.* The demonstration lesson was an additional component of some interviews that—while not studied deeply—was well documented. We include it here because the demonstration lesson offers both the hirer and candidate an opportunity to consider important factors, such as matching teaching style and ability with a school and its students, collegial interaction, and feedback interaction that typically occurs post-demonstration. Most importantly, demonstration lesson performances were positively associated with subsequent teacher evaluation scores in a large urban district (Bruno & Strunk, 2019), and requiring a lesson can signal an emphasis on high-quality teaching, increasing some candidates' desire to teach in a particular school (Simon et al., 2019). Yet, a demonstration lesson seems to be included in relatively few interviews (Liu & Johnson, 2006; Papa & Baxter, 2008), though almost half of Engel and Curran's (2016) sample schools required a demonstration lesson.

Research suggests that demonstration lessons have occurred more frequently in well-resourced and autonomous CMOs than in TPS districts (Cannata et al., 2017; Castro, 2020; Jabbar, 2018). In CMOs and charter schools included in this review, interviews in CMOs also appear to have greater depth (DeArmond et al., 2012; Simon et al., 2019; Torres, 2019). As appealing as the concept of a demonstration lesson might be to many principals, making the time—including organizing the schedules of others during an academic year—is often not feasible (Perrone & Eddy-Spicer, 2019), and studies of TPS hiring indicate that demonstration lessons are unusual (e.g., Cannata & Curran, 2016; Castro, 2020).

### **Selection**

Research on teacher selection is limited and dated, especially as it relates to what happens within the hiring process. The research on selection does provide accounts about participants in selection decisions and the weight of their voices. For example, about 33% of Engel and Finch's

(2015) principal participants made joint decisions with hiring committees (55% high school, 20% K-8), another 25% solicited committee input (9% high school, 34% K-8), and 16% self-identified as the final decision maker (27% high schools, 10% K-8). Mertz (2010), however, reported that 54 of 57 principals claimed to make the final hiring decision, including 37 of the 40 who used hiring committees. Regardless, principals in the hiring literature have generally appeared to consider committee feedback before making a final decision in the literature available (Laura, 2018; Mertz, 2010; Perrone & Eddy-Spicer, 2019; Rutledge et al., 2008).

Studies also noted that teacher selection is frequently made of necessity due to tight labor markets and/or sparse applicant pools. Recent research provided examples of principals and HR personnel hiring teachers who do not meet preferred or, in some cases, mandated criteria because of staffing necessity in tight teacher labor markets (Castro, 2020; Diamond et al., 2020; Goings et al., 2019). Others detail how staffing policies and CBAs precluded selection processes (e.g., Donaldson, 2013). Evidence suggests that many unfilled positions do not undergo a selection, job offer, and/or acceptance process as position vacancies persist (e.g., Papay & Kraft, 2016).

### **Job Offer and Acceptance/Declination**

Excluding internal transfers, the job offer generally follows the interview process. In some contexts, district HR personnel extended offers (e.g., Rutledge, 2008), whereas elsewhere, the job offer came informally from a principal with eventual school board approval (e.g., Perrone & Eddy-Spicer, 2019). Offers are rejected regularly regardless of locale (Papa & Baxter, 2008). A substantial lag between selection and job offer can reduce acceptance as candidacy windows close and applicants take positions elsewhere (Loubert & Nelson, 2010; Perrone & Eddy-Spicer, 2019). As a result, principals may need to be strategic in how they proceed with an offer, including providing offered candidates short time windows to make decisions (Perrone & Eddy-

Spicer, 2019). Yet, little research exists on the job offer and acceptance/declination, though some research expectedly shows that many teachers accept job offers because they have no other options (Cannata & Penaloza, 2012). How this may vary by subject area and grade taught (i.e., differential demand within teacher labor markets) has remained generally unexamined.

### **Influencers on the Teacher Hiring Process**

#### **Teacher Preferences**

We now switch our focus to hiring process influencers, beginning with teacher candidate preferences, which deserve examination as they generally guide job searches. Candidates have espoused that a number of school characteristics—including supportive administration (Cannata & Penaloza, 2012; Horng, 2009), resources (Cannata, 2010), and collegiality (Cannata & Penaloza, 2012)—are critically important to preferences that candidates report, yet candidate familiarity and social and cultural characteristics have also been determined to be “preferences in use” (Cannata, 2010). For example, Winter and Melloy (2005) found that a group of rural teacher candidates generally viewed high-needs schools as less desirable while novice teachers expressed more openness to working in these contexts compared to more experienced teachers. In Cannata’s (2011a) study, teacher applicants favored positions in TPSs over charter schools and Cannata and Penaloza (2012) found significantly higher proportions of charter school teachers than TPS teachers accepted positions because they were the only positions available; it is worth noting, though, that the data for these studies came from a period when charters were a relatively new phenomenon (e.g., 2007-08). Geographic preferences also influence which positions candidates actually pursue (e.g., Engel & Cannata, 2015; Perrone & Eddy-Spicer, 2019). Further, in Washington State, the preferences of student teachers to teach in underserved schools did not predict that they would begin their career in such a school, with student teachers

preferring to work in schools with high proportions of English Language Learner (ELL) students being an exception (Ronfeldt et al., 2016).

### **Hirer Preferences**

Research findings on hirer preferences are wide-ranging. Principals have comprehensive lists of expectations, including certification, development and training, teaching experience, and instructional skills (e.g., Diamond et al., 2020; Giersch & Dong, 2018; Rutledge et al., 2008), yet each vacancy requires careful consideration of school, team, and student needs (e.g., Ingle et al., 2011). Moreover, principals' abilities to identify and prioritize preferences based on complex needs can vary, and personal preferences and interests can further complicate hiring strategies (DeArmond et al., 2010). Thus, we now turn to report on the research literature on hirer preferences by considering candidates' professional and personal characteristics and some additional inducing factors.

*The Professional Characteristics that Hirers Seek in Teacher Candidates.* Teacher candidate licensure, education, and training are all noted as desired by hirers in the research. Teacher licensure is a primary concern for hirers (e.g., Liu, 2008), perhaps in large part because certification in an era of accountability has been a necessity, even if principals have not always viewed certification as important in itself (Rutledge et al., 2008). Rural principals seem to prefer teachers licensed to teach multiple subjects, though they may also—at times—be unable to hire teachers with the required subject licensure for the vacant position (Diamond et al., 2020). Content knowledge and the ability to teach the subject are of critical import (Castro, 2020; Engel, 2013).

Research findings on hirer preferences for teachers with better pre-service qualifications, including test scores and graduation from more competitive colleges, are mixed. Academic

background was not predictive of being hired in one large district in recent years (Jacob et al., 2018), but applicants with higher certification exam scores and from highly selective institutions were more likely to be hired than their counterparts in early 2000s New York City (Boyd et al., 2011). It also appears that a bachelor's degree from a highly selective college or university could be considered akin to an advanced degree from a less selective institution (Giersch & Dong, 2018). However, there is evidence that principals continue to be wary of candidates graduating from programs with poor reputations and online preparation programs (Diamond et al., 2020). Principals preferred hiring candidates from traditional preparation programs, but were willing to hire alternatively-certified teachers in the available research (Engel, 2013; Liu et al., 2008). Boyd and colleagues (2011), however, found that New York City Teaching Fellows were about 30% more likely and TFA participants nearly 50% more likely to be hired than college graduates without these experiences.

Researchers found mixed administrator preferences for candidate experience. Experience in schools—at least a few years' worth (Giersch & Dong, 2018)—was generally valued highly (Boyd et al., 2011; Jabbar, 2018), although one study found that its sample of administrators did not place much importance on experience (Engel, 2013). Some evidence suggests that just having meaningful experiences working with children had considerable value for hirers (e.g., DeArmond et al., 2010; Engel & Finch, 2015). Other studies, however, indicated that experience was not universally desired because new teachers might be more malleable and enthusiastic, resulting in better overall balance among faculty (e.g., Harris et al., 2010; Rutledge et al., 2008).

There is evidence that teacher effectiveness is imperative to hirers (e.g., Boyd et al., 2011). For candidates with prior teaching experience, principals commonly requested student achievement data from them to determine their effectiveness (Cohen-Vogel, 2011). Principals

consistently preferred candidates with strong teaching (e.g., Ingle et al., 2011) or instructional skills (e.g., Castro, 2020; Jabbar, 2018), as well as evidence of content (e.g., Castro, 2020; Engel, 2013; Ingle et al., 2011) and pedagogical knowledge (e.g., DeArmond et al., 2010; Mason & Schroeder, 2010). Classroom management was also an espoused preference for many principals (e.g., Castro, 2020), especially in underperforming schools (Engel, 2013).

*The Personal Characteristics that Hirers Seek in Teacher Candidates.* Principals sought a variety of attitudes and dispositions in teacher candidates (Jabbar, 2018), prioritizing candidates who demonstrated passion or enthusiasm for teaching (e.g., DeArmond et al., 2010; Engel, 2013), including a love of (e.g., Mason & Schroeder, 2010) and ability to relate to children (Castro, 2020). Principals also sought teacher candidates who care about student learning and well-being (Ingle et al., 2011) and are locally and/or culturally invested in the community (Jabbar, 2018). Some principals also noted preferring candidates who were excited about a particular position (Mason & Schroeder, 2010) and willing to work hard (Jabbar, 2018).

Candidate disposition was also important to hirers. Principals in two studies believed they could improve candidates' instructional practice more easily than build their character or shift their mindsets and attitudes (DeArmond et al., 2012; Diamond et al., 2020). Relatedly, some principals sought teacher candidates who were receptive to feedback (Jabbar, 2018) and willing to learn (Mason & Schroeder, 2010). In short, principals were found to prefer hiring teachers with a positive dispositions over those with seemingly the right instructional skills (DeArmond et al., 2010). Principals also needed to like the candidate (Mertz, 2010), valuing lifelong learners, technological experience, professionalism, professional appearance, confidence, cooperative attitude, and communication skills in hiring (Mason & Schroeder, 2010). Candidates who communicated an interest in the school's mission, current research, and innovative instruction

were also well received in some instances (Giersch & Dong, 2018). Conversely, unprofessional appearance, poor communication, a lack of preparation, and arrogance were red flags (Mason & Schroeder, 2010).

Hirers also weighed issues of race and ethnicity and gender. There was compelling evidence in one series of studies that principals wanted to create and/or maintain faculty diversity—especially racial diversity—as long as candidates met district quality criteria (Harris et al., 2010; Ingle et al., 2011; Rutledge et al., 2010). Moreover, Boyd and colleagues (2011) found that although Black and Hispanic teachers were less likely than White teachers to enter NYC teacher applicant pools, they were more likely to be hired, especially when they reflected the composition of their future student body. Competition for candidates of color can also be high (Simon et al., 2015, 2019). Despite such stated preferences, however, evidence in some districts showed strong signs of ongoing racial discrimination against minority teacher applicants (D’Amico et al., 2017).

Gender has been studied less than race and ethnicity in the teacher hiring literature. That said, there is evidence that some principals have preferred male teacher candidates to meet gender diversity goals and to provide male role models (Harris et al., 2010; Ingle et al., 2011; Rutledge et al., 2010), while principals in Engel’s (2013) study did not deem candidate gender as important. Hart and Hart (2018) determined that faculty diversity was a consistent theme desired by district and school leaders in their study, but principals expressed concern about how to hire and place transgender candidates whom they anticipated would face community resistance and discrimination.

***Additional Factors Related to Hirer Preferences.*** Evidence suggests that hirers prioritize candidates’ qualifications and qualities, but are influenced by their own beliefs and backgrounds.

Many principals have been found to prefer hiring teachers from institutions reflective of their own program experiences (Ingle et al., 2011) and whose personal missions align with their own (DeArmond et al., 2012). Jabbar (2018) reported that experienced principals might disproportionately emphasize prior teaching experience, especially in underperforming schools. Similarly, Giersch and Dong (2018) found underperforming schools prefer candidates who emphasized state standards while principals at higher-performing schools prioritized other issues, such as candidates who noted grading with flexibility instead of strictly by benchmarks. Engel (2013) also found principals in underperforming schools highlighted classroom management and willingness to do extra work over content knowledge and teaching skills.

Some research indicated that Title I school principals preferred teacher candidates who actively desired working in their schools (Jabbar, 2018) and had high energy and positivity to compensate for strains students may face at home (Ingle et al., 2011). Citing needs for male role models because of “divorce rates, unmarried mothers, and absentee fathers” (Ingle et al., 2011, p. 600), Title I school principals expressed strong interest in male teacher candidates. Furthermore, hirers often wanted teacher candidates to possess language and interpersonal skills that aligned with school locale and context demands (DeFeo & Tran, 2019; Jabbar, 2018; Liu et al., 2008).

According to Ingle and colleagues (2011), middle and high school principals valued deep content knowledge in candidates while elementary school principals prioritized a teacher’s ability to provide instruction across multiple content areas. Furthermore, high school principals valued club sponsorship and coaching, which are extracurricular activities that are typically more time-consuming than those required at other school levels. At the elementary level, principals preferred male teacher candidates to diversify the staff and provide male role models (Ingle et



al., 2011). Engel (2013) also found communication and previous exposure to diverse settings to be more important to their high school principal participants than K-8 principal participants.

### **Fit**

A substantial number of studies have considered *fit*—generically defined as how aligned candidates are with a school’s mission and working conditions (e.g., Cannata, 2010; DeArmond et al., 2010, 2012; Engel & Finch, 2015)—with varying levels of focus. Some of the studies examined fit through an industrial and organizational (I-O) psychology lens of *person-environment (P-E) fit* (i.e., match between the individual and working environment; Kristof-Brown et al., 2005). Collectively, the studies on fit have advanced our understanding of the following traditional measures of P-E fit: (a) *person-organization (P-O) fit* or how well the employee’s values and preferences match that of the organization (Kristof-Brown et al., 2005); (b) *person-group (P-G) fit* or how well the employee’s values and preferences match that of the immediate work group (Werbel & Johnson, 2001); and (c) *person-job (P-J) fit* or how well the employee’s skills and traits match the job position (Edwards, 1991). We now turn to the report on the research results specific to how hirers and candidates search for fit.

***Candidate Searches for Fit.*** With little research on teacher candidate job search experiences and preferences, it follows that the evidence about how candidates search for fit is thin. Candidates simply might not be looking for, or even know to look for, fit in a position or school (Cannata, 2010; Perrone & Eddy-Spicer, 2019). There is related evidence that novice teacher applicants sought cultural fit and familiarity in their schools (Cannata, 2010), which seems aligned with a pursuit of P-O fit. Yet, first-year teachers and those in low-demand subjects may prioritize securing employment over issues of P-E fit (e.g., Perrone & Eddy-Spicer, 2019). Some teachers have reported enjoying the involved screening processes that help them assess

pedagogical and mission fit, both for assessing their own fit and to tailor interview responses to meet what the employer would consider a good fit (Simon et al., 2019).

*Hirer Searches for Fit.* The research literature on the hirers' search for fit is substantial enough to begin addressing each type of fit. Of the three types of fit, person-job (P-J) fit seems to be most prioritized by principals (e.g., Castro, 2020; Ingle et al., 2011), as hirers sought evidence of candidates' past effectiveness (Boyd et al., 2011) and instructional skills (Castro, 2020; Ingle et al., 2011; Jabbar, 2018). Department chairs and specialists were regularly included in the process to assess candidate subject expertise in some districts (Perrone & Eddy-Spicer, 2019). When there was an opportunity, many districts and schools used teacher performance data to identify highly effective candidates (Cannata et al., 2017). These studies demonstrated screening policies and practices tied to a belief that past effectiveness predicts future effectiveness, which was validated by Bruno and Strunk's (2019) study of application materials tied to teacher outcomes.

Hirers also liked to see person-organization (P-O) fit in teacher candidates. For example, principals commonly used informational meetings and materials to convey their school's mission and culture (e.g., DeArmond et al., 2010; Laura, 2018). Furthermore, CMOs attracted candidates by emphasizing school mission and values in online job postings (Maranto & Shuls, 2014) and actively recruiting candidates who appeared to match the organizational culture (DeArmond et al., 2012; Torres, 2019). Nonetheless, principals in TPSs and charter schools screened for and expressed a preference for candidates with better P-O fit (Castro, 2020; Giersch & Dong, 2018). Principals have also expressed a preference for teachers whose philosophies of learning align with school's (Engel, 2013), recruited intentionally to balance their number of novice and veteran teachers (Ingle et al., 2011), and leveraged current teachers to help gauge candidate fit

(Rutledge et al., 2008). P-O fit is also evident in research previously discussed that emphasizes connection to community broadly (e.g., DeFeo & Tran, 2019; Liu et al., 2008). P-O fit is, in some cases, gauged via intuition and influenced by race and ethnicity (Goings et al., 2019).

Several studies also examined person-group (P-G) fit, suggesting principals believe that workgroup cohesion matters. Department chairs were often included in interview panels to gauge P-G fit (Perrone & Eddy-Spicer, 2019; Rutledge et al., 2008) to avoid hiring someone who would be unhappy or make others unhappy (Mertz, 2010). Thus, principals prioritized candidates who seemed likely to collaborate and work well with others (e.g., Engel, 2013; Ingle et al., 2011).

### **Discussion**

In this integrative systematic review of the teacher hiring literature, we analyzed the results of all empirical studies in the U.S. during an era of increased federal accountability that met our search and inclusion parameters. We framed our findings within the teacher hiring phases, finding that a considerable amount of research has been conducted on teacher recruitment, less on screening, and relatively little on selection and job offer. We also synthesized substantial research on hirer preferences and various types of candidate fit, but very little research has been conducted on how candidate preferences affect job searches and offer acceptance/declination. Overall, the research conducted on teacher hiring varied considerably by site selection and methodological approach and sophistication. As a result, we caution against generalizing because much of the process is driven by policy and local context.

That said, some lessons seem clear to us. Evidence suggests that districts typically lead recruitment efforts, but principals have considerable influence on hiring. Teacher candidate preferences for particular school geographic, socioeconomic, and achievement characteristics

have remained relatively the same over time, as have the ways in which candidates learn about job openings. Yet, candidates' knowledge of schools with open positions varied considerably. Principals, meanwhile, have consistently sought similar candidate characteristics over time: capacity for high-quality teaching and various types of good fit. Policy and faculty makeup can sway principal preferences concerning candidates' prior teaching experiences and race and ethnicity. Earlier teacher hiring phases have continued to be positively associated with candidate quality and filling a teaching position, and this knowledge around timing of hiring and other related policies has informed successful hiring initiatives in districts today (e.g., Papay et al., 2021). In sum, the overall foundation of research on teacher hiring is broad and substantial.

Several district and school characteristics appear to be deeply linked to distinct hiring advantages and disadvantages. Variation in hiring practices is consistently explained—at least partially—by school locale, student body racial composition, and community poverty levels. Further, teaching is still a predominantly White profession in the U.S. (79% non-Hispanic White; Taie & Goldring, 2020), meaning teacher preferences for familiar contexts may advantage majority-White and suburban schools. Principals in underperforming schools are often limited in hiring for fit, often prioritizing classroom management skills over alignment with school mission. Geography can also be a hiring barrier for both urban and rural schools. Research to understand what underperforming schools can do to facilitate successful hiring outcomes is growing but remains insufficient.

### **The Number of Studies Belies How Much We Know**

Despite the seemingly large amount of research conducted to date, our confidence in what we know should be tempered for various reasons: contextual limits of the research, the total amount of research conducted in each hiring phase, and methodological limitations. Hiring is a

complex process involving several often-overlapping phases and influencers. Rigorous research is needed to inform each hiring phase, but what has been conducted to date is woefully inadequate in certain areas, such as the teacher job search process. Understanding teacher candidates' experiences and perspectives seems especially key, given that hirers often already demonstrate that they know their own preferences. Yet, only eight of 71 studies account for candidate preferences, and only seven examine *any* aspect of the teacher job search process. Further, these same studies come from just 11 data collections over a 20-year period. This is but one example of an imbalance in extant teacher hiring research.

The wide range of study contexts also limits our ability to draw conclusions. Many of the studies fail to distinguish by school level (e.g., elementary). Few studies presented findings by subject area. Study settings were typically either urban or inclusive of all—rural, town, suburban, and urban—without distinction. Thus, we likely have a substantial body of knowledge on urban teacher hiring but little differentiation otherwise. Whenever hiring processes for high-poverty, high-minority, and/or underperforming schools were specifically considered, they were almost exclusively limited to studies of large urban districts.

In addition to acknowledging several substantial holes in the study of the teacher hiring process, seven data collections account for 45% (19 of 42) of process-centered studies and over one-fourth (19 of 71) of all studies included in this review. Thus, some findings regarding aspects of the hiring process (e.g., hiring teams)—at first—seem to have received widespread prevalence but are actually multiple, related reports providing deep knowledge from single data collections. We view these studies to be some of the most important in the entire body of research, but the corpus of literature can be misleading.

Much of the extant research was also conducted in sites and/or at times that are situational. For example, only one study examined hiring using nationally representative data. Further, much of the process-focused research was conducted in unique contexts, including some of the largest U.S. public school districts and other large and mid-sized cities with otherwise unique labor market dynamics and policies. The majority of these studies are informative and valuable. Still, the lessons might not translate elsewhere, suggesting that focused hiring studies tend to ignore the contexts in which hiring research may be needed the most, such as mid-sized and small cities and suburbs where most low-performing schools are located (e.g., Eddy-Spicer et al., 2017). Similarly, several pivotal studies focused on charter school hiring or comparing hiring in charters to TPSs, despite charters constituting only 6% of public schools in 2017.

Data collection also seems increasingly dated, as data for 31 studies were collected before 2011. There are noticeable discrepancies between the years in which studies were published and the years of data collections. For example, data collected for ten studies published between 2010 and 2016 were collected in 2006. They have been cited regularly and are foundational studies. Although they remain important for conceptualizing and framing hiring research, we question whether they are becoming outdated for informing practice and policy in the 2020s and beyond.

### **Teacher Hiring's Disconnect from the General Hiring Literature**

Most studies did not use the highly substantive HR and industrial-organizational (I-O) psychology literature based on hiring in other professions. One may argue that teaching is a complex profession occupied by people with career motivations that diverge from those in other professions. However, Harris and Rutledge (2008) argued that the teaching profession shares several similarities with other professions and can be classified under the helping profession umbrella with healthcare and social work. Thus, teacher hiring, fit, and retention can be informed

by research in other fields. We contend that research on HR and I-O theory can substantively inform and strengthen teacher hiring research.

Furthermore, although a number of studies incorporated various theoretical underpinnings, few made explicit the theories guiding and/or informing their research. Some early studies used hiring literature outside of education to inform their frameworks and, in turn, their research questions, methods, and findings. The links between the broader hiring literature and educational research, however, appear to be sparse. Researchers could deepen insights by more regularly drawing on frameworks from the general hiring and educational literatures.

### **Future Directions**

We close with recommendations for teacher hiring research based on our findings. First, much of the hiring research continues to be limited to topics already established (e.g., hirer preferences essentially confirming themes established by Ballou [1996]). Continuing the study of these issues remains important, but many other important gaps in our understanding persist. We recommend increased research activity on the following: (a) differences in hiring by subject area and grade level, (b) the teacher job search process, (c) discrimination and bias in hiring, and, perhaps most importantly, (d) connections between hiring processes and outcomes of interest.

Cowan and colleagues' (2016) call for hiring research that accounts for differential labor markets by subject area and grade level remains largely unanswered. Some research provides glimpses into the pressures schools face to fill hard-to-staff positions and how those pressures can materialize in different hiring approaches. These issues remain, though there is not yet a substantial enough body of evidence to confidently inform related hiring practices. Currently, the National Teacher and Principal Survey (<https://nces.ed.gov/surveys/ntps/>) does not contain

questions related to hiring practices, which would have the potential to create a clear overview for the field.

The disproportionality of research focused on the hirer side of the two-way hiring equation also must be addressed. The field has developed understandings of hirer processes and preferences, extending findings made in the 1990s (e.g., Ballou, 1996). Some enablers of and hindrances to hiring have also been established. More recent research provides valuable insights into how candidates navigate job markets and use social networks in their job searches. Still, the field has yet to determine precisely how candidates themselves perceive and experience the hiring process, from recruitment practices and interviews to job market pressures and decisions to accept or decline job offers. Therefore, hirers, especially those in districts and schools already contending with other disadvantages, are largely left to their own experimentation to improve hiring outcomes. Future studies would serve the field by examining candidates' experience to provide hirers the information needed to inform hiring itself.

We also found evidence of discrimination and bias in the hiring process—especially against candidates of color—that must be investigated. The lack of teachers of color has long been attributed to low supply when barriers to teacher entry after gaining licensure may be long overlooked. Further exploration is needed for both reasons of educational equity *and* educational quality. Racial implications of teacher hiring policy should also be analyzed in much more depth.

Finally, researchers must make concerted efforts to tie outcomes—such as teacher retention, student perception of belonging, and student achievement—to the hiring process. We acknowledge that this is difficult because of the multi-phase and complex nature of the hiring process, as well as confounding issues like teacher induction, socialization, and growth associated with time in a particular school. However, some studies reviewed for this paper



demonstrate that there are quantitative, qualitative, and mixed research designs that can link hiring processes to outcomes, such as applications numbers and initial job fit. If the hiring process is a relatively linear chain of events, understanding how policies and practices within one phase seem critical to understanding (and predicting) what might happen during the next phase. Significant differences within phases by school type, context, and mission, for instance, are imperative to understand how the teacher hiring process might change over time across settings.

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Figure 1

*Hiring Framework*

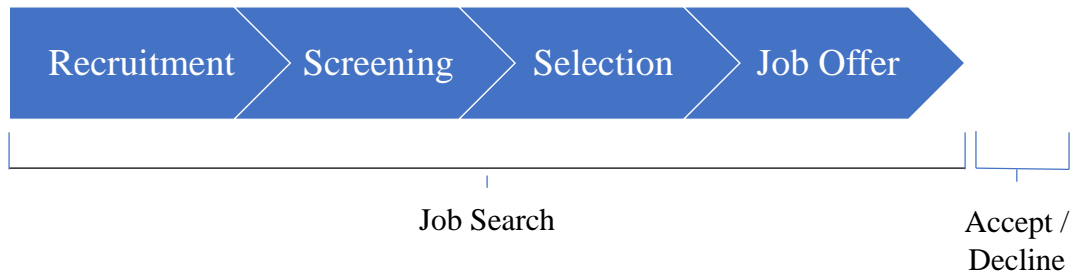


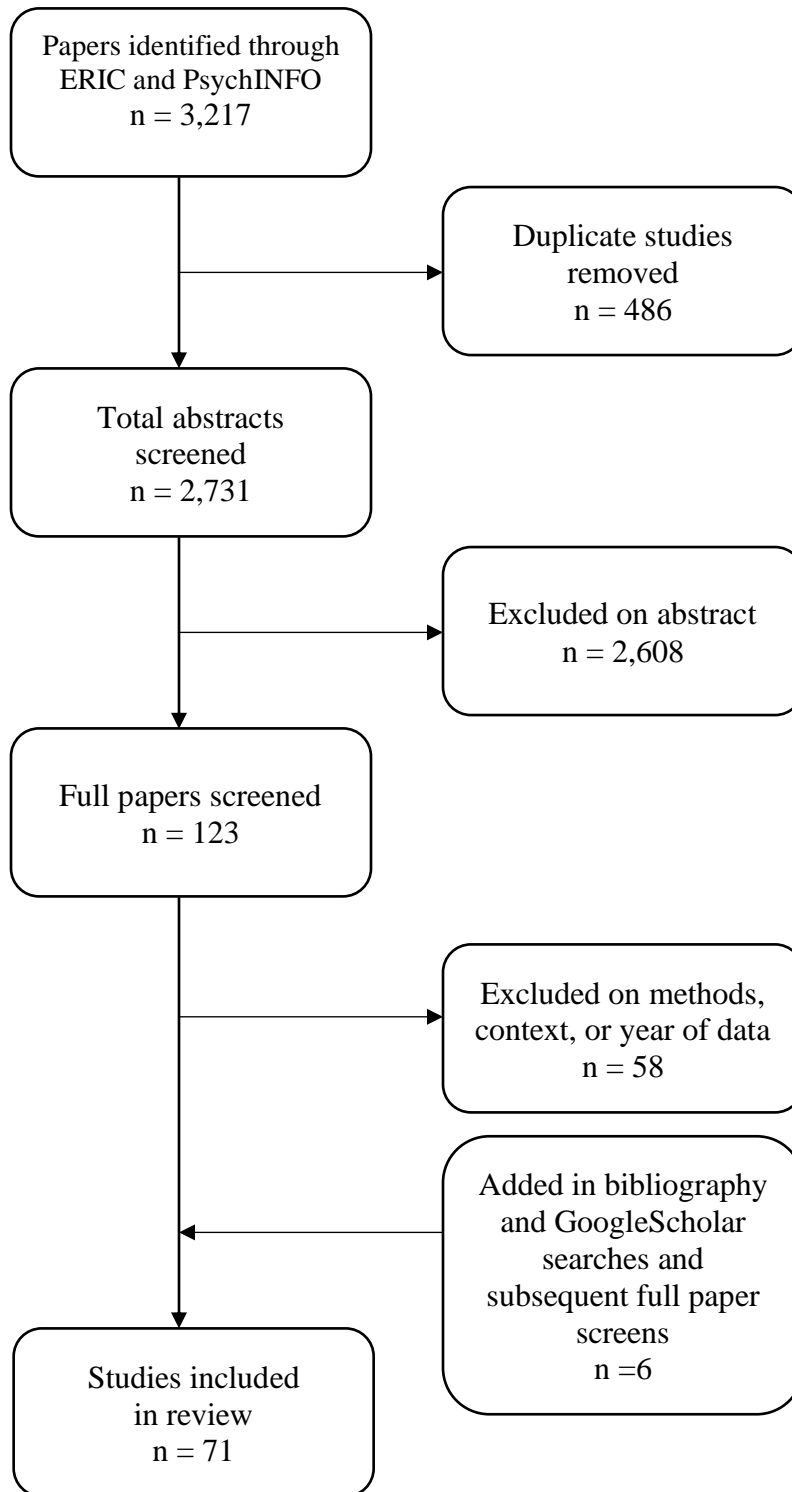
Figure 2. *Flow of Literature Identified and Included in the Review*

Table 1

*Research Study Methodologies, Contexts, and Findings*

	Quantitative	Qualitative	Mixed Methods	Total
<b>Total</b>	34	25	12	71
<b>Methods</b>				
Descriptive	14	0	4	18
Correlation / ANOVA / t-test	2	0	3	5
Regression	24	0	3	27
Causal	6	0	0	6
Factorial / conjoint experiment	3	0	0	3
Interview analysis	0	23	9	32
Document analysis	0	7	0	7
Observation	0	2	0	2
<b>Data Gathering</b>				
Survey	19	0	7	26
Administrative Data	19	0	0	19
Documents	0	7	0	7
Interview	0	23	9	31
Observation	0	2	0	2
Website	0	2	0	2
<b>Data Source (if not administrative)</b>				
Pre-service teachers	4	2	1	7
In-service teacher candidates	8	4	1	13
Teachers on hiring side	5	7	2	14
Principals	9	19	9	37
Superintendent / CMO leader / District personnel (not HR)	1	5	0	6
HR personnel	2	3	0	5
<b>Locale</b>				
3+ locales	18	3	0	21
1-2 locales	13	15	7	35
Urban	9	20	5	34
Urban (large)	9	10	5	24
Urban (mid-size)	0	6	0	6
Urban (small)	0	1	0	1
Suburban	0	2	0	2
Town or Rural	1	4	1	5
<b>Data Collection Level</b>				
Teacher ed programs	0	3	1	4

District (data limited to one district)	11	11	5	27
State (data limited to one state)	12	9	1	22
Multi-state (data from multiple states)	9	4	4	17
National (data collected nationwide)	1	0	0	1
<b>Type</b>				
Traditional	24	23	9	56
Charter	12	17	10	39
K-8	4	6	2	12
9-12	0	3	0	3
All (K-12)	26	18	8	52
<b>Framework</b>				
Framework explicitly utilized	5	9	5	19
Framework explicitly rooted in larger hiring research	2	3	1	6
<b>Process or General /influence</b>				
Process	10	22	10	42
Exclusively general or influence	23	4	2	29
<b>Findings - Process</b>				
Job Search	0	4	3	7
Recruitment	7	15	3	25
Screening				27
First Screen	4	15	3	22
Final Screen	4	14	4	22
Selection	1	8	1	10
Job Offer	3	3	1	7
Job Accept / Decline	0	1	1	2
<b>Findings - Influencers</b>				
Hirer Preferences	6	6	4	16
Teacher Preferences	7	1	1	9
Sorting Decisions	5	1	0	6
Application	2	1	1	4
Hiring Autonomy	4	3	0	7
Timing	4	2	0	6
Policy	2	1	1	4
Information-Rich Hiring	1	3	2	6
Race/Ethnicity	2	4	0	6
Outcomes	8	2	1	11

*Notes.* When added together, some numbers exceed the total number of studies; studies often collected data from multiple sources, made relevant findings with more than one method, made multiple findings, and made findings across more than one hiring process. Other rows under certain categories may not add up to the total number of studies because some studies did not provide years of data collection and/or site.

Table 2

*Number of Studies Per Year Meeting Review Criteria Published and Last Year of Data Collection in Total and Using Unique Data Collection*

	'02	'03	'04	'05	'06	'07	'08	'09	'10	'11	'12	'13	'14	'15	'16	'17	'18	'19	'20	Total
<b>All</b>																				
Published	0	0	0	3	1	0	5	1	9	6	5	3	3	3	5	4	7	9	7	71
Data collected	3	1	3	1	10	6	3	0	5	2	2	5	6	2	2	7	4	0	0	62
<b>Using Unique Data</b>																				
Published	0	0	0	3	1	0	4	1	8	3	5	3	3	2	3	2	7	8	6	59
Data collected	3	1	3	1	3	6	3	0	5	2	2	5	4	2	2	7	3	0	0	54

Seven data collections were bases for multiple studies (see Table 3 for corresponding studies). In total, these seven data collections were the bases of 19 of all studies in this review. “Unique Data” counts count only the first published article from each of those seven data collections.

*Notes:* Totals in “Data Collected” rows do not equal totals reviewed because eight studies did not provide year(s) of data collection. 2001 not listed due to space limitations and not finding any hiring studies that collected data during or after 2001 (an inclusion requirement).

Table 3

*Overview of studies included in review dataset*

Source	Hiring Phase(s) and Theme(s)	Process or General / Influencer	Pertinent Methodology	Sample and Context
Balter and Duncombe (2008)	Hiring patterns; Timing Recruitment; Application; Outcomes	Process	<b>Quantitative</b> Descriptive statistics Regression	A survey was completed by 494 superintendent respondents (71% RR) for a relatively representative sample of all New York districts excluding New York City. Data collection year occurred in 2004.
Bartanen and Grissom (2019) <sup>†</sup>	Hiring patterns; Race/ethnicity; Outcomes	General / Influencer	<b>Quantitative</b> Regression (Causal)	Analysis of administrative data from 1999 through 2017 looking at Missouri and Tennessee state data personnel records for all Black and White public school teachers and principals matched to schools (roughly 1,000,000 total teacher-year observations). This multi-state study was inclusive of all locales, as well as traditional and charter K-12 public schools.
Boyd et al. (2011)	Hiring patterns; Hirer preferences; Candidate preferences	General / Influencer	<b>Quantitative</b> Regression	Analysis of administrative data from 2006 through 2008 of New York City Transfer Request System data on K-12 public school teachers, schools, and open positions regarding 11,076 transfer applicants and 4,639 movers.
Boyd et al. (2005)	Hiring patterns	General / Influencer	<b>Quantitative</b>	Analysis of administrative data from 1999 through 2002 of 33,465 beginning New York State K-12 teacher characteristics, hometowns, colleges, and places of first teaching assignment.
Brewer et al (2016)	Hiring patterns; Policy; Recruitment	General / Influencer	<b>Qualitative</b> Document analysis	A document analysis of MOUs and related materials from 2000 through 2014 between school districts and Teach for America was conducted. It was a multi-state study inclusive of all locales and traditional K-12 public schools.

Source	Hiring Phase(s) and Theme(s)	Process or General / Influencer	Pertinent Methodology	Sample and Context
Bruno and Strunk (2019)	First screen; Outcomes	General / Influencer	<b>Quantitative</b> Regression	An analysis of administrative data from 2013 through 2017 of 5,184 teacher applications in LA Unified on outcomes of interest, including background, GPA, interview, preparation, references, and writing sample. This study included traditional K-12 public schools.
Burns Thomas (2020)	Recruitment; Application; Final screen; Social networks; Hirer preferences; Candidate preferences; Race/ethnicity	Process	<b>Qualitative</b> In-depth interviews Document analysis	Semi-structured interviews with eleven teachers—current and former—and eight district and school administrators in a traditional K-12 public school district located in a college town in central New York State. Data were collected from 2012 through 2015.
Cannata (2010) <sup>a</sup>	Hiring patterns; Application; Job search; Candidate preferences; Job acceptance; Fit	Process	<b>Mixed Methods</b> In-depth interviews Descriptive statistics Chi-square	Semi-structured interviews were conducted with 27 prospective elementary teachers from six teacher preparation programs that typically sent teachers to one Midwestern metropolitan area. Each participant was interviewed twice. In addition, 289 prospective elementary teachers from those programs completed a survey. All data were collected in 2006.
Cannata (2011a) <sup>a</sup>	Job search; Candidate preferences; Application	Process	<b>Mixed Methods</b> In-depth interviews Logistic regression	Semi-structured interviews were conducted with 27 prospective elementary teachers from six teacher preparation programs that typically sent teachers to one Midwestern metropolitan area. Each participant was interviewed twice. In addition, 160 prospective elementary teachers from those programs completed a survey. All data were collected in 2006.
Cannata (2011b) <sup>a</sup>	Job search; Candidate preferences; Candidate information; Social networks;	Process	<b>Qualitative</b> In-depth interviews	Semi-structured interviews were conducted with 27 prospective elementary teachers from six teacher preparation programs that typically sent teachers to one Midwestern metropolitan area. Each participant was interviewed twice. All data were collected in 2006.

Source	Hiring Phase(s) and Theme(s)	Process or General / Influencer	Pertinent Methodology	Sample and Context
	Information-rich hiring			
Cannata and Engel (2012)	Candidate preferences	General / Influencer	<b>Quantitative</b> Descriptive statistics Linear and logistic regression	A survey was administered to a sample of 89 principals in matched K-12 charter and traditional schools (49 charter, 40 traditional) across seven states during the 2007-08 academic year. Locales were not provided.
Cannata and Penaloza (2012)	Candidate preferences	Process	<b>Quantitative</b> Descriptive statistics Linear and logistic regression	A survey was administered to a sample of 2,315 teachers in matched K-12 charter and traditional schools (1,015 teachers (80% RR) in 59 charters, 1,300 teachers (72.5% RR) in 59 traditional) across eight states during the 2007-08 academic year. Locales were not provided.
Cannata et al. (2017) <sup>b</sup>	Centralization; First screen; Final screen; Data use; Information-rich hiring; Policy	Process	<b>Mixed Methods</b> Semi-structured interviews Chi-square test	Semi-structured interviews were conducted with more than 100 central office staff from six large urban districts and two CMOs, and another 76 principals randomly selected from stratified groups within the districts and CMOs based on school level and student achievement. Surveys were completed by 795 principals (85% RR) across the districts in the 2012-13 academic year.
Castro (2020)	Fit; Hirer preferences; Recruitment; First screen; Final screen; Timing; Centralization	Process	<b>Qualitative</b> Semi-structured interviews	Semi-structured interviews were conducted with 23 principals (10 elementary, 7 middle school, 4 high school) and two district administrators in four Oklahoma urban school districts with teacher shortages. Data were collected in spring 2018.
Cohen-Vogel (2011)	First screen; Final screen; Selection; Data Use; Policy	Process	<b>Qualitative</b> Cross-case, cross-sectional	Semi-structured interviews were conducted with a stratified random of districts and schools based on stringency of collective bargaining in Florida schools, resulting in a diverse sample of 61 participants



Source	Hiring Phase(s) and Theme(s)	Process or General / Influencer	Pertinent Methodology	Sample and Context
			Semi-structured interview	(district leaders, schools administrators, teachers, and parents) from various locales and school types in the K-12 system. The year of data collection was not reported.
Cohen-Vogel et al. (2019)	Data use; Hirer preferences; Policy	Process	<b>Quantitative</b> Descriptive statistics Regression	A survey was completed by 337 high school principals (34% RR) from all regular (traditional and charter) Florida high schools and a matching randomly selected sample of Texas high schools across locales. Data were collected in the 2011-12 academic year.
Cowan and Goldhaber (2018)	Recruitment; Outcomes; Policy	Process	<b>Quantitative</b> Regression discontinuity (causal)	An analysis of administrative panel data of 2,245 National Board candidates in Washington State, including teacher demographic and school administrative data 2002-2013. All locales and school types were included.
D'Amico et al. (2017)	Hiring patterns; Application; Outcomes; Race/ethnicity	General / Influencer	<b>Quantitative</b> Logistic regression	An analysis of administrative data—all completed teacher applications matched to job offers and school and principal demographics (19,192) in a large, suburban district. Data were from the 2012-13 academic year.
Davis et al. (2019)	Hirer preferences	General / Influencer	<b>Quantitative</b> Regression	A survey was completed by a convenience sample of 209 principals and assistant principals (70% RR) across 12 rural and suburban traditional school districts in Kentucky in 2017.
DeArmond et al. (2010)	Recruitment; Timing; Application; Hirer preferences; First screen; Final screen; Selection; Fit	Process	<b>Qualitative</b> Semi-structured interviews Observation Document analysis	Semi-structured interviews were conducted with the school principal and one teacher at each of 10 schools in a purposive sample in a large urban district in the Midwest. Observations of district-run training were conducted and district and school documents analyzed. Data were collected in the 2006-07 academic year.
DeArmond et al. (2012) <sup>†</sup>	Recruitment; First screen	Process	<b>Qualitative</b> Semi-structured interviews	Semi-structured interviews were conducted with 142 participants (53 CMO leaders, 27 principals, and 62 teachers) from 10 CMOs and 20 associated K-12 schools in large urban districts across multiple states.

Source	Hiring Phase(s) and Theme(s)	Process or General / Influencer	Pertinent Methodology	Sample and Context
			Descriptive statistics	292 principals (76% RR) completed a survey. The year(s) of data collection was not reported.
DeFeo and Tran (2019)	Recruitment; First screen; Final screen; Fit; Information-rich	Process	<b>Qualitative</b> In-depth interviews	Interviews were conducted with 41 superintendents and other district administrators representing 37 of the 54 traditional school districts in Alaska, including 32 extremely rural districts and all five urban/suburban districts. Data were collected in 2016.
Diamond et al. (2020)	Hirer preferences	General / Influencer	<b>Mixed Methods</b> Surveys Descriptive statistics	Cross-sectional survey was administered to rural school principals in western state, receiving 52 responses (38.8% RR) (21 elementary, 8 middle, 12 high school, 8 combined elementary/middle/high, 2 charter (level not stated), 1 behavioral (level not stated)). The year of data collection was not reported.
Donaldson (2013)	Centralization; Recruitment; Policy	Process	<b>Qualitative</b> Semi-structured interviews	Semi-structured interviews were conducted with a purposive sample of 23 traditional and 7 charter school principals in two states. All locales and school types were included. Data were collected in the 2009-10 academic year.
Ellis et al. (2017)	Final screen; Fit	Process	<b>Quantitative</b> Structural equation model (SEM)	An analysis of administrative data—a purposive sample of Texas data resulting in responses from 729 of 1,430 (51% RR) teachers hired from 2008 through 2010 in 92 traditional public schools (30 elementary, 33 middle, 29 high school) across 13 districts. All locales were included.
Engel (2013) <sup>c</sup>	Hirer preferences	General / Influencer	<b>Mixed Methods</b> In-depth interviews Logistic regression	Semi-structured interviews were conducted with a stratified and purposive sample of 31 Chicago school principals from traditional public and charter schools at all levels and of varying achievement. In addition, a survey was completed by 368 principals (100% RR) registering online for Chicago summer job fairs (59% of all CPS principals). Data were collected in 2006.

Source	Hiring Phase(s) and Theme(s)	Process or General / Influencer	Pertinent Methodology	Sample and Context
Engel et al. (2018)	Centralization	General / Influencer	<b>Quantitative</b> Descriptive statistics Linear and logistic regression	An analysis of survey data from the NCES' nationally representative Schools and Staffing Survey (SASS) data with 47,860 principal respondents from all school types and locales. Data were collected in the following academic years: 1987-88, 1990-91, 1993-94, 1999-2000, 2003-04, 2007-08, 2011-12
Engel and Curran (2016) <sup>c</sup>	Recruitment; First screen; Final screen; Selection	Process	<b>Qualitative</b> Semi-structured interviews	Semi-structured interviews were conducted with a stratified and purposive sample of 31 Chicago school principals from traditional public and charter schools at all levels and of varying achievement. Data were collected in 2006.
Engel and Finch (2015) <sup>c</sup>	Centralization; Recruitment; First screen; Final screen; Selection	Process	<b>Qualitative</b> Semi-structured interviews	Semi-structured interviews were conducted with a stratified and purposive sample of 31 Chicago school principals from traditional public and charter schools at all levels and of varying achievement. Data were collected in 2006.
Engel et al. (2014)	Hiring patterns; Candidate preferences; Application	General / Influencer	<b>Quantitative</b> Correlational Regression (OLS) Logistic regression	An analysis of administrative data that included information on teacher applicants (19,368), job fair applicants (3,936), teacher analysis sample (2,169) and new teacher hires in Chicago who attended at least one job fair (815). Data were collected in the 2006-07 academic year.
Giersch and Dong (2018)	Hirer preferences	General / Influencer	<b>Quantitative</b> Conjoint analysis (survey)	A survey was completed by 467 respondents (18% RR) of all public and charter school principals in North Carolina. Schools were representative of those in the state in school level, locale, traditional/charter, student ethnicity, and achievement. Principals resembled state averages for gender and ethnicity. Data were collected in the 2016-17 academic year.
Glazerman et al. (2013) <sup>†</sup>	Recruitment	Process	<b>Quantitative</b> Logistic regression Causal	Surveys were completed by teacher candidates, teachers, and principals across 114 high-poverty, low-achieving traditional public schools in 10 districts across seven states. Schools enrolled students in grades 3-8 and were located in all locales. In addition, student

Source	Hiring Phase(s) and Theme(s)	Process or General / Influencer	Pertinent Methodology	Sample and Context
				achievement records and program implementation records were analyzed. Data were from 2009 through 2011.
Goings et al (2020)	Centralization; First screen; Hirer preferences; Race/ethnicity	Process	<b>Qualitative</b> Interviews	Interviews were conducted with 12 district Human Resource Officers (three urban public, two urban charter, and seven suburban) recruited through principal networks, state-level HRO associations, and CCSCO recommendations. Data collection year(s) were not reported.
Goldhaber et al. (2014) <sup>d</sup>	Hiring patterns; Hirer preferences; Outcomes	General / Influencer	<b>Quantitative</b> Split population regression	An analysis of state administrative data and field placement data for 6,023 graduates from six teacher preparation programs in Washington State who were hired as teachers in the state. All school levels and locales were included. Data analyzed were collected from 1998 through 2014.
Goldring et al. (2015) <sup>b</sup>	Data use	Process	<b>Mixed Methods</b> Semi-structured interviews Descriptive statistics	Semi-structured interviews were conducted across six large urban districts engaging in new ways to measure teacher effectiveness, including 12-17 central office leaders per system and 56 K-12 principals in total. The sample was multi-state and included both traditional public and charter schools. Data were collected from 2012 through 2014.
Grissom et al. (2017) <sup>b</sup>	Data use; Policy	Process	<b>Mixed Methods</b> Semi-structured interviews Regression	Semi-structured interviews were conducted with 110 central office participants and 76 K-12 principals from eight large urban districts across multiple states. Public and charter schools were included. In addition, all principals in six of the eight systems (RR ranging from 73%-91%) completed a survey. Data were collected during the 2012-13 academic year.
Gross and DeArmond (2010)	Timing; Recruitment; Application; Final screen; Job offer	Process	<b>Quantitative</b> Descriptive statistics Logistic regression	A survey was completed by the human resource department for 373 charter schools operating three plus years and 214 geographically matched public districts across six states with varying charter legislations. School and district locale were not stated. Data were collected in the 2006-07 academic year.

Source	Hiring Phase(s) and Theme(s)	Process or General / Influencer	Pertinent Methodology	Sample and Context
Harris et al. (2010) <sup>e</sup>	Hirer preferences; Final screen	Process	<b>Qualitative</b> Semi-structured interviews	Semi-structured interviews were conducted with a purposive sample of 30 principals across school levels in a mid-sized Florida district comparable to the average U.S. district. Data were collected in the 2005-06 academic year.
Hart and Hart (2018)	Hirer preferences	General / Influencer	<b>Qualitative</b> Semi-structured interviews	Semi-structured interviews conducted with a convenience sample of five Human Resource directors and nine school principals in seven suburban Charlotte districts. Data were collected in 2016.
Hornig (2009)	Teacher preferences	General / Influencer	<b>Quantitative</b> Conjoint analysis (survey) ANOVA/MANOVA	Adaptive conjoint analysis using survey data for 531 elementary school teachers (52% RR) in Southern California to understand job preferences. District student body was 64% Latino/a and Hispanic, 17% White, 8.5% Filipino, and 4% Black. Data were collected in the 2003-04 academic year.
Ingle et al. (2011) <sup>e</sup>	Recruitment; First screen; Final screen; Hirer preferences; Selection; Job offer; Race/ethnicity; Policy	Process	<b>Qualitative</b> Case study design Semi-structured interviews Observations	Semi-structured interviews were conducted with a purposive sample of 21 traditional K-12 school principal participants in a nationally representative mid-sized Florida district. Each principal was interviewed twice. In addition, observations of hiring fairs, interview process, and hiring decisions were conducted. Data were collected during the 2005-06 academic year.
Jabbar (2018)	Recruitment; Final screen; Policy	Process	<b>Qualitative</b> Case study design Semi-structured interviews	Semi-structured interviews were conducted with 30 principals (25 of whom were interviewed twice) and shorter interviews with 44 other principals, most of whom were in New Orleans, as well as nine district leaders/school board members, eight charter network leaders/school board members, and three state policy makers. Data were collected in the 2012-13 academic year.
Jabbar et al. (2020) <sup>f</sup>	Recruitment; Job search	Process	<b>Mixed Methods</b> Semi-structured interviews	Semi-structured interviews were conducted in three large urban districts (in different states) with varying charter school density. Interviews were conducted with 127 teachers (50 of them were

Source	Hiring Phase(s) and Theme(s)	Process or General / Influencer	Pertinent Methodology	Sample and Context
			Social network	interviewed twice) across 36 K-12 public schools and 46 charter schools. Data were collected 2016-2018.
Jabbar et al. (2019) <sup>f</sup>	Recruitment; Job search; Candidate information; Social networks	Process	<b>Qualitative</b> Semi-structured interviews	Semi-structured interviews were conducted in three large urban districts with varying charter school density. Interviews were conducted with 123 teachers in both traditional K-12 public schools and charter schools. This was a multi-state study. Data were collected from 2016 through 2018.
Jacob et al. (2018)	Application; Job offer	General / Influencer	<b>Quantitative</b> Regression discontinuity (causal)	An analysis of hiring and performance administrative data for 7,000 teacher applicants who used a multi-stage, centralized application process through Washington, D.C. Public Schools to apply to traditional public K-12 schools. Analyzed data were collected from 2011 through 2017.
Kersten (2008)	Hirer preferences	General / Influencer	<b>Quantitative</b> Descriptive statistics	A survey was completed by 142 Illinois principals (36% RR) across levels traditional K-12 public schools (86 elementary, 30 middle, and 23 high school). All locales were included. Data were collected in 2007.
Krieg et al. (2016) <sup>d</sup>	Hiring patterns; Candidate preferences	General / Influencer	<b>Quantitative</b> Regression	An analysis of state administrative and field placement data for 6,023 graduates from six teacher preparation programs in Washington State who were hired as teachers in traditional K-12 public schools across locales within the state. Analyzed data were collected from 1998 through 2014.
Kraft, Papay, et al. (2020)	Timing; Centralization; Policy; Outcomes	General / Influencer	<b>Quantitative</b> Descriptive Regression Causal	Analysis of district administrative teacher, human resources, and student data in Boston Public Schools for 3,343 newly hired teachers pre- and post- policy shift that granted all schools greater autonomy in hiring and eliminated forced placement. Analyzed data were collected from 2006-7 through 2017-18.

Source	Hiring Phase(s) and Theme(s)	Process or General / Influencer	Pertinent Methodology	Sample and Context
Laura (2018)	Recruitment; First screen; Second screen; Selection	Process	<b>Qualitative</b> Semi-structured interviews	Single-subject case study of Hispanic female principal in charter high school with 200 reengaged students and social justice mission in Midwestern state about justice-oriented hiring approaches. Two interviews with principal and document analysis of pertinent materials (e.g., recruitment plan, hiring committee rosters). Data collection year was unreported.
Lee (2020)	Timing	General / Influencer	<b>Quantitative</b> Descriptive statistics ANOVA Regression	An analysis of administrative data from a company that posts district vacancies, collects applications, and screens applicants for 17,118 applications from 6,162 applicants with standardized screening tool results to 1,205 teacher vacancies in 16 districts in nine unidentified states. All school levels were included. Data were collected in 2015.
Liu and Johnson (2006)	Timing; Centralization; First screen; Final screen; Job offer; Job acceptance; Fit; Information-rich; Outcomes	Process	<b>Quantitative</b> Descriptive statistics Chi-square test One-way ANOVA	A survey was completed by a stratified representative random sample of 486 first and second-year teachers (65% RR) from 258 traditional K-12 public schools from all locales across four states. Data were collected in 2002.
Liu et al. (2008)	Timing; Centralization; Recruitment; Hirer preferences; Policy	Process	<b>Qualitative</b> Semi-structured interviews	Semi-structured interviews were conducted with a purposive sample of the director of human resources and three principals (none at the elementary level) per district across six urban districts in four Northeastern states. Data were collected in the 2006-07 academic year.
Loeb et al (2012)	Hiring patterns	General / Influencer	<b>Quantitative</b> Regression	An analysis of administrative data from Miami-Dade County Public Schools of math and reading test scores for Grades 3-10 teachers at all district schools. Analyzed data were collected from 2003 through 2010.
Loubert and	Timing; Policy	General / Influencer	<b>Quantitative</b>	A survey was administered to a stratified, purposive sample of human resource officers across 40 traditional K-12 public school districts of

Source	Hiring Phase(s) and Theme(s)	Process or General / Influencer	Pertinent Methodology	Sample and Context
Nelson (2010)			Multivariate regression	varying sizes located in metro areas across 14 states, with half of the districts having collective bargaining agreements. Data were collected in 2007.
Maranto and Shuls (2012)	Recruitment	Process	<b>Qualitative</b> Document analysis	Websites were analyzed to understand all 53 Arkansas shortage districts and two Knowledge Is Power Program (KIPP) charters within geographic shortage districts. Analyses were relevant to all school types, levels, and locales. The year(s) of data collection was not reported.
Mason and Schroeder (2010)	Final screen; Hirer preferences	Process	<b>Mixed Methods</b> Descriptive statistics ANOVA	A survey interview was administered by phone to a random selection of 60 (of 312) traditional K-12 public school principals in southeastern Wisconsin. The year(s) of data collection was not reported.
Mertz (2010)	First screen; Final screen; Hirer preferences	Process	<b>Qualitative</b> Multiple explanatory case studies Semi-structured int	Semi-structured interviews conducted with a convenience sample of 57 traditional public school principals (36 male, 21 female; 49 white, 8 black; 22 elementary, 10 middle, 23 high school, 2 K-12) in one Southeastern state. The year(s) of data collection was not reported.
Opfer (2011)	Application	General / Influencer	<b>Quantitative</b> Descriptive statistics Regression	A survey was administered to all Ohio traditional K-12 public school principals in schools filling teacher vacancies (1,040 with 67% RR). Administrative data from the Ohio Education Management Information System were also used. Data were collected in the 2004-05 academic year.
Painter and Wetzel (2005)	Application; First screen	General / Influencer	<b>Qualitative</b> Focus group	Focus group research was conducted with four human resource directors and two assistants, a university partner, and five traditional public elementary school principals in the greater Phoenix area. Data were collected in 2004.



Source	Hiring Phase(s) and Theme(s)	Process or General / Influencer	Pertinent Methodology	Sample and Context
Papa and Baxter (2008)	Centralization; Timing; Recruitment; First screen; Final screen; Hirer preferences	Process	<b>Quantitative</b> Descriptive statistics Causal regression	A survey was distributed to random sample of principals across traditional K-12 public schools in New York State and City with 254 principal respondents (22% RR), inclusive of all school levels and locales. In addition, state administrative data on individual-level employee data, all teacher hires, all principals hired between 1992-1997, their predecessors, and school-level demographics and performance. Survey data were collected in 2002.
Papay and Kraft (2016)	Timing; Outcomes	General / Influencer	<b>Quantitative</b> Regression Discrete time survival analysis	An analysis of administrative data from a large, urban district in the South. Analysis includes nearly 4,000 unique teachers and 300,000 student-year records for Grades 4 through 8. Data were collected from 1999 through 2010.
Perrone and Eddy Spicer (2019)	First screen; Final screen; Selection; Job search; Job offer; Job acceptance; Information-rich; Outcomes	Process	<b>Qualitative</b> Semi-structured interviews	Semi-structured interviews were conducted with a purposive sample of two principals (each interviewed twice), four newly hired teachers (each interviewed twice), and six department chairs (each interviewed once) in a traditional public high school and a charter school in a mid-sized city district. Data were collected during the 2016-17 academic year.
Ronfeldt et al. (2016)	Candidate preferences	General / Influencer	<b>Quantitative</b> Regression	A survey was completed by 1,002 prospective teachers eventually placed in 295 traditional K-12 public schools across one large urban district responded both before and after student teaching (50% RR on pre-practicum survey, 61% RR on post-practicum survey). In addition, administrative data on student and school demographics and performance were collected. Data were collected from 2008 through 2010.
Rutledge et al. (2010) <sup>e</sup>	Centralization; Hirer preferences; Policy	Process	<b>Mixed Methods</b> Interviews Correlational analysis	Semi-structured interviews were conducted with a purposive sample of 30 traditional K-12 school principal participants in a nationally representative mid-sized Florida district. Each principal was interviewed twice. In addition, observations of hiring fairs, interview

Source	Hiring Phase(s) and Theme(s)	Process or General / Influencer	Pertinent Methodology	Sample and Context
				process, and hiring decisions were conducted. Data were collected during the 2005-06 academic year.
Rutledge et al. (2008) <sup>e</sup>	Centralization; Recruitment; Application; First screen; Final screen; Hirer preferences; Selection; Policy	Process	<b>Mixed Methods</b> Case study design Semi-structured interviews Observations	Semi-structured interviews were conducted with a purposive sample of 39 traditional K-12 school principal participants in a nationally representative mid-sized Florida district. Each principal was interviewed twice. In addition, observations of hiring fairs, interview process, and hiring decisions were conducted. Data were collected during the 2005-06 academic year.
Shuls and Maranto (2014)	Recruitment	Process	<b>Quantitative</b> Descriptive statistics	The websites of 33 KIPP and 34 public district websites within which the KIPP schools function were analyzed. Analyses were relevant to all school types, levels, and locales. Data were collected in 2011.
Simon et al. (2015) <sup>g</sup> †	Recruitment; First screen; Final screen; Hirer preferences; Selection; Job offer	Process	<b>Qualitative</b> Semi-structured interviews Document analysis	Semi-structured interviews were conducted with a purposive sample of 17 administrators (directors of CMOs, school-based administrators supervising teachers), 19 non-teaching staff, and 99 teachers (at least 30% of teachers in each site) across high-achieving, high-poverty schools (three traditional public and three charter) predominantly serving students of color in one large Massachusetts city. In addition, policy documents and teacher survey results were analyzed. Data were collected in 2014.
Simon et al. (2019) <sup>g</sup> †	Centralization; Recruitment; First screen; Final screen; Selection; Job offer	Process	<b>Qualitative</b> Semi-structured interviews Document analysis	Semi-structured interviews were conducted with a purposive sample of 17 administrators (directors of CMOs, school-based administrators supervising teachers), 19 non-teaching staff, and 99 teachers (at least 30% of teachers in each site) across high-achieving, high-poverty schools (three traditional public and three charter) predominantly serving students of color in one large Massachusetts city. In addition, policy documents and teacher survey results were analyzed. Data were collected in 2014.

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Steele et al. (2010)	Recruitment	Process	<b>Quantitative</b> Regression (OLS) Causal	An analysis of administrative data—including California Student Aid Commission, California Commission on Teacher Credentialing, and California State University Chancellor’s Office datasets—resulting in 27,106 teacher-licensure candidates receiving contracts, of which 718 were Governor’s Teaching Fellowship (GTF) recipients. Analyzed data were collected from 1998 through 2003.
Torres (2019)	Recruitment; First screen; Final screen; Information-rich; Outcomes	Process	<b>Mixed Methods</b> Case study design Descriptive statistics Paired t-test	A survey was completed by 76 newly hired teacher participants (91% RR) from one CMO. The school level and locale were not stated. In addition, interviews were conducted with six newly hired teachers and six principals from the CMO. Data were collected during the 2016-17 academic year.
Winter & Melloy (2005)	Candidate preferences	General / Influencer	<b>Quantitative</b> Factorial experiment (fixed-factor analysis of variance)	A survey was completed by 168 inexperienced teachers enrolled in university teacher preparation classes and 168 experienced teachers employed at traditional K-12 public schools in five Kentucky regions. The year(s) of data collection was not stated.

*Notes:* † denotes study was not peer reviewed. Superscript letters denote use of same original data collection as at least one other study by the same author(s) (e.g., all studies with superscript <sup>a</sup> utilized one data collection, all studies with superscript <sup>b</sup> used another originally collected dataset, and so on.