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# Understanding Employee Turnover in the Public Sector: Insights from Research on Teacher Mobility

Research  
 Synthesis

**Abstract:** *Employee turnover is a key area for public administration research, but one about which there is much still to be learned. Insights from an extensive body of research on employee turnover in a specific area of the public sector—public education—contributes to the understanding of employee mobility in public organizations more generally. The authors present a conceptual framework for understanding employee turnover that is grounded in economic theories of labor supply and demand, which have formed the foundation of many studies of teacher turnover. The main findings of this body of work are documented, noting connections to the literature on public employee turnover, lessons that can be learned, and potential new areas for empirical inquiry for scholars of turnover in the public sector.*

## Practitioner Points

- An extensive research base on turnover among public school teachers can be useful for policy makers, practitioners, and researchers interested in the factors that lead some public employees to remain in their positions or organizations while others leave.
- Public employee turnover has both labor supply and labor demand dimensions, meaning that fully understanding turnover requires consideration of both the factors that affect employees' work decisions, such as compensation and working conditions, and the factors that affect organizations' staffing decisions, such as budget reductions and connections between performance appraisal and job dismissal.
- Aside from considering supply and demand, research on teacher turnover suggests a number of other insights for investigating public employee turnover more generally, including the importance of differentiating mobility and attrition, of gathering data on actual turnover and not just turnover intention, and of considering a wide variety of employee and organizational factors.

Over the past few decades, researchers have built a robust literature on turnover and mobility among public school teachers. This research base is large enough, in fact, to have sparked both synthetic review articles and meta-analyses summarizing its findings (e.g., Borman and Dowling 2008; Guarino, Santibañez, and Daley 2006). A notable feature of the development of this literature is that, despite the fact that public school teachers are the most numerous public employees, it has occurred quite apart from the growth of the public administration literature on turnover among public employees more generally. Authored primarily by researchers in the fields of education and economics and published in journals aimed at those audiences, teacher turnover studies rarely seem to inform (or to be informed by) research into public sector turnover. The failure of these two bodies of work to speak to one another is unfortunate given similarities between schools and other public organizations, between teachers and other public professionals (Lipsky 1980), and even

between annual rates of employee turnover in the two areas, which recent estimates place at 13 percent to 14 percent for federal employees (Keigher 2010; OPM 2012) and 16 percent for public school teachers (Goldring, Taie, and Riddles 2014).<sup>1</sup> Also, like other public employees, teachers are subject to relatively prescriptive personnel systems that define rules for management of employees and place limits on managers' autonomy in personnel decision making. These personnel systems' rules regulate pay, performance evaluation, dismissal, and related areas with direct bearing on employee turnover and reflect a tension between the need for accountability and the desire for good outcomes (Wilson 1989).

The goal of this article is translational: we seek to inform the future study of public sector employee turnover by summarizing the findings from studies of this phenomenon among teachers. We argue that public administration can make use of this literature on two fronts. First, teacher turnover research has developed a

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cohesive theoretical perspective on employee mobility and exit that might serve as a unifying framework for some of the conceptualizations of turnover undergirding parallel research in public administration. Second, research on teacher turnover has generated a large body of empirical results regarding the causes and consequences of turnover among teachers that may well apply to public sector employees more generally. This research has made use of rich data on actual turnover decisions rather than turnover intent, which is often employed as a proxy in public administration studies. Delving into the empirical research on teachers may motivate new directions for broader empirical inquiry into public employee turnover.

We proceed first by describing the primary framework for conceptualizing employee turnover that arises from the teacher turnover literature, which embeds employees and employers in a labor market, and how that framework applies to the study of public sector turnover more generally. After this conceptual discussion, we turn to findings from empirical studies of teacher turnover, grouping these results into major themes. Within each of these sections, we highlight linkages with existing research in public administration. In the conclusion, we discuss possibilities for future research in public administration suggested by this look at mobility and attrition among teachers.

### A Framework for Conceptualizing Employee Turnover

The primary framework for understanding teacher turnover comes from economics and considers teachers as participants in a labor market (for a review, see Guarino, Santibañez, and Daley 2006). As with all markets, the teacher labor market has both a demand side and a supply side. In the simplest sense, *labor demand* refers to the number of positions for qualified individuals that a school (or district) makes available at a given level of compensation. *Labor supply* refers to the number of qualified individuals willing to take those positions at a given level of compensation. Importantly, *compensation* encompasses both pecuniary and nonpecuniary benefits. Pecuniary benefits include salary and traditional benefits, such as medical insurance. Nonpecuniary benefits are other factors that affect the enjoyment that workers derive from the job, often described as “working conditions.” In other words, compensation is the total set of rewards (or utility) that a given job provides. In general, the levels of pecuniary and nonpecuniary benefits have important implications for how many workers a public sector organization will employ and how many workers will be willing to take positions and stay in that organization.

Within this framework, employee turnover can be understood as resulting from factors that influence either labor demand or labor supply. For teachers, much more attention has focused on supply-side considerations, so we begin there. Often, studies in this tradition take the demand side as fixed and conceive of an employee’s turnover decision as a comparison of total compensation levels among all opportunities currently available to him or her, including that of the current job (e.g., Theobald and Gritz 1996). If the benefits of the current job are the highest within this set, the employee stays. If the benefits are higher for another available alternative, the employee leaves to pursue that alternative. This kind of turnover, driven by

employees’ supply-side comparison of costs and benefits of attainable employment opportunities, is referred to as *voluntary turnover*.

If voluntary turnover results from comparing one’s current basket of job benefits—again, both pecuniary and nonpecuniary—with those of available alternatives, then we can point to numerous factors that might be expected to influence this kind of turnover on the margins, that is, holding other factors constant. Workers receiving higher salaries would be expected to have lower turnover probabilities because higher pay in the current position makes it less likely that a higher-paying alternative is available. For similar reasons, we would expect turnover to be lower when working conditions are better (e.g., in more collegial workplaces, under better managers). At the same time, the comparison set—that is, the alternative employment opportunities that are available to the individual—matters. Employees with high-demand skills or those living in cities with more robust employment opportunities may be more likely to leave.

Consideration of demand-side factors, on the other hand, focuses on employment decisions made by the current employer. A revenue reduction, for example, may force schools or districts to employ fewer teachers, resulting in layoffs. Or, like employees’ comparisons of compensation, employers may make decisions about whether to retain a given employee by considering the overall “utility” or value that employee provides to the organization compared with the next-best available person who could be hired given salary costs (Boyd et al. 2013). If this calculation is unfavorable, the employer lets the employee go in favor of another hire, which we refer to as *involuntary turnover*. Although it is oversimplified given the political character of some public employment decisions, this perspective suggests that empirical investigations of involuntary turnover should consider such factors as employee job performance, performance evaluation, organizational resource constraints, and the availability of a qualified outside workforce.

In general, the infrequency of involuntary teacher turnover has discouraged much attention to demand-side considerations. National data suggest that voluntary turnover occurs nine times more often than involuntary school staffing actions (Grissom 2011). Traditionally, involuntary turnover rates are substantially lower than voluntary rates because of the common practice of giving tenure protection to teachers after a few years in the profession, putting in place significant barriers for those who wish to involuntarily move teachers (Guarino, Santibañez, and Daley 2006). The recent economic downturn, however, has resulted in cuts to district personnel budgets that have brought new attention to the issue of involuntary turnover in teaching (Goldhaber and Theobald 2013). Numerous states and districts have invested in rigorous performance evaluation systems to identify ineffective teachers and changed personnel policies to make dismissal less onerous, particularly for untenured teachers, highlighting the importance of institutional features in determining dismissal rates (Drake et al. 2015; Jacob 2011). Recent research also has highlighted not only the institutional factors—such as seniority provisions in collective bargaining agreements—that often dictate decisions about which teachers are

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let go when reductions in force occur but also the teacher qualifications and characteristics that schools are revealed to value when they are allowed to exercise discretion over which teachers to retain (e.g., Boyd et al. 2011; Cohen-Vogel and Osborne-Lampkin 2007; Goldhaber and Theobald 2013; Grissom, Loeb, and Nakashima 2014; Jacob 2011).

As with teaching, research on involuntary turnover in public administration is limited in large part because involuntary turnover elsewhere in the public sector is low. For example, in fiscal year 2013, the federal government terminated or removed fewer than 10,000 of its more than 2.1 million employees (OPM 2014a). These low rates are attributable in part to the federal laws that govern agencies' ability to remove, suspend, and furlough federal employees.<sup>2</sup> Career civil servants gain tenure after three years of service, and agencies must adhere to a labyrinth of procedural and substantive requirements when terminating employees.<sup>3</sup> As a result, many agencies develop strategies for getting unwanted employees to leave their current jobs voluntarily (Lewis 2008). Specifically, agencies can alter the nonpecuniary benefits associated with employment through strategies such as limiting a public servant's decision-making capacity.

Although public administration scholars recognize that various pecuniary and nonpecuniary factors influence civil servants' employment decisions (e.g., Bertelli 2007; Bertelli and Lewis 2013; Crewson 1997; Dull and Roberts 2009; Golden 2000; Perry and Wise 1990; Reimer 1965), studies in this area generally have not adhered to an overarching theoretical perspective. For example, while some scholars engage economic theories of labor markets to explain movement in and out of the sector (e.g., Bertelli and Lewis 2013; Boylan 2004; Jovanovic 1979), others invoke Hirschman's classic exit, voice, and loyalty framework (e.g., Golden 2000; Hirschman 1970; Lee and Whitford 2008; Whitford and Lee 2015) or models of strategic decision making among bureaucrats and supervisors (Gailmard and Patty 2007; Hecl 1977; Rusbult and Farrell 1983).

In addition, most of this work relies on civil servants' intent to turn over, usually gathered from surveys, as opposed to analysis of actual turnover (e.g., Bertelli 2007; Bright 2008; Jung 2014; Lee and Jimenez 2011; Moynihan and Pandey 2008; Pitts, Marvel, and Fernandez 2011). Surveys of civil servants are attractive to researchers because the surveys often include a host of questions related to employee-specific working conditions, although they rarely include data on actual turnover.<sup>4</sup> Unfortunately, evidence from the teacher turnover literature suggests that the relationship between stated intention to turn over and actual turnover is relatively weak (DeAngelis, Wall, and Che 2013; Ladd 2011). For instance, in a sample of about 5,000 first-year teachers who graduated from one of 12 public higher education institutions in a large, diverse state in 2004, only about 20 percent of the teachers who intended to leave the teaching profession after their first year had actually done so two years later (DeAngelis, Wall, and Che 2013). This disconnect between turnover intention and actual turnover raises concerns that the predictors of turnover intention that researchers have identified may not be the same factors that predict actual movement out of one's position. Although intent might be of interest in its own right, public sector research would

benefit from more systematic collection and analysis of actual turnover. More explicit attention to actual turnover and the costs and incentives faced by both employees and employers within a supply-and-demand framework can pull together different strands of work and open new avenues for empirical investigation in public administration.

## Insights from the Empirical Examination of Teacher Turnover

To further this argument, this section describes insights gleaned from the empirical study of teacher turnover. Our review is organized by themes from the research findings. Throughout, we make connections between this work and research on public sector employee turnover more generally.

### *The Importance of Differentiating Mobility and Attrition*

Within the supply-and-demand framework, educator labor market researchers often distinguish not only between voluntary and involuntary turnover but also among different pathways out of a given teaching position. Most commonly, turnover has been separated into mobility and attrition. For teachers, *mobility* typically refers to moves to other teaching positions, whereas *attrition* refers to exit from the profession altogether. Distinguishing between these two categories of turnover is important because studies have often found that predictors of teachers' moves to new teaching jobs are not the same factors that predict exit from teaching (e.g., Elfers, Plecki, and Knapp 2006; Kukla-Acevedo 2009).

Although classification of a teacher as a stayer, mover, or leaver between two given time points seems straightforward at first blush, how these categories are defined and whether they are even sufficient are key decisions that depend on the context of the study. For a teacher, job movement between times  $t$  and  $t + 1$  has two important defining dimensions: place and job role (Farley-Ripple, Solano, and McDuffie 2012). The place dimension refers to location: does the teacher (1) stay within the same school, (2) move to another school in the same school district, (3) move to a school in another school district, (4) move to a school outside the public sector, or (5) leave schooling altogether? The job role dimension refers to the position assumed: in the new job, is the teacher (1) still a teacher, (2) a nonteaching educator (e.g., principal, instructional coach), or (3) a noneducator? A given teacher observed in a school at time  $t$  could fall into any of the 15 cells formed by the cross-tabulation of these five place and three job role categories at  $t + 1$ ; the question is how to classify these cells. A teacher who stays as a teacher in the same school is clearly a *stayer*, that is, he or she has not turned over. Similarly, a teacher who becomes a noneducator outside of schooling would be counted in the *attrition* group. Scholars' treatment of the other cells varies. For example, among teachers whose job role does not change, most teacher turnover studies proceed from the perspective that schools are the policy-relevant organizational unit and thus count moves to other public schools as mobility, regardless of whether the teacher changes school districts. But if the salient issue for the study is district-level losses, this decision may be different. Among teachers whose job role changes, there are similar choices to be made: is a promotion to a principal position in the same school counted as *staying*, or is it a move out of teaching? These sorts of choices are important because predictors of one kind of move are not necessarily predictors of the other kinds (e.g., Imazeki 2005).

The takeaway is that careful analysis of job turnover requires deliberate consideration of how to treat the place and job dimensions, a point that is as important in studies of turnover in other areas of the public sector as it is in teaching. Yet public administration scholarship generally has paid minimal attention to this consideration. Perhaps because of data limitations, most studies lump mobility and attrition together (e.g., Bertelli 2007; Boylan 2004; Dull and Roberts 2009; Lee and Whitford 2008; Moynihan and Pandey 2008; Pitts, Marvel, and Fernandez 2011; Rusbult and Farrell 1983) or only examine movement between the public and private sector (e.g., Gailmard and Pary 2007; Su and Bozeman 2009; Wilson 1994). Future work might recognize that public employees can make a variety of career transitions, not only to work opportunities in the private sector (National Commission on the Public Service 1989) but also to more attractive positions in the same or another public organization (McGregor 1974). These distinctions may unlock new insights about the factors that drive employee moves.

### **Teachers with Some Characteristics Are More Likely to Leave than Others**

Numerous studies have documented that teachers' personal characteristics predict their likelihood of leaving their school or teaching. In our labor supply-and-demand framework, personal characteristics are likely to be associated with turnover because they are correlated with the benefits that individuals receive from the positions or occupations available to them. Thus, teachers with similar personal characteristics are likely to exhibit similar patterns in job decision making. Indeed, such factors as age, race, gender, and specialty field have been found to predict whether a teacher will stay, move schools, or leave teaching.

**Age and experience.** In particular, age and experience are firmly established in the literature as strongly correlated with teacher turnover rates. Turnover rates are highest for the youngest, least experienced teachers (Hanushek, Kain, and Rivkin 2004; Hughes 2012; Kukla-Acevedo 2009; Ladd 2011; Tickle, Chang, and Kim 2011) and for the oldest, most experienced teachers, producing a U-shaped relationship (Borman and Dowling 2008; Guarino, Santibañez, and Daley 2006; Ingersoll 2001). High turnover rates at the upper end of the age or experience distribution is attributable to retirement; teacher pension rules often make teachers eligible for retirement at a relatively young age and contain incentives that push retirement eligible teachers out at high rates (Costrell and Podgursky 2009). At the lower end, research has pointed to low pay for new teachers under fixed salary schedules, a "sink or swim" mentality in which new teachers are thrown into isolated classrooms with little support, and low initial investment in the profession as teachers go through a "trying on" phase with teaching (Johnson and Birkeland 2003; Peske et al. 2001). This last factor in particular is common to many professions. Research demonstrates that turnover rates are higher for early-career workers regardless of occupation, as workers learn from their early on-the-job experiences about their fit with

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their initial line of work and often try out different jobs or employers to find a position that fits their preferences and aptitudes (Booth, Francesconi, and Garcia-Serrano 1999; Buchinsky et al. 2010; Neal 1999). Employers also learn about fit and performance during these initial years (Altonji and Pierret 2001), which informs job outcomes as well. Workers with greater seniority have passed this learning period and also have accumulated significant job-specific human capital, reducing the probability of exit (Buchinsky et al. 2010).

**Race and ethnicity.** Unlike age and experience, the findings on racial differences in teacher turnover vary. While earlier studies find that white teachers have higher turnover rates than teachers of color (see Borman and Dowling 2008), some recent empirical studies find the opposite result, with teachers of color having similar or slightly higher turnover rates than white teachers (Achinstein et al. 2010; Elfers, Plecki, and Knapp 2006). Empirical work differentiating teachers who move to a different school from those who leave the profession finds that black teachers are more likely to move schools, while Hispanic teachers are more likely to leave teaching (Guarino, Santibañez, and Daley 2006; Kukla-Acevedo 2010).

**Qualifications.** Teachers with more valuable qualifications are hypothesized to have greater opportunities in the nonteaching labor market. For this reason, teachers with math or science degrees and advanced degrees are often found to have higher turnover levels (Borman and Dowling 2008; Guarino, Santibañez, and Daley 2006; cf. Ingersoll and May 2012). On the other hand, teachers with full certification (relative to alternative or no certification) are

predicted to have lower turnover, as certification signals greater preparation and investment in teaching. Some evidence supports this hypothesis (Borman and Dowling 2008; Darling-Hammond 2000; Johnson and Birkeland 2003), while other studies find that traditionally and alternatively certified teachers are similar once workplace conditions are taken into account (e.g., Grissom 2008).

**Gender.** Numerous studies conclude that the turnover rates for female teachers are higher than for male teachers (Achinstein et al. 2010; Guarino, Santibañez, and Daley 2006; Ingersoll 2001; Kirby, Berends, and Naftel 1999). According to Borman and Dowling's (2008) meta-analysis, female teachers are 25 percent more likely to leave teaching than male teachers. Hypothesized reasons include that women make up a higher proportion of inexperienced teachers and are more likely to exit for childrearing. At the same time, gender differences in turnover may be changing. Analysis of recent national data finds that, controlling for school and other teacher characteristics, women have lower turnover propensities than men (e.g., Grissom, Nicholson-Crotty, and Keiser 2012).

**Family characteristics.** Research finds clear roles for marital status and child rearing in turnover decisions, especially for women. Female teachers who are married and who give birth are more likely



to leave teaching (Borman and Dowling 2008; Stinebrickner 1998, 2001, 2002). Exits from teaching following childbirth often are not permanent, with teachers returning to the classroom when their children reach school age (Grissom and Reininger 2012). In fact, some research suggests that ease of reentry to teaching and a pay structure that ensures relatively small wage losses from time off make teaching particularly attractive to women who anticipate wishing to take time off for family considerations (Flyer and Rosen 1997), which may mean that these relationships do not translate to other professions (Stinebrickner 2002).

The study of individual characteristics is not unusual in public sector turnover research. The most studied individual characteristics are race or ethnicity, gender, and age (Wise and Tschirhart 2002). For example, studies have uncovered nuanced results regarding race, with nonwhites expressing greater turnover intent (Cho and Lewis 2012; Moynihan and Landuyt 2008) but lower likelihood of departing for the private sector, where their wage options are lower (Llorens, Wenger, and Kellough 2008; Pitts, Marvel, and Fernandez 2011; Tsui, Egan, and O'Reilly 1991). As with teachers, studies find that younger public employees with less job-specific expertise leave their jobs more often than older public employees (Cho and Lewis 2012; Kellough and Osuna 1995; Lee and Jimenez 2011; Moynihan and Landuyt 2008; Pitts, Marvel, and Fernandez 2011), and findings regarding gender and turnover are mixed (Bertelli 2007; Cho and Lewis 2012; Choi 2009; Kellough and Osuna 1995; Moynihan and Landuyt 2008). However, other individual characteristics, such as qualifications and family characteristics, are less explored. The nonteaching public sector also offers opportunities to explore how these predictors may vary by method of appointment (Hecl 1977; Ingraham 1987), personnel classification (e.g., professional, administrative, technical, clerical), or agency characteristics.

### **Working Conditions Matter**

A robust conclusion from studies of teacher mobility and attrition is that working conditions are a key factor driving teachers' decisions to stay or go. Among the most-studied factors related to working conditions are characteristics of the students in the school in which the teacher works. Numerous studies demonstrate that teachers are more likely to leave schools with large numbers of students from traditionally disadvantaged backgrounds and low socioeconomic status (Borman and Dowling 2008; Guarino, Santibañez, and Daley 2006; Hanushek, Kain, and Rivkin 2004; Hughes 2012; Ingersoll 2001; Jackson 2009; Ladd 2011; Lankford, Loeb, and Wyckoff 2002; Loeb, Darling-Hammond, and Luczak 2005). Turnover in these schools can be especially high among more effective teachers (Jackson 2009). High turnover in such schools becomes a self-fulfilling prophecy in which a consistent need for new teachers leads to an inexperienced faculty, a group with chronically high turnover (Hanushek, Kain, and Rivkin 2004). Several recent studies find that the correlation between teacher turnover and student demographics can be explained largely by the fact that other characteristics of the work environment (e.g., resources, leadership) are less adequate in schools with disadvantaged populations (Grissom 2011; Johnson, Kraft, and Papay 2012; Ladd 2011).

Other research finds that teachers are more likely to leave schools that are in poor physical condition, that have inadequate essential resources (e.g., textbooks), or that have basic facilities problems,

such as uncomfortable temperatures, lack of cleanliness or upkeep, and evidence of insects or rodents (Buckley, Schneider, and Shang 2005; Johnson, Kraft, and Papay 2012; Ladd 2011; Loeb, Darling-Hammond, and Luczak 2005). Lower turnover, particularly among newer teachers, is found in schools with greater teacher support systems, more collegial atmospheres, strong professional development programs, mentoring and induction, and greater time allotted for planning and collaboration (Borman and Dowling 2008; Ladd 2011; Loeb, Darling-Hammond, and Luczak 2005; Smith and Ingersoll 2004). Teachers are also less likely to leave schools in which they exercise greater input in school decisions and autonomy in their classrooms (Achinstein et al. 2010; Firestone and Pennell 1993; Guarino, Santibañez, and Daley 2006; Ingersoll 2001; Ingersoll and May 2012; Johnson 2006; Weiss 1999).

Although the settings and salient characteristics may differ, the general principle that some organizations are more positive places to work while others are more difficult no doubt applies to turnover decisions in the public sector beyond teaching. Indeed, positive organizational experiences increase the commitment of public administrators and lower turnover intention (e.g., Bertelli 2007; Brehm and Gates 1997; Buchanan 1974; Crewson 1997; Golden 2000; Lee and Whitford 2008; Pitts, Marvel, and Fernandez 2011; Romzek 1990). However, more explicit measurement and modeling of different facets of working conditions in this literature—including greater attention to day-to-day work experiences, resource availability, facilities, supports, autonomy, policy influence, and role clarity (Bertelli and Lewis 2013; Buchanan 1974; Wamsley and Zald 1973; Wilson 1994)—holds great and largely untapped potential.

### **Effective Management Is Associated with Lower Turnover**

How well a school is managed is a key aspect of working conditions that predicts a teacher's likelihood of turning over. In fact, the performance of the principal may be the greatest single predictor of whether a teacher chooses to remain in a school (Boyd et al. 2011; Brown and Wynn 2009; Grissom 2011; Johnson and Birkeland 2003; Ladd 2011; Stockard and Lehman 2004; Tickle, Chang, and Kim 2011), and effective leadership or management is especially important for alleviating mobility (rather than attrition) (Kukla-Acevedo 2009; Johnson and Birkeland 2003). Effective leaders are especially adept at retaining higher-performing teachers (Branch, Hanushek, and Rivkin 2012). Effective principal leadership can include shared vision, trust, and quality of decision making, among other dimensions, but provision of support to teachers appears to be a particularly salient component (Borman and Dowling 2008; Ingersoll 2001; Johnson, Kraft, and Papay 2012; Kukla-Acevedo 2009; Tickle, Chang, and Kim 2011). Leadership is particularly influential in schools with large numbers of disadvantaged students; not only does leadership quality account for a large fraction of the correlation between student demographic characteristics and teacher turnover, but the effect of leadership on turnover is even larger in schools with large numbers of disadvantaged students (Grissom 2011; Ladd 2011).

Other research on the importance of the principal finds that teachers stay more often under principals with certain management styles, such as transformational leadership or participative management (Bogler 2001; Griffith 2004; Grissom 2012). Studies also show that teachers are substantially less likely to exit schools in which they

share the race or gender of the principal, with evidence suggesting that teachers in those schools feel greater autonomy, administrative support, and recognition (Grissom and Keiser 2011; Grissom, Nicholson-Crotty, and Keiser 2012).

Conventional wisdom in public administration mirrors the empirical findings in teaching: when public managers and supervisors lack the leadership skills necessary to run a government agency successfully, those agencies exhibit low employee morale, a decrease in productivity, and higher rates of turnover (Merit Systems Protection Board 2010; Soni 2004). However, empirical studies of management provide mixed support of this conventional wisdom. While some find lower turnover among employees who report effective management and have fair opportunities for advancement and promotion (e.g., Kim 2005, 2012), others find that turnover intent is higher when employees perceive management to be strong (e.g., Bertelli 2007). Further development of research on the connections among management effectiveness, working conditions, and employee turnover in the public sector could help reconcile these findings.

### **Salary Predicts Turnover**

While much of the literature discussed thus far focuses on the nonpecuniary aspects of teacher turnover, teachers are also responsive to salary when making career decisions. Numerous studies have demonstrated that teachers turn over at lower rates when they are paid more (Baugh and Stone 1982; Borman and Dowling 2008; Clotfelter, Ladd, and Vigdor 2011; Hanushek, Kain, and Rivkin 2004; Murnane, Singer, and Willett 1989; Murnane et al. 1991; Podgursky, Monroe, and Watson 2004; Stockard and Lehman 2004). Estimates of the magnitude of the association between salary and turnover vary. Among the most rigorous studies to date, Hendricks (2014) takes advantage of Texas administrative data and changes at different places on the salary schedule across districts to derive quasi-experimental estimates of the effects of salary on teacher turnover. He estimates that a 1 percent increase in pay results in a 0.16 percentage point decrease in turnover, with larger effects among relatively inexperienced teachers.

Results of a similar magnitude suggest that the costs of salary increases required to meaningfully reduce teacher turnover might be prohibitively high for many school districts (Clotfelter et al. 2008; Hanushek, Kain, and Rivkin 2004; Imazeki 2005). In fact, comparisons of the relative impact of salary and working conditions on turnover have led some researchers to conclude that working conditions matter much more and that improving teacher working conditions would be a more prudent turnover reduction strategy than increasing teacher salaries (Borman and Dowling 2008; Ingersoll 2001), although this conclusion is not a settled one.

Public sector research similarly finds that higher pay is associated with lower employee turnover rates (e.g., Bertelli 2007; Boylan 2004; Lee and Whitford 2008; Pitts, Marvel, and Fernandez 2011). The magnitude of the *causal* effect of pay on turnover, however, using quasi-experimental designs such as those in Hendricks (2014)

or Clotfelter et al. (2008), has not been established, and it is unclear how employees' responsiveness to salary compares with responsiveness to working conditions variables. Still, the association between pay and turnover has led federal agencies increasingly to ask for exemptions from the personnel system originally established by the Civil Service Act of 1883 (Lewis and Selin 2013), and, as of 2014, 83 agencies and bureaus in the federal government have agency-specific personnel systems that allow agencies flexibility in setting the salaries of some or all employees (Selin 2015). Little is known about the effect of these personnel systems on turnover.

### **Turnover Rates Differ by Teacher Effectiveness**

The relationship between employee productivity and turnover matters for policy and management because it partially determines whether efforts to reduce turnover are likely to yield a more effective organization in the long term. A small literature investigates whether more effective teachers—typically measured as those who are successful in raising their students' standardized test scores—are more or less likely to exit. The results from these investigations vary. One set of studies finds that more effective teachers are more likely

to stay in teaching or in the same school (Feng and Sass 2011; Goldhaber, Gross, and Player 2011; Krieg 2006; West and Chingos 2009). Another set finds evidence that more effective teachers are more likely to leave teaching, especially early in their careers (Clotfelter, Ladd, and Vigdor 2007; Wiswall 2013). Still other studies find evidence that whether effectiveness positively predicts turnover depends on school level (e.g., elementary, middle) (Harris and Sass 2011).

This mixed bag of findings may reflect the complexity of the forces at play. Supply-side factors, such as greater satisfaction associated with doing a job well, or demand-side factors, such as employers strategically targeting retention efforts at high performers or removing or pushing out employees who are less effective (Loeb, Kalogrides, and Bêteille 2012), could drive an inverse relationship between teacher effectiveness and turnover. At the same time, alternative job opportunities are relevant; more effective teachers may have greater options open to them for moving to more attractive positions inside or outside education, as evidenced by studies showing that especially effective teachers are more likely to transfer from less advantaged to more advantaged schools (Boyd et al. 2005; Feng and Sass 2011; West and Chingos 2009) and that more effective teachers who leave the profession have higher earnings in their new occupations (Chingos and West 2012). There is also some evidence that high-performing teachers are more likely to move into educational leadership positions (e.g., become a principal), underscoring the importance of differentiating among turnover types in investigating why employees leave their positions (Chingos and West 2011).

Little research on the public employee performance–turnover relationship exists in public administration. Such efforts are hampered by the difficulties of reliably measuring worker effectiveness or productivity. This avenue is an important one for future empirical research.

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## Conclusion

Our review of the research on teacher turnover suggests the benefits of organizing thinking about public employee turnover around the principles of labor demand and supply. Both sides of the employment equation matter for determining work decisions. Job characteristics associated with higher total compensation (i.e., pecuniary plus nonpecuniary benefits) are likely to lead to lower turnover; the presence of relatively more attractive alternative opportunities or factors that reduce demand for a particular kind of worker are likely to predict greater likelihood of turnover. Findings from the teacher turnover literature are broadly consistent with these ideas. Our review suggests that reorienting empirical research on public sector turnover around these principles and the predictions they yield would help clarify this research base and point toward new areas of investigation.

Of course, teachers and other public employees face different job and labor market circumstances, and a comparison between the two is imperfect. One important example has to do with upward mobility and promotions. Schools are “flat” organizations relative to many organizations in the public sector, with fewer options for teachers to be promoted. The dearth of research on moves into school leadership reflects this difference (see DeAngelis and O’Connor 2012; Riehl and Byrd 1997). In contrast, since the mid-twentieth century, there has been a “thickening” of the hierarchy, or an increase in the layers of management, in many governmental organizations (Light 1995) that has made upward mobility perhaps more salient. Both fields would benefit from increased attention to the role of the potential for upward mobility on turnover decisions.

Applying ideas from teacher turnover research suggests multiple avenues for future work on turnover in public organizations that are particularly promising. First, public administration would benefit from increased attention to worker mobility among public agencies or organizations. Movement to other teaching positions accounts for a large fraction of educator turnover, and often these moves are to schools with better working conditions. Public employees in other areas, such as the federal civil service, may well follow similar patterns, moving to new offices or agencies that are better resourced or that provide greater access to advancement opportunities, political connections, or policy influence. Hampered by data scarcity, however, our knowledge of employee mobility within the public sector and its motivations is limited.

Second, public administration would benefit from new attention to the role of salary and benefits in employee turnover. Although the finding that employees are more likely to stay in positions with higher pay is uncontroversial, we know little about, for example, whether turnover decisions of different categories of public sector workers are differentially responsive to salary, how the structure of pay (e.g., linking pay to performance, frontloading salary increases earlier in the career versus later) might impact turnover decisions, or the relative weight that employees place on salary, benefits, and working conditions in making work decisions. Related is the looming issue of the cost and structure of public sector pension systems and how those systems affect the composition and quality of the workforce, which research on teachers has begun to address but

which needs attention from the public management research community as well (Koedel, Podgursky, and Shi 2013).

Third, the dynamics of the relationship between turnover and performance remain uncertain. Evaluating and comparing employee performance in public organizations is challenging in part because of the diversity of job characteristics and classifications in civil service and the difficulties of assessing employee performance in light of that diversity. Scholars have found ways to measure organizational—rather than individual—performance across the bureaucracy, including using revenue forecasts (Krause and Douglas 2005; Krause, Lewis, and Douglas 2006), Performance and Accountability Reports (Lee and Whitford 2012), scores from the Program Assessment Rating Tool (Gallo and Lewis 2012; Lewis 2008), and federal employee surveys (Brewer and Selden 2000; Lewis 2008). Connecting such organizational measures of performance to public employee turnover and retention would be informative. Research on the connections between individual employee performance and turnover hinges on leveraging or collecting new data sources with measures of individual job performance and would be of high value in turnover research and beyond.

Fourth, and likely related, this literature is weakened by its inattention to involuntary or employer-driven turnover, which may have a job performance dimension. This issue is especially salient in light of shrinking budgets in many areas of the public sector in the last decade. The effects of the Great Recession were especially acute for many state and local governments, potentially providing new opportunities to study this recurrent phenomenon in public administration.

We conclude with the observation that a growing education literature that examines turnover among educators other than teachers may be informative to public administration research as well. Research on turnover among school principals and district superintendents, for example, shows some patterns consistent with those for teachers (e.g., with respect to moving away from challenging work environments) but also some variations (e.g., job prestige is important) that suggest that turnover works differently at the managerial level (e.g., Grissom and Andersen 2012; Loeb, Kalogrides, and Horng 2010). A closer inspection of this research may provide guidance or additional directions for work on turnover among public sector supervisory and management personnel. More generally, a consideration of the varying labor supply and demand factors of public employment at all levels is likely to lead to an increased understanding of employee turnover in public administration research.

## Notes

1. Between the 2011–12 and 2012–13 school years, 16 percent of public school teachers either moved between schools or left the teaching profession, including voluntary and involuntary mobility and attrition (Goldring, Taie, and Riddles 2014).
2. See, for example, 5 U.S.C. §§ 7512–13 (2015).
3. For example, 5 U.S.C. §§ 4303; 7513; 7701 (2015); Federal Personnel Manual § 315.201 (OPM 2014b).
4. Some data sets do allow for empirical analysis of agency- and bureau-specific factors that influence employment decisions. See, for example, FedScope Separations Trend Cubes (OPM 2014a), a data set that provides information on federal employee turnover from 2005 to 2014.



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