Why Superintendents Turn Over

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Although superintendent turnover can hinder district reform and improvement, research examining superintendent exits is scarce. This study identifies factors contributing to superintendent turnover in California by matching original superintendent and school board survey data with administrative data and information hand-collected from news sources on why superintendents left and where they went. Among 215 superintendents studied beginning in 2006, 45% exited within three years. Using a multinomial framework to separate retirements from other turnover, the authors find that factors such as how highly the school board rates its own functioning and the superintendent's performance and whether the superintendent was hired internally strongly predict non-retirement exits three years later. Short-term district test score growth, however, is uncorrelated. Superintendents who move migrate away from rural districts towards larger, higher-paying districts in urban and suburban locations.

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The story of school superintendent turnover is a well-known one: energetic new leader assumes position with plans for revitalization, only to clash with a dysfunctional school board or impatient community and move on to greener pastures before the plans can be fully carried out, leaving the district once again searching for the next great leader bearing the requisite comprehensive reform plans. High-profile examples abound of reform-minded superintendents whose tenures saw gains in student test scores but whose time in office was cut short by public pressure and tumultuous school board relations: Arlene Ackerman in San Francisco, John Thompson in Pittsburgh, Rudy Crew in Miami-Dade County, Stan Paz in Tucson (Buchanan, 2006; Cave & Almanzar, 2008). Often, the story goes, ousted superintendents move on to other districts; Ackerman moved on to—and soon left—Philadelphia, Thompson was terminated after

a year in Clayton County (Georgia) Schools, Crew had already been chancellor of New York City's public school system, Paz had served in El Paso. This shuffling of superintendents through school districts creates a kind of "revolving door" in the superintendent's office (Natkin et al., 2002), as witnessed by Kelvin Adams becoming St. Louis Public Schools' eighth superintendent in five years in 2008 or John Covington becoming Kansas City (Missouri) district's twenty-fifth leader in forty years the next year (Taylor, 2008).[1] With chronic turnover come expectations that turnover is inevitable, making the superintendent turnover story one of short-term focus with insufficient investment in long-range vision and infrastructure (Buchanan, 2006).

The trouble with this story is that it may not be true, at least not for the typical public school district. The popular conception of the modern superintendent as a chronic mover in continual public disharmony with a conflict-ridden school board is one developed from media portrayals of prominent cases in the nation's largest urban districts, whose experiences may not be representative of those of the suburban and rural districts that make up the majority of local school governments—or even of the average urban district. As Natkin et al. (2002) argue, this potentially errant popular understanding has consequences for both for the practice of superintendents—who become reluctant to take on major reform efforts—and the responsiveness of principals and teachers, who may adopt a "this too shall pass" approach to superintendents' priorities and directives.

Unfortunately, there is little systematic evidence with which to question this common conception or issues of superintendent turnover more broadly, a puzzling situation given the importance ascribed to superintendents in leading district improvement. As the school district's "chief executive," superintendents oversee key aspects of district operations. Research suggests that successful execution of central management functions such as staff recruitment, financial

[1] Covington resigned from his Kansas City post in 2011.

management, leadership of instruction, and strategic planning helps create positive learning environments within schools, which may indirectly impact student achievement (Alsbury, 2008; Byrd, Drews, & Johnson, 2006; Petersen, 2002). Because instability in the superintendent's office disrupts these management functions, superintendent turnover may negatively impact district performance, at least in the short term; research concluding that successful systemic school reforms take five or more years of a superintendent's focus suggests that negative impacts of turnover could be felt even longer (Fullan & Stiegelbauer, 1991). The loss of a superintendent may also negatively affect staff morale and satisfaction (Alsbury, 2008), which could have "trickle-down" effects on principal and teacher turnover and performance.

The importance of the district superintendent and the potential consequences of superintendent exits make understanding the factors that drive superintendent turnover a key topic for empirical research. Lamentably, however, superintendent turnover lacks a well-developed research base (Natkin et al., 2002). Existing research has primarily taken the form of qualitative explorations of turnover motivations through case studies and interviews with superintendents. Few studies have focused on empirically testing the relative strength of associations between superintendent turnover and characteristics of the superintendents, districts, and school boards with whom they work. Moreover, studies have not examined how these predictors might vary with the *type* of turnover (e.g., retirement, resignation).

To address these gaps in the literature, this study pulls together existing research on superintendent turnover alongside a complementary—and perhaps more well-developed—stream of research on turnover among city managers to identify potential drivers of superintendents' decisions to leave. Research on city managers is applicable because the job of the city manager shares important characteristics (e.g., managing a complex organization, working closely with an

elected board) with that of the school superintendent. We develop a simple labor market framework in which a superintendent's continued employment in a district is determined by employment decisions made by both superintendents and their school boards, then draw on the superintendent and city manager turnover research to identify four classes of factors that contribute to those decisions: characteristics of the district, school board, and superintendent himself or herself, plus superintendent job performance.

To test the expectations our framework develops, we draw on original matched survey data from superintendents and school board members in more than 100 randomly chosen California school districts, which run the gamut from large urban bureaucracies to small rural districts with few schools, to investigate these factors in depth. These survey data are supplemented both with administrative data from the California Department of Education (CDE) and the National Center for Education Statistics' Common Core of Data (CCD) and with additional information on superintendent turnover culled from newspapers and other public sources. Employing logistic and multinomial logistic regression to model superintendents' probabilities of turning over within a three-year window, we examine a variety of potential contributors to superintendent turnover, with attention to the differences between retirement and other types of exits.

In the next section, we detail our conceptual framework, synthesizing the existing literature on superintendent turnover and the complementary stream of literature on turnover among city managers. We then describe the data and methods employed in the empirical section of the paper before turning first to the regression results and then to a descriptive look at patterns in superintendent moves across districts. We conclude with implications of this analysis and directions for future work.

Conceptualizing Superintendent Turnover

Scholars have been interested in the question of why superintendents leave their school districts for at least four decades (see Iannaccone & Lutz, 1970). Though the question has been recurrent in the literature over this time period, most data used to address it have come from case studies, interviews and small-scale surveys, raising concerns that the conclusions drawn from this research are not representative. This criticism echoes Yee and Cuban's (1996) concern that focusing on high-profile cases of superintendent resignations has resulted in a prevailing "myth" that superintendents tend to last only two or three years when, in fact, average tenure is much longer, detracting from the image of the superintendency and predisposing superintendent reform efforts to failure (Natkin et al., 2002). Furthermore, studies that have used larger data sets typically have not employed multivariate methods that allow them to rule out alternative explanations for the associations they uncover. The result is a research base that is much leaner than those examining other types of turnover in education (e.g., Guarino, Santibañez, & Daley, 2006). Researchers have also noted the need for studies of superintendent turnover using recent data that allow consideration of the roles and relationships of superintendents and school boards in the age of complex accountability systems and changing student demographic trends (Fusarelli, 2005; Petersen & Fusarelli, 2008).

The deficiencies in this literature are also theoretical. Much of the early work that addressed superintendent turnover was rooted in dissatisfaction theory. This theory suggests that districts experience long stable periods of school board membership during which community dissatisfaction with district performance gradually builds until reaching a tipping point, at which time school board members are thrown out of office and their successors replace the superintendent, completing a new regime (Hosman, 1990; Iannaccone & Lutz, 1970; Weninger

& Stout, 1989).[2] Thus, dissatisfaction theory yields one prediction about superintendent turnover: that school board turnover will lead to higher rates of turnover among superintendents. But what about turnover during times of school board stability, a phenomenon that casual observation suggests is frequent but about which dissatisfaction theory is silent?

Existing literature on superintendent turnover offers little theoretical leverage on this important question. Ostensibly, superintendents leave their posts for many reasons other than termination by a newly elected school board. For example, in one survey of superintendents who had changed districts, four times as many respondents gave their reason for leaving as an opportunity to move to a larger district as said that the move was due to a "changing board/elections" (Glass, Bjork, & Brunner, 2000, 89), which suggests that career advancement is a more important factor for superintendent turnover than are the regime changes dissatisfaction theory predicts. Other studies have identified the stresses of difficult working conditions— including school board disharmony, the pressures of accountability, and the increasing complexity that accompanies changing student demographics—as reducing many superintendents' job tenures (e.g., McCurdy, 1992). To more fully conceptualize superintendent turnover, a broader framework is needed that can incorporate both the kind of involuntary turnover that dissatisfied communities may demand and the kind of voluntary turnover that superintendents seeking more prestigious positions or better working conditions may create.

A Labor Market Perspective

We suggest that superintendent turnover might more prudently be conceptualized as an outcome in the labor market for superintendents. Economic labor market models have been

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[2] Scholars have suggested that growing community apathy regarding school board elections and the increasing prevalence of single-issue board candidates have reduced the applicability of dissatisfaction theory to current school board and superintendent turnover (see Fusarelli, 2005).

widely applied to the study of turnover among teachers and school-level administrators (e.g., Baker, Punswick, & Belt, 2010; Guarino, Santibañez, & Daley, 2006). Applied to superintendents, this framework views turnover or retention as the result of a two-sided decision. On one side (labor supply), the superintendent weighs the costs and benefits of staying in his or her current position against the value of the next best available alternative. The decision to exit the district or not is a choice of which option provides the greater benefit-cost differential. Importantly, costs and benefits of a given job are both pecuniary and non-pecuniary, meaning that the superintendent considers not only salary and benefits but also working conditions, such as the quality of the working relationship the superintendent has with the school board. Because working conditions factor directly into job costs and benefits, differences in working conditions across districts are predicted to affect a superintendent's decision to stay or go. We refer to exits driven by superintendents' considerations of job costs and benefits as *voluntary turnover.*

On the other side (labor demand), districts similarly weigh the costs and benefits of retaining the current superintendent against the alternative of letting the superintendent go in favor of the next best available candidate. Benefits of hiring a new superintendent might include finding someone who will perform at a higher level or be a better fit with community needs. Costs might include monetary costs of early termination of the current superintendent's contract, the transactions costs of searching for a replacement, or the political or public relations costs of removing a superintendent who enjoys support among a significant portion of the community. If the district—or, more specifically, the school board—weighs the relevant costs and benefits and decides that the next best alternative provides a more positive benefit-cost differential, the current superintendent's employment is terminated, which we refer to as *involuntary turnover.*

The main advantage of conceptualizing superintendent turnover through the lens of the labor market is that it emphasizes that we can predict the factors that affect turnover by identifying which factors are likely to affect the benefit-cost calculation made by either superintendents or their school boards. On the side of superintendent considerations, this perspective points us towards factors such as salary, the assorted components of superintendent working conditions, and the availability of attractive alternatives, among others. For example, we might hypothesize that earning a high salary increases the benefit to a superintendent of staying in his or her position relative to what could be earned in another district, making voluntary turnover less likely.[3] On the side of district or school board considerations, it points us towards factors that might make alternative superintendent candidates relatively more attractive, such as poor performance by the current superintendent. What this lens makes explicit is the importance of considering forces that operate on both the superintendent and his or her employer.

This perspective on superintendent turnover also offers flexibility. It can easily incorporate workforce decisions other than moves to other districts, such as retirement, by including those possibilities and their costs and benefits in the choice set that superintendents consider in making the turnover decision. Moreover, it can accommodate dissatisfaction theory by conceiving of community dissatisfaction as a factor that increases the political costs to the school board of retaining the superintendent relative to seeking a replacement, which in turn increases the probability of involuntary turnover.[4]

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[3] Of course, a high salary might make involuntary turnover more likely if the school board believes it can better satisfy a tax-averse constituency with a less expensive alternative, which points out that some variables may differentially affect the superintendents' and boards' decision processes and lead to unclear predictions about net associations with overall turnover.

[4] Community dissatisfaction might also make the superintendent's job less enjoyable, increasing the relative attractiveness of other opportunities and increasing the odds of voluntary turnover as well.

A simple framework for understanding superintendent turnover based on these ideas is illustrated in Figure 1. The framework shows that turnover can flow either from the school board's decision to terminate a superintendent or a superintendent's decision to exit, which are determined by the respective considerations of the relative costs and benefits of retaining the superintendent (by the school board) and of staying in the district (by the superintendent). What remains is to identify potential factors that inform these benefit-cost considerations.

Identifying these factors exclusively from prior studies of superintendent turnover is difficult because of the small size of this research base. Thus, in identifying turnover predictors, we expanded our literature search to include studies of city manager turnover, which has long been a focus of scholars in the field of public administration. Numerous similarities between the two positions make drawing on this literature appropriate. Like superintendents, city managers are professional, well-educated career executives charged with overseeing the day-to-day operations of a complex public organization. Both kinds of executives often are promoted from "within the ranks" of management positions with their organizations (Watson & Hassett, 2004). Lastly, city managers typically are hired and then advised by a board of elected local trustees (i.e., the city council) with whom they co-create policies for the organization, providing an apt parallel with the relationship between superintendents and school boards (Zeigler, Kehoe, & Reisman, 1983). Given these resemblances, it is likely that the processes underlying city manager and superintendent turnover share some common themes.[5]

Our review of research on turnover among superintendents and city managers identifies four broad categories of factors that may contribute to the two-sided turnover decision, which are

[5] Of course, the analogy between superintendents and city managers is imperfect, so the application of the city manager turnover literature to superintendents will be as well. For example, as discussed by Ziegler, Kehoe, and Reisman (1983), superintendents traditionally have been more insulated from politics, tend to have less disagreement with their boards over their respective roles, and spend less of their time in conflict with the board or community, among other differences.

shown on the left side of Figure 1: characteristics of the school district; characteristics of the school board, including the board's relationship with the superintendent; characteristics of the superintendent relevant to his or her employment opportunities or choices (e.g., experience); and the superintendent's job performance, both actual and perceived. In reality, these categories overlap and inform one another in ways that the figure does not represent; the goal here is simply to categorize groups of potential predictors of turnover as a basis for empirical examination. We next discuss the research base supporting each category. Within each discussion, we first highlight findings from the existing literature on superintendent turnover, then describe relevant results from the related literature on turnover among city managers.

District Characteristics

Characteristics of the district in which the superintendent works can factor into both sides (i.e., employer and employee) of the superintendent turnover decision. In general, because of the emphasis on dissatisfaction theory in the literature, research has paid more attention to the impact of these factors on school boards' decisions to retain the superintendent or not. From this perspective, district and community characteristics might factor into the board's decision by affecting the likelihood that community members will become discontented with the superintendent and exercise their political power to pressure the school board to make a change (Alsbury, 2003; Iannaccone & Lutz, 1970).

Yet evidence that voluntary turnover in the superintendency occurs frequently—see for example Byrd et al.'s (2006) finding that 62.5% of superintendents in their study of Texas reported leaving their districts to pursue better opportunities[6]—suggests that the influence of

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[6] These numbers are comparable to those for city managers, of whom half are estimated to leave primarily for professional advancement (DeHoog & Whitaker, 1990).

district characteristics should be considered from the superintendent's side as well. From this view, district characteristics are important because they help define the working conditions that factor into the costs and benefits of remaining in the district versus taking other opportunities. Of particular interest are characteristics that are associated with superintendent stress (Richardson, 1998). Location may be such a factor, as evidenced by case study findings that feelings of professional isolation can contribute to rural superintendents' decisions to move (Tallerico & Burstyn, 1996). Another is the difficulty and complexity of the superintendent's task environment, which might be greater in districts that are larger, more heterogeneous, more financially constrained, or more populated with disadvantaged students (Grissom, 2010; Glass et al., 2000; Goldstein, 1992; Natkin et al., 2002).

Research on city manager turnover confirms the importance of considering place-based characteristics. In these studies, city characteristics such as small size, affluence, and racial homogeneity have been linked to lower rates of turnover (Feiock & Stream, 1998; McCabe, Feiock, Clingermayer, & Stream, 2008; Watson & Hassett, 2003). This literature has also recognized the importance of two additional factors in this category that contribute to the decision to stay or go. The first is salary. Higher salaries yield clear tangible benefits, and salary is one of the most frequent reasons for leaving cited by exiting city managers (Green, 1987). Similarly, in Watson and Hassett's (2003) study of long-serving city managers, respondents identified salary as an important reason for staying put. The second is job prestige, which is most often associated with the size of the population served (Watson & Hassett, 2004). Aside from salary, opportunities to advance their career and move to a larger government were the most frequently provided reasons for exit in Green's (1987) survey. Other studies in this area have also found such moves to be common (Whitaker & DeHoog, 1991; Barber, 1988).

Parker's (1996) study of superintendent movers in Texas also identified salary and prestige as important factors. Studying them empirically is a challenge, however. The highest-paid jobs are typically the most prestigious (Watson & Hassett, 2004), making them difficult to disentangle from one another. Also, while prestige and district size may be closely linked, large districts come with major challenges (e.g., changing demographic trends, difficulties recruiting personnel) that may offset turnover effects (Glass, Bjork, & Brunner, 2000). Moreover, salary and turnover are likely endogenous because districts with traditionally high turnover rates may use higher salaries as a means to attract and retain superintendents. Indeed, despite good theoretical support that salary matters, one previous analysis of the association between superintendent salary and turnover arrived at a null result (Byrd et al., 2006).

A related difficulty for analysis of these factors is that the potential impact of salary, prestige, and other district characteristics must be considered in the context of other available external opportunities. Low salaries might be particularly relevant to voluntary turnover if higher salaries are available in districts to which the superintendent might consider moving. At the same time, characteristics of the superintendent's current job might influence the likelihood that an external opportunity becomes available. For example, other districts might be more likely to hire superintendents who have experience in larger or more diverse districts.

The School Board

The relationship between the superintendent and the school board that supervises him or her is a central aspect of the superintendency. The school board is the superintendent's statutory employer and supervisor, and the two parties work together to co-create policy for the school district. Thus it is little wonder that in case-based studies of superintendent turnover, difficulties

related to working with board members are among the most frequently identified contributors (Parker, 1996; Richardson, 1998; Tallerico & Burstyn, 1996). These difficulties include conflict between the superintendent and board and the challenges of working with a board whose members cannot cooperate with one another, which are often related (Grissom, in press; Mountford, 2008). Reasons for poor relationships between superintendents and their school boards include role confusion, tendencies among some board members to micromanage, and incompatible approaches to decision-making (Danzberger et al., 1992; Kowalski, 1999; McCurdy 1992; Mountford, 2008).

Despite evidence that *positive* board-superintendent relationships are the norm rather than the exception (Glass, Bjork, & Brunner, 2000), findings from surveys of superintendents support the conclusion from qualitative studies that conflict with the school board is often an important factor in a superintendent exit. In surveys of superintendents who had left positions in Nebraska and South Carolina by Grady and Bryant (1991) and Monteith and Hallums (1989), respectively, board conflict or interference was cited by more than half of respondents as a contributor to their departure. In Eaton and Sharp's (1996) survey of superintendents to ask why their predecessor left the district, board relationship conflict was identified as a similarly large factor. Though not articulated in these studies, it is important to emphasize that intraboard conflict and a strained relationship between the board and the superintendent can influence both the superintendent's decision to stay or go and the board's decision to retain the superintendent or not.

The city manager turnover literature has similarly identified relationships among council members and with the manager as major drivers of exits (e.g., Kammerer et al., 1962; DeHoog & Whitaker, 1990). In a longitudinal study of city managers in Florida, Whitaker and DeHoog (1991) found that conflict between council members accounted for a third of managerial

turnover, while conflict between manager and council accounted for another quarter. Using data

from a national sample of city managers, Kaatz et al. (1999) showed that political conflict with

council members increased feelings of burnout among city managers, which in turn led managers

to predict higher likelihoods they would quit. In contrast, respondents in Watson and Hassett's

(2003) national study of city managers serving 20 or more years in the same city all reported city

councils supportive of the manager, of which 67 percent were "highly supportive" (p. 75).

Though the city manager literature has focused less on the underlying mechanisms driving

council-manager conflict, Svara (1999) finds similar issues of role ambiguity and confusion

among council members that superintendent-board research identifies. Research has also

examined institutional characteristics that might create political conflict or other mediators that

might in turn make superintendent turnover more likely. In particular, scholars have investigated

city council election type under the hypothesis that at-large (as opposed to sub-district or ward)

elections facilitate homogeneity and consensus (see Grissom, in press, for a discussion). Some

studies have found higher levels of city executive turnover in ward elections (e.g., Clingermayer

& Feiock, 1995), while others have found no association (Whitaker & DeHoog, 1991).

Superintendent Characteristics

Personal characteristics of the superintendents themselves also are likely to impact

turnover, though a scarcity of studies means here means we must rely heavily on the city

manager literature. In research specific to superintendent turnover, scholars have suggested the

importance of such personal factors as race and gender (e.g., Tallerico & Burtsyn, 1996), though

other studies have not found effects of these variables on length of tenure (Natkin et al., 2002).

Parker (1996) notes that retirement is a common reason for superintendent exits, suggesting age

is a factor. Natkin et al. (2002) find that superintendents with more advanced degrees are less likely to turn over, though again, other studies have found no degree effects (Byrd et al., 2006).

The difficulty of nailing down the impact on turnover of superintendent qualifications in general is that there are potentially competing "push" and "pull" effects. Take the example of job experience, the most studied personal characteristic in the city manager literature. On one hand, more experienced managers become more settled and more invested in their communities, making it less likely that they would want to move. On the other hand, external opportunities are likely to pull harder on superintendents with more desirable characteristics, such as greater experience, which may make moves more likely. In light of these countervailing forces, it is not surprising that empirical results are mixed. Some studies find that inexperienced city managers turn over at higher rates, particularly as they move for professional advancement (Barber, 1988; DeHoog & Whitaker, 1990; Feiock & Stream, 1998; Green, 1987; Whitaker & DeHoog, 1991). However, Whitaker and DeHoog (1991) reported that older, more experienced managers are more likely to leave, not for advancement but for retirement. This result emphasizes the importance of considering age alongside experience in examining turnover.

City manager research also has examined the role of other qualifications. One is academic preparation. Despite the potential impact on external opportunities, studies of city government generally have found that higher degree attainment is associated with lower turnover (Feiock & Stream, 1998; Whitaker & DeHoog, 1991). Other studies find that "homegrown" city managers—i.e., those hired from within the system rather than from outside—serve longer tenures (Watson & Hassett, 2004).

Superintendent Performance

The final factor we identify as contributing to superintendent turnover is job performance. How well the superintendent performs in the job is relevant to both the school board's and superintendent's decisions about continuing employment. From the school board's perspective, the direction of the relationship between performance and this decision presumably is clear. Low-performing superintendents are more likely to generate community or board dissatisfaction, increasing the probability that the board chooses to let the superintendent go. From the perspective of the superintendent, the direction is murkier. To the degree that strong performance increases one's job satisfaction, performance and voluntary turnover may be negatively correlated. At the same time, strong performance in one district may increase the pull from other districts who seek to hire away an effective superintendent, in which case the probability that a superintendent voluntarily leaves his or her current district might be greater for high performers. Given these different forces, it is also possible that the overall relationship between performance and turnover is nonlinear, with low-performers facing pressures that push them out of the district, high-performers facing outside opportunities that draw them away from the district, and average performers facing neither of these forces and thus showing greater propensities to stay.

Testing a relationship between turnover and performance assumes that a reasonable measure of performance is available. Given the current test-based high-stakes accountability era, student test scores are one candidate, though at least one prior empirical study questions the assumption that superintendents affect student test scores, at least in the short term (Ehrenberg, Chaykowski, & Ehrenberg, 1988). An alternative is subjective assessment of superintendent performance by the public or school board, for example, which may have more direct relevance for the superintendent's continued employment.

Aside from appropriate specification and measurement of performance in an empirical model, an additional challenge for identifying the link between this construct and superintendent turnover is the interrelationship performance has with the other categories we have discussed. For example, poor superintendent performance might be both a cause and effect of intra-board or board-superintendent conflict. Moreover, a superintendent's ability to perform at a high level may be a function of the district environment or his or her own qualifications.

Though there is some evidence that districts consider performance in superintendent hiring decisions (Hamidullah, Wilkins, & Meier, 2009), we identified no studies that have directly tested the association between superintendent performance and turnover. Tests of this association for city managers have led to mixed results. Measuring performance as economic growth in the municipality, studies have suggested both that poor performance may push city managers out of office and that managers capitalize on strong performance by moving on to more prestigious city manager positions (see Feiock et al., 2001; McCabe et al., 2008).

A simple summary of the discussion in this section might be that research on the superintendency and elsewhere in the public sector suggests that we can no longer frame superintendent turnover merely as a function of community and school board relations. A complex set of factors weighed by multiple actors determine turnover decisions. In the next section we evaluate a set of these factors in the context of superintendent turnover in California.

Data and Methods

The primary data for this study come from two original survey data collections. During the 2005-06 academic year, one of the authors collected survey data from a stratified random sample of school board members in California via mailed questionnaires (see Grissom, 2010). The survey questioned respondents about the practices of their boards, their recent elections,

their attitudes about their work, and other areas pertaining to school board practice. A total of 1,110 board members on 222 school boards[7] were surveyed, with 703 responding, a response rate of 63%. At the same time, a shorter survey of superintendents in the 222 districts was also conducted; the superintendent survey achieved a response rate of 71%. Survey data were merged with administrative data obtained by the California Department of Education (CDE) and the National Center for Education Statistics' (NCES) Common Core of Data (CCD).

The independent variables included in the study cover each of the four categories of predictor variables identified in the conceptual framework (Figure 1). The first is district characteristics, all of which were gleaned from CDE and CCD administrative data for the same year as the survey. To capture location, we included indicators for whether the district is urban or rural (suburban omitted). As proxies for the complexity in the district environment, we included the percentage of students in the district who are free or reduced price lunch eligible, a measure of poverty; the percentages of the students in the district who are African American and Hispanic; per-pupil expenditures, which we adjusted by the NCES-supplied Comparable Wage Index to account for regional cost differences (Taylor et al., 2001)[8]; and an indicator for whether the district is unified, or contains all K-12 grades, as opposed to elementary or secondary only. Superintendent salary came from CDE finance files. Finally, because prior research has closely linked job prestige to district size (e.g., Parker, 1996), we included student enrollment.[9] As discussed below, we experimented with a number of operationalizations of this variable (e.g., natural log) because of the highly right-skewed distribution of district size across California.

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[7] California has approximately 975 school districts, so information was obtained from nearly one-fourth of them.
[8] The Comparable Wage Index is a measure of systematic salary variations across regions, based on data from the U.S. Census and the Bureau of Labor Statistics. Because personnel costs are the largest line item in school district budgets, the index helps adjust district expenditures for the cost of doing business in that geographic area.
[9] As previously discussed, district size also serves as a measure of district complexity.

The second category in the conceptual model is characteristics of the school board. Our review of the literature suggested that it is important to include measures of how the school board works together and how it works with the superintendent. Four such items were available from the school board survey.[10] These items, shown in Table 1, capture four aspects of school board functioning: working together, communicating, governing effectively, and maintaining good relations with the superintendent. As is apparent in the table, these items were all highly correlated, suggesting that they measure one underlying latent performance factor (Cronbach's α = 0.87). That is, boards that work together well also work well with the superintendent, so treating those variables as distinct would be potentially misleading and induce multicollinearity in the empirical models. Instead, we conducted a factor analysis of the variables, which revealed one underlying factor (Eigenvalue = 2.6). We label this factor *school board function.* Factor scores for this trait were calculated for each district using the standard linear scoring method. To confirm that the validity of this measure in capturing the board's relationship with the superintendent, a similar analysis was performed on a comparable set of items from the superintendent survey, which also revealed one underlying factor (Cronbach's α = 0.88). The correlation between the two factored variables was 0.69, suggesting the two variables indeed measure the same construct. We used the school board-derived measure in the multivariate analysis to avoid bias arising, for example, from superintendents who plan to soon leave the district and thus rate their school boards' performance less highly.

City manager turnover studies also identify board election type as a potential contributor predictor of board-superintendent decision-making and relationship quality (Clingermayer & Feiock, 1995). Thus we also included an indicator variable for whether board members report being elected in single-member (rather than at-large) elections.

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[10] Board member responses were averaged at the board level.

The third category of independent variables is superintendent characteristics. Because they are gleaned from the superintendent survey, we have these data for only a subset of the full set of surveyed districts. For demographic characteristics, we included indicators for whether the superintendent is female or nonwhite[11], as well as age in years. Given the large number of city manager turnover studies investigating experience, we included the number of years the superintendent has held his or her current position. We also used three measures of qualifications that may make the superintendent more desirable to their current (or another) district. The first two measure academic preparation. The first is an indicator for whether the superintendent holds a doctorate. The second is a measure of the competitiveness of the undergraduate institution from which the superintendent graduated, which other studies have identified as a proxy for strength of academic background (e.g., Ballou, 1996) and linked to greater mobility among school principals (Baker, Punswick, & Belt, 2010). We operationalized this variable as an indicator for attending a college at the level of "Competitive" or higher according to Barron's ratings.[12] Third, we included an indicator for whether the superintendent reports having been promoted to his or her position from within the school district, a relevant factor in other turnover studies (e.g., Watson & Hassett, 2004).

Lastly, we included two measures of superintendent performance. Assuming that superintendents are evaluated—formally or informally—in part on student test score performance in the last year, we included as an "objective" measure growth on the Academic Performance Index (API) during the 2005-06 academic year. CDE calculates API growth for accountability purposes for each school district in each year based on weighted growth in

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[11] Because of the small number of nonwhite respondents, we did not decompose this variable by race or ethnicity.
[12] Respondents were asked what institution they obtained their undergraduate degree from; to these institutions we assign ratings of competitiveness using data from Barron's *Profiles of American Colleges* in 1980, the closest year corresponding to the time at which the median-aged principal would have attended college that we could obtain.

standardized test score performance across grades and subjects.[13] As a subjective measure, we used school board members' perceptions of superintendent performance, measured with school board survey responses to the statement, "The superintendent of my district is doing a good job." Responses employed a five-point Likert scale and were averaged at the district level.

Measuring Superintendent Turnover

Superintendent turnover was measured by whether the superintendents in the original sampling frame of 222 school districts were still the superintendent in the district in January of 2009, approximately three years after the survey. To ascertain whether the surveyed superintendent remained in his or her position, research assistants queried school district web sites and contacted district central offices. From this search, we created a binomial measure of turnover coded as 1 if the superintendent had left the district after three years and 0 if not.

Once a list of superintendents who had left their districts had been compiled, we attempted to identify the reason the superintendent left, first by searching for newspaper accounts in Nexis, Factiva, and online archives of local newspapers, then by examining school board meeting minutes on district web sites and by contacting current district office personnel. Among the 99 superintendents identified as turning over, we were able to categorize turnover for 93. These categories were: retirement (N = 37, 40%); termination (N = 2, 2%); resignation to take a job in another district (N = 25, 27%); resignation for other or unapparent reasons (N = 17, 18%);

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[13] In general, CDE changes the set of metrics and weights used to calculate the API from year to year, which prevents us from using the API to calculate long-run measures of district performance. Each year CDE does provide a one-year API growth measure based on a common set of metrics and weights to make consecutive year comparisons feasible; it is this growth measure that we utilize in our analysis.

or the superintendent was in an interim position or in a position that was eliminated (N = 12, 13%).[14] We make use of these categories in our multinomial analysis.

Modeling Superintendent Turnover

To investigate the factors contributing to superintendent turnover, we ran two types of models. The first, a typical analysis employed in quantitative studies of employee turnover, models the probability that a superintendent exits as a function of observable characteristics. For this analysis, our dependent variable was the binary turnover indicator we obtained for virtually all districts in the original sampling frame. Our independent variables were the district, school board, superintendent, and performance measures described previously. Because of the binary nature of the response variable, these models were estimated via standard logistic regression techniques (see Appendix for further description).

To extend the approach typically employed in the turnover literature, however, we next utilized the data we obtained on why each superintendent exited. Here we separated turnover into categories to test the possibility that some observable factors may predict some kinds of turnover but not others. For this analysis, we considered retirement as one class of turnover and resignations and terminations as another, which we label *non-retirement exits*.[15] The 12 superintendents in interim or eliminated positions were dropped. We then estimated the probability of falling into the categories of {*stay*, *retirement*, *non-retirement exit*} using

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[14] Nearly all of the turnover incidents were categorized from newspaper accounts, though in 8 cases we relied on calls to district offices. Because we cannot be sure that the sources for these categories are completely reliable, it is likely that we have introduced some measurement error into these turnover classifications that likely is *not* present to the same degree in the binary turnover measure, which only required knowledge of whether the superintendent was still in the district and in most cases was apparent from district web sites or other reliable sources.

[15] We chose to group terminations with resignations rather than consider them separately because we only recorded two terminations in the entire data set and because we could not be sure that some of the resignations were not *de facto* terminations themselves, which might occur if a superintendent resigned under pressure. Dropping the terminations makes little difference for the estimates.

multinomial logistic regression (see Appendix). The same variables used in the binary analysis were included as predictors.[16]

Results

Descriptive Analysis

Table 2 provides descriptive statistics for two samples: the full sample of districts from which school board responses were obtained (which is almost every district to which the school board and superintendent surveys were administered), and the subsample of districts for which responses were obtained from the superintendents. Because the use of superintendent survey data will impose a large restriction on the samples employed in some models, it is important to verify that the two samples are similar on observable characteristics.

Obviously, only variables obtained from administrative data and the school board survey are available for both samples. Among these variables, however, the two samples appear to be quite similar. Mean superintendent turnover was slightly higher for the full sample (0.45) than the sample of survey respondents (0.35), but the distribution across types of turnover was comparable. District characteristics are also very similar across the full and survey samples. The full sample is slightly less urban and more rural, but this shift is just 3 percentage points, and the fraction of suburban superintendents in both samples is identical. The superintendent survey sample has slightly larger school districts with somewhat lower adjusted per-pupil spending (about $500 per year), but other characteristics show only marginal differences. Superintendent performance measures across the two samples were also comparable. The full sample of districts had slightly higher mean API growth than the sample of superintendent survey respondents (12.0 vs. 10.7), though the school board evaluations for the smaller sample were marginally higher

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[16] Measurement error in the categorical measures (see note 14) can result in inflated standard errors in the multinomial models, though, given the groupings used, this concern is only relevant to the degree that we unreliably differentiate retirement from other forms of exit.

(4.33 vs. 4.42). In short, it does not appear that there are important differences in observable characteristics between the two samples employed in the study.

One motivation for this study is that much of the research and media attention on superintendent turnover has been directed at large urban districts (Buchanan, 2006), whose turnover patterns may not be representative of school districts more generally. Initially, we conducted a simple χ^2 test for differences in turnover rates across urban, suburban, and rural districts, but found the three means to be qualitatively similar (all in the range of 43% to 49%) and not statistically significant ($p = 0.64$). Similarly, when we looked at average enrollment size for districts whose superintendents turned over relative to those who did not, the means were virtually identical ($p = 0.98$ in two-sided t-test).

A closer examination of the turnover-district size relationship revealed a striking pattern, however, namely that superintendent turnover rates are very similar across the size distribution *except* for the very largest districts. To illustrate, a plot of mean turnover rates by decile of enrollment size is shown in Figure 2. Through the first nine deciles, the average three-year turnover rate is 45%. For the largest 10% of districts, however, this rate is 71%. A t-test of this difference shows it to be statistically significant ($p = 0.01$). Note that the smallest district in this highest decile, which has a mix of suburban and urban districts, enrolls approximately 29,000 students; the largest two enroll more than 100,000 students. From these observations we draw two conclusions. First, we see a suggestion that indeed turnover in the largest districts may differ from that in other districts, with district size more relevant than simply being urban. Second, care should be taken in the operationalization of district size in the multivariate models.

Logistic Regression Results: Binary Turnover Measure

Our first multivariate analysis models the binary turnover indicator as a function of observable characteristics using logistic regression. At the outset, because of its high correlation with district size (r ranged from 0.70 to 0.83, depending on whether district size was entered in natural log form) and resulting concerns about multicollinearity, we were forced to drop superintendent salary from the models. After dropping salary, models were again tested for multicollinearity by calculating variance inflation factors (VIF); despite moderately high correlations among some remaining variables (e.g., rural and district size: $r = $ -0.64; percent Hispanic and percent free/reduced lunch: $r = 0.66$), no variable had an individual VIF above 4.0, and the mean VIF was just 1.8, suggesting multicollinearity concerns were no longer present.[17]

The logistic regression results are shown in Table 3. Coefficients are displayed as odds ratios. The first model includes only district-level characteristics. As in the descriptive analysis, there is no association evident between the location variables (urban and rural) and turnover. For student demographic characteristics, student poverty is positively statistically associated with higher turnover, which is consistent with our expectations. Percent Hispanic is negatively associated and percent African American shows no significant association. These patterns hold across all five columns.[18] The results regarding student race and ethnicity characteristics are surprising given studies of turnover among school administrators, which have found rates to be higher in districts with larger numbers of minority students (e.g., Baker, Punswick, & Belt, 2010). Neither per-pupil spending nor unified status is associated with higher turnover in column

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[17] Aside from the correlations mentioned, few pairwise correlations among independent variables were above 0.30. District size (ln) was the variable most consistently moderately correlated with other variables in the models, including with urban (0.51), percent African American (0.44), and adjusted spending (-0.49).

[18] This pattern also holds in a model that is not conditional on any other factors. It is important to note that the percent Hispanic coefficient conditions on student poverty, and the two are highly correlated ($r = 0.6$), so we would not conclude that the average district with more Hispanic students has lower superintendent turnover. In fact, if free and reduced price lunch is dropped from the model, percent Hispanic becomes statistically insignificant.

1, though note that unified status is positive and significant once superintendent characteristics are added to the model (column 3).

Column 1 also shows no evidence that student enrollment size is associated with higher turnover. This variable is entered in natural log form to reduce undue influence from outliers, though a similar result holds if the log is not taken. We saw in Figure 2, however, that the largest districts do seem to have higher turnover rates, so in column 2 we dropped the natural log of enrollment size in favor of an indicator for being in the top decile of enrollment to see if this effect holds after conditioning on the other variables in the model.[19] Indeed, the largest 10% of districts appear to have much higher turnover rates than the bottom 90% (the odds are 4.5 times higher), even accounting for other district characteristics.[20]

Columns 3, 4, and 5 add school board characteristics, superintendent characteristics, and the two together. The results in columns 3 and 4 are very similar to those in column 5, so we focus on the latter. For school board characteristics, column 5 shows that the survey-based measure of how well the school board functions, which includes the relationship with the superintendent, is a significant predictor. For a one standard deviation increase in the function variable, the model predicts a 37% decrease in the odds that a superintendent turns over. That is, districts with high-functioning school boards tend to have much less superintendent turnover. School board election type shows no evidence of an association.

Lastly, we examine superintendent characteristics. The measures of fit increase significantly when these characteristics are added, suggesting they have substantial power to explain who will leave their jobs. Although the gender and race/ethnicity variables are

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[19] We also experimented with other ways to operationalize this variable. Including indicator variables for all of the deciles (excluding the first) created problems with multicollinearity. Using quintiles instead reduced multicollinearity, but none of the quintiles was statistically significant, nor was either term significant if we used enrollment size and size squared.

[20] This variable is still significant if substituted for ln(Enrollment) in the full model in column 5.

insignificant, column 5 shows the important role of age: superintendents become much more likely to exit as they get older. This finding is consistent with the descriptive observation that retirements constitute a large portion of exits. We also tested whether there were nonlinear patterns for age by entering age in quintiles instead but found no evidence of nonlinearity (not tabulated). We performed a similar exercise for experience but found neither linear (as shown in column 5) nor nonlinear (not shown) associations for this variable. We similarly find no evidence that superintendents with doctorates turn over at different rates. Attending a more competitive college, however, appears to be associated with significant lower turnover ($p < 0.10$ in column 4, $p = 0.12$ in column 5); superintendents with stronger academic preparation are more likely to stay. Superintendents who were promoted from within the district are also more likely to remain in their positions. Odds ratios suggest reductions in odds of leaving of approximately 70% for both attending a competitive college and being hired from within.

Table 4 adds the three performance measures. All of the variables from Table 3, column 5 are included, though because their coefficients remained largely unchanged, they are omitted from the table for brevity. Column 1 shows the result of adding only short-term API growth, for which we find no evidence of an association.[21] Model 2 instead adds school board members' subjective evaluations of superintendent performance. Here, the effect is large, with higher evaluations associated, as expected, with much lower turnover odds. A one-point move in the evaluation, which is equivalent to a move from approximately the 25th to the 75th percentile for this variable, is associated with a reduction in the odds of superintendent turnover of

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[21] An alternative approach would be to include 2004-05 API level, either separate from or in addition to API growth, to control for district performance status. We took this approach initially. However, because of the high correlation between API level and the percentage of students eligible for free and reduced price lunch ($r = 0.75$), we dropped API level from the models.

approximately 75%. Column 3 includes both measures together; the patterns are unchanged.[22] Clearly, there is a role for superintendent performance in the turnover process, but this role is better captured by the subjective assessment of the superintendent's employer than in the state's test-based assessment of short-term school district performance.

Multinomial Logistic Regression Results: Separating Retirements from Other Turnover

The logit results suggest that a more nuanced examination of superintendent turnover than the typical binomial approach is appropriate. The relationship between turnover and age, in particular, suggests that retirements should be separated from other forms of turnover. Thus, we next ran multinomial logistic regressions that estimated the probability of superintendent retirement and non-retirement exit separately relative to staying put, the base category. Since including the superintendent characteristics reduced the analytic sample size, Table 5 displays models including and excluding those variables. Relative risk ratios are reported.

The first important observation from Table 5 is that very few variables consistently predict superintendent retirements. Only percent Hispanic (negatively) predicts retirements in both models; API growth is statistically significant in model 1 but not model 2, and unified district status is significant in model 2 but not model 1. Among superintendent characteristics, only superintendent age is statistically significant, and, as expected, it strongly positively predicts retirement probability (odds ratio $= 1.77$, $p < 0.01$).

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[22] Perhaps unexpectedly, API growth is uncorrelated with either the board measure of superintendent performance or the school board function factor. The correlation between the superintendent performance and board function measures is moderate ($r = 0.26$), suggesting that high-functioning school boards indeed have higher-performing superintendents (creating the function variable from superintendent survey responses instead shows that this correlation is in fact not merely a function of common source bias). While this correlation is logical, the performance of the two groups is not as highly correlated as one might expect, given the role of school boards in hiring and often managing the responsibilities of the superintendent.

In contrast, while superintendent age is not associated with non-retirement exits (i.e., resignations and terminations), most other factors shown to be associated with turnover in the logistic regression models show up as significant *only* for the these exits. Because the patterns are consistent across models, we focus on model 2. Among district characteristics, student poverty is associated with higher probabilities of non-retirement exits, while percent Hispanic is again associated with lower probabilities. Unified district status has a large positive coefficient, though its *p*-value misses conventional cutoffs for statistical significance ($p = 0.14$).[23]

Higher school board function is associated with much lower rates of non-retirement exit (odds ratio = 0.29, $p < 0.10$). There is also evidence that school board's subjective evaluation of superintendent performance is negatively associated with non-retirement turnover. The coefficient is statistically significant at the 0.05 level in model 1, and although no longer statistically significant at conventional levels in model 2, the odds ratio is virtually unchanged, suggesting that insignificance results from the smaller sample size (and resulting larger standard error) in model 2 rather than attenuation of the association. Among superintendent characteristics, none are meaningfully associated with non-retirement exit probability, with the exception of being hired from within, which is much more likely to be a characteristic of stayers than exiters (odds ratio = 0.03, $p = 0.02$).

Overall, the findings from the multinomial logit models suggest that *kind* of turnover should be considered in studies of superintendent turnover. Different turnover types are associated with different predictors. In particular, retirement appears to be largely a function of

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[23] The natural log of district enrollment is not statistically significant. Entering this variable as an indicator for "top decile" in model 1 results in statistically significant odds ratios of approximately 5 for both retirement and non-retirement. This coefficient cannot be estimated in model 2 because of the small number of top decile districts with superintendent survey respondents. If "top quintile" is used instead, the variable is only significant for non-retirement exits (odds ratio = 23, $p = 0.10$). Clearly, the relationship between district size and superintendent turnover is a complicated one in these data.

age, whereas other factors—including district characteristics and how the school board functions—matter for other kinds of turnover decisions.

Analysis of Superintendent Moves

Thus far, we have considered characteristics of superintendents and their *present* work environments that predict turnover. The theoretical discussion setting up this analysis, however, suggested that external factors matter in turnover decisions, as when superintendents leave to pursue more attractive opportunities (higher pay, better working conditions) in other school districts. Because testing directly for the impact of such outside factors on turnover is difficult given limitations on our data, we instead conducted a descriptive analysis of superintendent moves to provide suggestive evidence. The idea underlying this analysis is that differences in the "sending" and "receiving" districts for superintendents who change jobs might tell us about how superintendents think about potential alternative employment opportunities. If superintendent moves mirror those of principals, for example, we might expect superintendents to tend to move towards districts with fewer low-income and minority students and higher achievement (e.g., Clotfelter, Ladd, Vigdor, & Wheeler, 2007). If superintendents move to increase job prestige, we might expect moves towards larger districts and larger budgets.

For this investigation, we compared the 2005-06 characteristics of former and new school districts among superintendents we observe moving to new superintendent positions between 2006 and 2009. Information about the new employer of superintendent movers was captured from local news sources and, in some cases, direct contact with the school district. Among the 25 superintendents we classified as being "hired away" above, 13 became superintendents in other California districts, 9 took other leadership positions within California school districts, such as positions as assistant superintendents, and one took an undetermined position. We grouped these

together. Two additional superintendents took positions outside California, so we excluded them from our analysis. The average distance of a move, calculated as the distance between the administrative offices for the two school districts, was 94 miles (s.d. = 59).

Because of the small sample size, we conducted simple non-parametric comparisons of the district-level characteristics. For interval-level variables, we conducted Sign Tests of the null hypothesis that median difference between the former and new district is zero on each characteristic (see Snedecor & Cochran, 1989). For binary variables, we conducted McNemar Exact Tests for equality of the proportions for the former and new districts. The results are shown in Table 6.

In interpreting these results, it is important to remember that statistical power is relatively weak. Still, two important results stick out. The first is that there is no evidence that superintendents tend to sort towards districts with fewer traditionally disadvantaged students. In fact, median differences suggest that superintendents tend to move towards districts with *more* African American and Hispanic students, though neither of these differences is statistically distinguishable from zero. Similarly, there is no evidence in Table 6 that superintendents move to districts with higher achievement levels or achievement growth.

The table does, however, give an indication of trends in superintendent moves. Consistent with the hypothesis that superintendents tend to move to more prestigious positions, we find that superintendent moves typically result in a relatively large increases in enrollment size. At the median, this difference is approximately 2,300 students, statistically significant at the 0.01-level. Not surprisingly, the move to larger districts coincides both to much larger total budgets[24] and to differences in locale, with superintendents tending to move from rural districts to suburban ones.

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[24] Interestingly, in per-pupil terms, superintendent moves tend to correspond to *reductions* ($7,726 to $6,628, at the median, $p = 0.09$); total budget differences appear to be due entirely to increases in district size, not by higher spending per student.

Among movers, 57% were initially employed in rural districts, but, after moving, only 9% were, a statistically significant difference ($p < 0.01$). In contrast, only 39% of superintendent movers initially worked in suburban districts, compared to 76% after moving ($p < 0.05$). There was also a positive trend in the fraction running urban districts (4% to 13%), but this difference cannot be distinguished significantly from zero given the lack of statistical power. A final trend is that superintendents systematically move towards higher-paying districts, with an average salary differential of about $21,000 at the median ($p < 0.01$).[25]

Discussion and Conclusions

This study makes several contributions. First, it introduces the idea of considering superintendent turnover in the context of the broader superintendent labor market—in which decisions made both by school boards and superintendents are important—allowing for consideration of a larger set of factors than in most prior research. Second, it draws on insights from a longer public administration literature on city manager turnover to help frame turnover among superintendents, whose positions are similar to those of city managers along key dimensions. Third, it evaluates the contributions of factors prior superintendent turnover research has suggested as important, such as the role of the school board, alongside factors that have previously gone unexamined, such as evaluations of superintendent performance. Fourth, it separates retirements from other kinds of moves empirically to provide a more precise assessment of how different factors contribute differentially to those turnover decisions. Finally, it sheds light on patterns in superintendents' moves across districts, pointing toward a potentially fruitful area for further empirical inquiry.

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[25] Because we use 2005-06 values, the median salary difference is not the same as the pay jump the superintendent receives. We cannot calculate this number directly because we cannot always pinpoint from our sources the precise year that the superintendent changed districts. We also do not know the characteristics (e.g., experience) of the superintendent who held the superintendent's job in the receiving district previously, so we cannot be sure that the salary represents the salary a new superintendent with different characteristics would receive.

The results paint a complex picture of superintendent turnover and one that questions some commonly held assumptions. We introduced this study with the idea that much of what we know collectively about superintendent turnover comes from cases of turnover in the largest school districts (e.g., Buchanan, 2006). Considered alongside a representative set of school districts of other sizes, however, those districts appear atypical; three-year superintendent turnover rates in the top decile of enrollment size are approximately 30 percentage points higher than in the rest of the distribution, highlighting the need to expand our frame beyond case studies of urban districts if we wish to understand superintendent turnover more generally. Even controlling for district size and urban status, superintendent turnover is associated with other markers of a challenging district environment, such as a greater instance of student poverty. The inverse association between wealth and turnover—observed in turnover studies for other school system positions, including school administrators (e.g., Gates et al., 2006)—is potentially troubling, showing that turnover is higher in districts that might benefit most from stability at the top and the opportunities for sustained reform that come with it (McAdams, 1997).

Our results also question the assumption that community dissatisfaction—a dominant construct in this literature since Iannaccone and Lutz (1970)—plays a central role in most exits.[26] In our data, clear terminations of superintendents are very rare, though we do not discount the likelihood that some of the exits we coded as resignations included superintendents being pushed out by dissatisfied school boards, which may not have been evident from the sources we consulted. Moreover, we do find that superintendents leave more often when the school board views their job performance less positively. Still, consistent with other studies concluding that most superintendent turnover is in fact apolitical (Alsbury, 2003), we both document the

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[26] Importantly, given data constraints, our study does not directly test one of the main tenets of dissatisfaction theory—that superintendent turnover is often driven by turnover among school boards—so we cannot assess its explanatory power relative to other factors we consider. This avenue would be a fruitful one for future work.

importance of retirement as a frequent source of turnover (more than a third of those we observe) and provide evidence that superintendents often move for career advancement. Despite the apparent challenges associated with positions in larger urban districts that lead to high turnover, superintendents tend to move towards positions in those districts, perhaps because such moves increase pay and prestige (Parker, 1996). The importance of career advancement as a driver of superintendent turnover is consistent with our argument that turnover should be considered as an outcome in a labor market in which better external opportunities can attract superintendents away from their positions.

The pronounced trend for movers away from rural districts raises the question of whether such districts are used by some superintendents as "stepping stones" to more desirable positions. Studies have documented this phenomenon among other public sector workers in rural areas, including police officers (Wood, 2001), city managers (Watson & Hassett, 2004), and school administrators (Dlugosh, 1994). Although average turnover rates are not statistically higher in rural districts, the trend we observe suggests that rural districts have less success in hiring experienced superintendents than their more urban counterparts when turnover occurs.

Echoing findings from prior work, poor relationships with the school board—pegged to board operational ineffectiveness and conflict more generally—are important predictors of superintendent exits in our study. Although a key predictor, in most districts both the school board and the superintendent rate the board as high-functioning and their mutual relationship as positive in our survey data; for example, the average response to the item rating the school board-superintendent working relationship was 4.4 (on a 5-point scale) in the school board survey data and 4.5 for the superintendents (see also Glass et al., 2000). Unfortunately, high-conflict school boards with poor superintendent relationships are more likely in (already

turnover-prone) large, low-income districts (Danzberger et al., 1992; Grissom, 2010; McCurdy, 1992), compounding the likelihood that superintendents (or the board) become dissatisfied with their current employment situation and increasing the likelihood of turnover in those districts (Whitaker & DeHoog, 1991). If board dysfunction drives this sort of voluntary turnover, or if board dysfunction creates dynamics that makes them more likely to push out superintendents involuntarily, efforts to improve how well the school board works together and with the superintendent via board training or professional development may pave the way for greater leadership stability (Mountford, 2008; Grissom, in press).

Hiring "homegrown" superintendents rather than seeking district leadership from outside may also help counteract drivers of superintendent instability. Superintendents promoted from within the district are much less likely to leave, perhaps because, as Carlson (1961) found, they are more committed to the community. Yet Carlson (1961) also found that leaders hired from inside the organization are oriented towards maintenance of the status quo and are less likely to develop new policies that "prepare the organization for new ways of functioning" (p. 226), which suggests that increased leadership stability can come at the expense of district reform. Under-performing school districts may in fact be better off seeking innovative leaders from outside the district even if it means a shorter tenure is likely.

The study faces a number of important limitations. First, the data we used were drawn exclusively from California. While its diversity and size—it educates one-eighth of the nation's students—make California a useful setting for this examination, they also set the state apart. School districts in California tend to be more racially and economically heterogeneous and have less flexibility over resource use than districts in other states. Though the structure of

superintendent and school board positions are similar to those elsewhere, we cannot be sure that our results directly generalize outside the state.

A second limitation for the study is its inability to adequately tease apart voluntary and involuntary superintendent turnover and the factors that differentially predict them. In part, this is a sample size problem; we identified too few instances of involuntary turnover to examine it separately. This inability to identify cases, however, may have reflected our data collection approach. Involuntary superintendent turnover can be a politicized, controversial affair, and both participants and observers may have conflicting views of whether a superintendent is being pushed out or is resigning for other reasons. Formally, the superintendent may characterize a resignation as personal (e.g., to spend more time with family) or as facilitating other employment opportunities when it was, in fact, driven by board disagreement or an inevitable firing. Calls to districts, news accounts, or minutes from school board meetings may reflect only the formal story in this case, distorting our attempt to categorize. Future studies of superintendent turnover might attempt to triangulate the reasons for turnover using a combination of approaches, including surveys of multiple stakeholders, key informant interviews, media accounts, and other sources. Such data would allow deeper examination of our conceptual model.

Future analysis in this area would also benefit from longitudinal data. The data employed here are cross-sectional, which have little power to identify causal relationships. In a cross-section, we cannot be sure that the association between turnover and school board function, for example, is not driven by some unobserved characteristic of the school district (e.g., low social capital) that predicts both variables. Panel data can facilitate more rigorous analytic approaches (e.g., district fixed effects) that can help deal with such concerns. Data on superintendent employment over time would also facilitate other modeling approaches—i.e., survival analysis or

a competing risks hazard model that allows for different kinds of exit—with more power to uncover the predictors of turnover at different stages in a superintendent's tenure. Panel data can also provide means for dealing with the kinds of endogeneity that arise between turnover and variables such as salary. Though salary was a component of our conceptual model, limitations on the empirical model prevented us from treating it appropriately, though we do uncover suggestive evidence from a descriptive relationship between salary and mobility. Because salary is an obvious potential policy lever districts may pull in attempting to prevent superintendent turnover, future work that rigorously identifies the salary-turnover relationship would make a useful contribution to the literature.

Another relationship for which this study only scratched the surface was that between turnover and superintendent job performance. School board members' subjective evaluations of the superintendent's performance predicted turnover, but district performance did not. Perhaps superintendents are not held accountable for short-term school district test performance, which may be appropriate if, as some studies suggest, superintendents can have little effect on test scores (Ehrenberg et al., 1988). In this case, better identification of the outcome variables superintendents *do* affect would be a useful addition. In addition, future studies should employ strategies to account for the potential endogeneity that may arise if superintendent turnover and district performance each predict one another.

Ultimately, our analysis illustrates that superintendents exit positions for numerous reasons. As our conceptual emphasis on the two-sided nature of turnover decisions in the labor market predicts, some turnover is driven by factors that inform school boards' decisions about future employment (e.g., superintendent performance) while other turnover comes from superintendents' decisions to leave, which are informed by other factors (e.g., working

conditions, external opportunities). Still other turnover is the result of retirement decisions, which appear to be driven primarily by age. Practically, school districts might use these results to improve superintendent retention by focusing attention or resources on its antecedents. For example, districts might work to build supports for superintendents faced with increased administrative complexity in more challenging local contexts.

Appendix

This appendix provides a technical description of the models estimated in the tables in the main text. Tables 3 and 4 present estimates from logistic regression models of the binary turnover decision. These models are estimates of an equation of the form:

$$\Pr(y = 1|X) = \frac{e^{X\beta}}{1+e^{X\beta}} \tag{1}$$

where *y* is a turnover variable set equal to 0 if a superintendent stays and 1 if not, *X* contains values of each of the independent variables included in the models, and β is a vector containing the coefficients for each of these variables.

In Table 5, we analyze turnover not as a binary variable but as a categorical variable that differentiates exits into retirements and non-retirements, yielding a three-category variable that can take on values of *stay*, *retire*, or *other exit*. For this analysis, the following equation is estimated via multinomial logistic regression:

$$\Pr(y = m|X) = \frac{e^{X\beta_{m|b}}}{\sum_{j=1}^{J} X\beta_{m|b}} \tag{2}$$

The difference in equation 2 is that now we are estimating the probability that the categorical turnover variable *y* results in any of *J* = 3 outcomes *m*, where *m* = {*stay*, *retire*, *other exit*}. The subscript on β indicates that a separate vector of coefficients is estimated for each of the outcome categories in reference to the base category *b*, which in our case is *stay*. Thus, the estimate of equation 2 results in 2 vectors of coefficients, one corresponding to the probability that a superintendent retires (relative to staying) and one corresponding to the probability that a superintendent experiences a non-retirement exit (relative to staying). Further information regarding the estimation of logistic and multinomial logistic regression is available in Long and Freese (2006).

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FIGURE 1: A Framework for Understanding Superintendent Turnover

District Characteristics
- Location
- Level of challenge/complexity
- Salary offered
- Prestige

School Board Characteristics
- Board functioning
- Relationship with superintendent
- Election type

Superintendent Characteristics
- Age and other demographics
- Experience
- Qualifications (e.g., degrees)

Superintendent Performance
- Objective
- Subjective/Perceptual

School Board Consideration of Relative Costs and Benefits of Continued Employment (e.g., political costs, potential effects of new superintendent)

Superintendent Consideration of Relative Costs and Benefits of Continued Employment (e.g., salary and working conditions in another position)

School Board's Decision to Terminate

Superintendent's Decision to Exit

Turnover

Observe in data   *Do not observe in data*   *Partially observe in data*   *Observe in data*

FIGURE 2: Superintendent Turnover by District Size
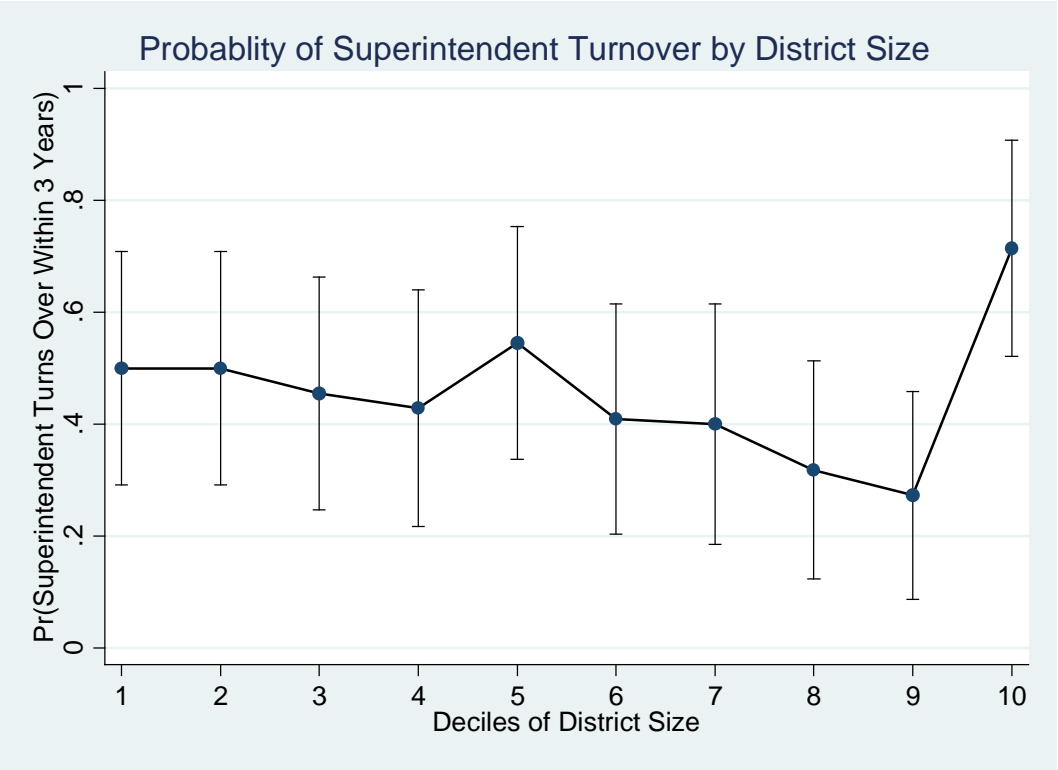
Notes: Mean turnover for each decile of district enrollment size plotted (unconditional). Vertical lines indicate confidence intervals for each mean.

TABLE 1: Correlation Matrix for School Board Function Variables

		(1)	(2)	(3)	(4)
(1)	My school board works together well almost always.	1			
(2)	My school board governs effectively.	0.72	1		
(3)	My school board communicates well with one another almost always.	0.86	0.65	1	
(4)	My school board has a good working relationship with the district superintendent.	0.55	0.50	0.53	1

All correlations significant at the 0.01-level.

TABLE 2: Descriptive Statistics

	Full Sample (N = 211)		Superintendent Survey Sample (N = 106)	
	Mean	*S.D.*	*Mean*	*S.D.*
Superintendent Turnover	0.45		0.35	
Retired	0.17		0.14	
Non-Retirement Exit (Resigned, Hired Elsewhere, Terminated)	0.19		0.15	
Excluded Exit (Interim, Position Eliminated)	0.09		0.06	
District Characteristics				
Urban	0.18		0.21	
Suburban (omitted category)	0.45		0.45	
Rural	0.37		0.34	
Percent district free/reduced lunch	42.3	25.21	42.83	24.08
Percent African American	3.89	5.63	4.14	5.72
Percent Hispanic	32.29	25.85	36.65	25.44
Per-pupil spending (CWI adjusted dollars)	8277	3990	7785	2782
Unified district	0.38		0.42	
Superintendent salary (in dollars)	131832	49325	134029	41656
ln(Enrollment)	7.45	2.05	7.8	1.72
School Board Characteristics				
School board functioning (factor)	0	1	-0.07	1.05
Single-member (ward) election type	0.12	0.31	0.08	0.26
Superintendent Characteristics				
Female			0.28	
Nonwhite			0.15	
Age			55.48	5.23
Years as superintendent			4.23	3.63
Holds a doctorate			0.32	
Attended a competitive college or university			0.89	
Promoted from within district			0.35	
Performance Variables				
API growth, 2005-2006	11.95	19.29	10.69	17.04
School board evaluation of superintendent performance	4.33	0.6	4.42	0.51

TABLE 3: Logistic Regression of Probability That Superintendent Turns Over within Three Years

	(1)	(2)	(3)	(4)	(5)
District Characteristics					
Urban	0.91	0.68	0.37	0.76	0.31
	(0.39)	(0.31)	(0.30)	(0.34)	(0.26)
Rural	1.03	0.97	1.09	0.86	0.84
	(0.40)	(0.36)	(0.84)	(0.35)	(0.66)
Percent district free/reduced lunch	1.02*	1.02*	1.05**	1.02**	1.05***
	(0.01)	(0.01)	(0.02)	(0.01)	(0.02)
Percent African American	1.01	1.00	0.97	1.00	0.96
	(0.03)	(0.03)	(0.05)	(0.03)	(0.05)
Percent Hispanic	0.98**	0.98**	0.95***	0.98**	0.95***
	(0.01)	(0.01)	(0.02)	(0.01)	(0.02)
Per-pupil spending (CWI adjusted dollars)	1.00	1.00	1.00	1.00	1.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Unified district	1.38	1.24	5.51**	1.38	5.91**
	(0.50)	(0.41)	(4.08)	(0.52)	(4.54)
ln(Enrollment)	1.08		1.18	1.01	1.06
	(0.14)		(0.36)	(0.14)	(0.33)
In top decile of enrollment		4.46**			
		(2.77)			
School Board Characteristics					
School board function (factor)			0.69**		0.63*
			(0.11)		(0.17)
Single-member (ward) election type			0.85		0.65
			(0.43)		(0.80)
Superintendent Characteristics					
Female				0.45	0.50
				(0.29)	(0.33)
Nonwhite				0.81	0.71
				(0.66)	(0.63)
Age				1.18***	1.18***
				(0.07)	(0.07)
Years as superintendent				1.03	1.04
				(0.07)	(0.08)
Holds a doctorate				0.63	0.62
				(0.41)	(0.43)
Attended a competitive college or university				0.25*	0.29
				(0.21)	(0.23)
Promoted from within district				0.29**	0.26**
				(0.18)	(0.17)
Observations	215	215	211	106	106
Pseudo R^2	0.037	0.057	0.051	0.275	0.296
Percent correctly classified	63%	65%	63%	81%	82%

*Odds ratios shown. Standard errors in parentheses. * p<0.10, ** p<0.05, *** p<0.01.*

TABLE 4: Logistic Regression of Probability That Superintendent Turns Over within Three Years, Including Performance Measures

	(1)	(2)	(3)
API growth, 2005-2006	0.98		0.99
	(0.02)		(0.02)
School board evaluation of superintendent performance		0.23**	0.25**
		(0.14)	(0.15)
Observations	106	106	106
Pseudo R^2	0.303	0.342	0.346
Percent correctly classified	83%	84%	80%

*Odds ratios shown. Standard errors in parentheses. * p<0.10, ** p<0.05, *** p<0.01. All models include the full set of district, school board, and superintendent characteristics.*

TABLE 5: Multinomial Logit Analysis of Superintendent Turnover

Base Category = No Turnover	(1) Retirement	(1) Non-Retirement Exit	(2) Retirement	(2) Non-Retirement Exit
District Characteristics				
Urban	0.55	0.45	0.50	0.01
	(0.35)	(0.31)	(0.68)	(0.03)
Rural	1.32	0.86	1.57	0.55
	(0.84)	(0.53)	(2.49)	(0.76)
Percent district free/reduced lunch	1.02	1.03**	1.06	1.06*
	(0.01)	(0.01)	(0.05)	(0.03)
Percent African American	0.98	1.02	1.00	1.01
	(0.04)	(0.04)	(0.08)	(0.09)
Percent Hispanic	0.97**	0.97**	0.92*	0.91***
	(0.01)	(0.01)	(0.04)	(0.03)
Per-pupil spending (CWI adjusted dollars)	1.00	1.00	1.00	1.00
	(0.00)	(0.00)	(0.00)	(0.00)
Unified district	1.58	1.93	10.86*	12.24
	(0.87)	(1.07)	(14.74)	(21.07)
ln(Enrollment)	1.40	1.04	0.93	1.22
	(0.29)	(0.22)	(0.51)	(0.82)
School Board Characteristics				
School board function (factor)	1.07	0.64**	2.86	0.29*
	(0.27)	(0.14)	(2.01)	(0.19)
Single-member (ward) election type	1.33	1.36	0.71	0.74
	(0.91)	(0.91)	(1.34)	(2.93)
Superintendent Characteristics				
Female			0.12	1.46
			(0.16)	(1.70)
Nonwhite			2.42	0.16
			(3.59)	(0.27)
Age			1.77***	0.91
			(0.34)	(0.11)
Years as superintendent			1.04	1.07
			(0.14)	(0.23)
Holds a doctorate			1.08	0.82
			(1.36)	(1.11)
Attended a competitive college or university			0.13	0.66
			(0.19)	(1.06)
Promoted from within district			0.92	0.03**
			(1.13)	(0.05)
Superintendent Performance				
API growth, 2005-2006	1.04**	1.01	1.00	1.06
	(0.02)	(0.01)	(0.05)	(0.04)
SB evaluation of superintendent performance	0.60	0.45**	0.22	0.41
	(0.23)	(0.16)	(0.23)	(0.43)
Observations	189		100	
Pseudo R^2	0.121		0.517	

Relative risk ratios shown. Standard errors in parentheses. * p<0.10, ** p<0.05, *** p<0.01. Interim superintendents and superintendents whose positions were eliminated are excluded from the analysis.

TABLE 6: Comparison of Characteristics of Former and New Districts for Superintendents Who Move

Variable (2005-06 values)	Former District	New District	Difference (New - Former)	p-value
		Medians		
Percent African American	1%	2%	1%	0.17
Percent Hispanic	13%	14%	1%	0.38
Percent district free/reduced lunch	38%	38%	0%	0.52
Enrollment	605	2905	2300	0.003***
Total budget size (in $100,000s)	46.9	205.1	158.2	0.003***
Academic Performance Index level (2005)	751	743	-8	0.19
Academic Performance Index growth, 2005-2006	17.00	9.50	-7.50	0.12
Superintendent salary	109761	131110	21349	0.004***
		Proportions		
Urban	0.04	0.13	0.09	0.63
Suburban	0.39	0.78	0.39	0.04**
Rural	0.57	0.09	-0.48	0.003***
Unified district	0.48	0.61	0.13	0.45

*N = 23. p-value given for the interval-level variables is from a Sign Test of Difference in Medians. p-value for the binary variables is from a McNemar Exact Test. * p<0.10, ** p<0.05, *** p<0.01.*