THE EFFECTS OF WITHIN-SCHOOL CONTROL AND INFLUENCE ON TEACHER OUTCOMES: EXAMINING EVIDENCE ACROSS VARYING CONTEXTS

by
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Abstract

Past studies have suggested that having a highly qualified and stable teaching force has key implications for school outcomes. Teacher turnover research has explored a variety of factors that include teacher characteristics, compensation policies, and school demographics, as well as the social conditions, organizational structure, and climate of schools. One key piece of knowledge imparted by the collection of such studies is that school context is essential for understanding teacher outcomes. Scholars have also suggested more recently that among the various aspects of the schools as a workplace, influence and control—the local authority in making decisions regarding school operations and instruction—have increasingly become an important consideration in understanding teacher outcomes, especially in light of the two decades of a persistent push to strengthen external accountability control over school operations. Hence, this dissertation aimed to fill gaps in existing research by addressing the following questions: (1) to what extent are within-school control and influence (i.e., teacher autonomy, principals' authority, and families' school-based engagement) related to teachers' satisfaction, job commitment, and voluntary turnover? (2) do these connections differ across varying school contexts, and across different time points? (3) broadly, what are key factors considered by teachers in deciding to move schools or leave the profession? Data from the Schools and Staffing Survey and the Teacher Follow-up Survey were used, and logistic and multinomial logistic regression analyses, as well as descriptive analyses, were conducted using appropriate survey weights and state cluster-robust standard errors. Major findings of the study were that teachers are more satisfied when they have the power to make decisions regarding the "what" and "how" of student instruction and

discipline, particularly in more traditionally disadvantaged contexts. It was also evident that teachers desire opportunities for growth as a professional. Furthermore, the levels of instructional control existing within the school, which have notably decreased over the years, were linked to teachers' commitment to the profession and their likelihood of staying in the profession. Other study findings, as well as their implications for the field, are discussed in Chapters 4-7.

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CHAPTER 1

Introduction

A stable and highly qualified teaching force is sine qua non for school success and positive student outcomes (Johnson, 1990; Rivers & Sanders, 2002; Nye, Konstantopoulos, & Hedges, 2004). Throughout the last two decades, education researchers, policymakers, and administrators, have focused on improving teacher quality as a key lever for increasing student achievement (Darling-Hammond, 2000). While debates regarding the definition of teacher or teaching quality persist to this day, holding teachers' instructional practices and curricular choices to high standards and instituting routine testing for the purpose of high-stakes evaluations have been the predominant choice of strategy for districts and schools. Such accountability policies aimed at improving the quality of instruction and the rigor of curricula have been the centerpiece of systematic school reform efforts in the last fifteen years (Clotfelter, Ladd & Vigdor, 2011; Cavanagh, 2011; Johnson & Papay 2009).

To a large extent, the stage for these reforms has been set by federal education laws and policies that have had monumental impact on American public schools (McGuinn, 2012). First, the No Child Left Behind (NCLB) Act set out to alleviate school inequalities and resulting student achievement gaps by using sanctions to ensure that schools continued to make progress every year in terms of average student performance on high-stakes tests, as well as in terms of gaps in achievement among different subgroups of students. As part of these efforts, there was great interest in creating better tools for evaluating schools and their teachers. The Race to the Top (RTTT) initiative

departed from the use of punitive sanctions for holding school accountable, but instead required districts and schools to build systems for incentivizing quality teaching (McGuinn, 2012). To this end, there was unwavering demand for effective means of evaluating teacher performance. Under RTTT, the push for standardizing the meaning of rigor in instruction and curriculum for all schools in all states also led to the creation of the Common Core State Standards (Rothman, 2011). These strategic decisions were driven by the need to ensure that quality of teaching was evenly distributed across all schools.

It appears that somewhat overshadowed by this focus on teacher quality was the issue of teacher retention and shortage, which are equally important matters. Under the optimal circumstances, one step towards building a more equitable education system would be if all schools, regardless of their history of student performance, racial and socioeconomic composition, or other characteristics of their context, could be staffed with a steady supply of highly qualified teachers. However, the reality faced by today's schools is starkly detached from this ideal (Guarino et al., 2006; Ronfeldt, Loeb & Wyckoff, 2013; Simon & Johnson, 2015).

Recently, there has been a rising sense of urgency around the issue of teacher attrition. Studies have shown that the current education system is facing an exacerbating issue of high teacher turnover and shortage of teacher supply (Simon & Johnson, 2015). Incorporating data on teacher education enrollments and the estimated number of teacher re-entrants based on historical trends, Sutcher, Darling-Hammond, and Carver-Thomas (2016) projected that in 2016, teacher supply will hit its lowest point in ten years. This concern is particularly acute in schools with high proportions of low-income and minority

students (Ronfeldt, Loeb & Wyckoff, 2013; Guarino et al., 2006). Schools serving students with more needs face the greatest difficulties in recruiting highly qualified teachers and retaining them, as well as in building the capacity of their teaching force to provide the most effective instruction. This makes teacher retention an important problem of equal educational opportunity in the American context.

Past research on teacher turnover has explored a wide array of factors that may be related to reasons for teachers' decisions. Individual teacher characteristics (i.e., educational background, type of teaching certification), district compensation policies, and student demographics have all been found to be associated with patterns of teacher turnover (Borman & Dowling, 2008; Hanushek, Kain, & Rivkin, 2004; Kelly, 2004; Johnson, Berg, & Donaldson, 2005; Simon and Johnson, 2015). Studies have also found school demographics, such as racial diversity and socioeconomic background, as well as the social conditions of schools, such as the work culture, leadership, and school-community ties, to play an important role in shaping the attitudes of teachers towards their work (Johnson, Kraft, & Papay, 2012; Grissom et al., 2010; Scafidi et al., 2007). Also important for explaining teacher outcomes were various aspects of teachers' working environments, such as the organizational structure of schools, school climate, and collegial relationships (Ingersoll, 2001; Simon & Johnson, 2015; Ladd, 2011). Based on the implications of these studies, this dissertation project aimed to better understand the issue of voluntary teacher turnover in relation to several key aspects of teachers' workplace conditions.

Research on teacher turnover has moved from studying narrowly the effects of individual teacher characteristics or compensation systems on teacher attrition to more

fully accounting for the demographic and organizational context of schools, its dynamic processes and relationships among individuals, and the conditions of the workplace. One key piece of knowledge imparted by the collection of these past studies is that school context matters significantly for teacher outcomes, and should not be overlooked by an emphasis on the individual characteristics of teachers, such as their training or professional background, or policies on teacher compensation in studying teacher satisfaction and turnover.

Additionally, workplace conditions have arguably become increasingly closely tied to teachers' career outcomes amidst nearly two decades of a resilient push towards the establishment of rigorous school accountability systems and the resulting pressures for vast systemic reforms (Sutcher et al., 2016). A recent report by the Learning Policy Institute explains why this may be the case. The loss of teacher autonomy in the classroom over instruction and curriculum and the pressure placed on them to teach to the test, which came of federal policies including NCLB and RTTT, were found to be some of the key reasons teachers left their schools or the profession entirely (Sutcher et al., 2016). This was especially salient in the most challenged urban schools that were chronically low performing. Also, more than ever before, the support provided by administrators who are able to create positive learning environments for teachers, as well as students, became critical for maintaining a stable teaching force through its impact on the job satisfaction of teachers (Sutcher et al., 2016).

Based on a review of practices often found in high functioning schools, Johnson (2006) identified key features of the conditions of the school as a workplace, which were: (1) subject and class assignment, (2) teachers' collegial collaboration, (3) support for new

teachers, (4) support for working with students whether through providing additional, specialized teaching staff, (5) support for establishing robust relationships with families and the broader community, (6) curricular support that guides and yet provides the flexibility to make autonomous decisions, (7) sufficient resources and materials, (8) assessments, (9) professional development, (10) teachers' professional influence and career trajectory, (11) safe and well-equipped facilities, and (12) principals' leadership that facilitates workplace conditions. Much research on teacher retention and satisfaction has focused on the strength of support and relational ties and cohesion to explain conditions that moderate job commitment and degree of satisfaction (Price, 2012; Kardos & Johnson, 2007). In this study, the focus is shifted to what may be considered the political features of teachers' work environment—mainly the level of influence over school decisions and classroom functioning allocated across three key school actors, teachers, school leaders, and families. Among the key features of teachers' working conditions identified by Johnson, this would refer to factors such as the flexibility to make autonomous decisions, control over assessments, and teachers' professional influence and career trajectory.

Why is this relevant? Theoretical frameworks that have conventionally undergirded research on school leadership have focused on the traits or behaviors of the positional leaders, the single individual who carries the title of school principal. Some theories have placed greater emphasis on the environment and situational factors that shape the goals, actions, and behaviors of leaders, and some have placed increased focus on the thinking, intentions, beliefs, and values of the positional leader, but in general all of these frameworks focus on the individual in the position of school principal (Spillane,

Halverson, and Diamond, 2004). Critics of this approach to conceptualizing leadership have argued for shifting focus to coalitions of decision-makers in organizations, which are often comprised of diverse membership that, at times, represent diverging interests and preferences (March and Olsen, 1984; Spillane, Halverson, and Diamond, 2004). One breakthrough in the conceptualization of school leadership began with thinking of leadership as a being held by more than a single individual and rather by a coalition of individuals with different roles in an organization, and considering leadership to be not just an individual quality but an organization quality that determines organizational performance. In such distributive leadership framework, leadership is a process that involves the interaction of positional leaders, followers, and the various situations, all collectively shaping the execution of school governance (Spillane, Halverson, and Diamond, 2004). As the field encourages moving toward this model of leadership, there is need to better understand what principal authority, teacher influence and autonomy, and family empowerment does for school outcomes. Hence, an important contribution this study aims to make is an enhanced understanding of how the allocation of within-school control shapes teacher outcomes, including voluntary teacher turnover.

Currently, there is little extensive knowledge regarding this question. Some of past research has suggested that teachers' perception of general autonomy over their work may have small but a positive relationship with teacher satisfaction (Shen, Spybrook, and Ma, 2012). It has also been found that increasingly, school leaders are called upon to exercise a more engaged type of leadership that exerts greater influence over matters of instruction, discipline, and other classroom processes, rather than carry out a more traditional, managerial role in schools (Leithwood et al., 2004; Marzano, Waters, and

McNulty, 2005; Alvoid & Black Jr., 2014). However, it is not definitive what effects such practices have on teacher outcomes or their attitudes toward their work. Existing literature also highlights the need for schools to harnesses the assets that families possess for the successful education of children from all backgrounds (Doucet, 2008; Barton, Drake, Perez, St. Louis, & George, 2004).

To add to the existing literature base, this study of teacher turnover particularly examined how such teacher outcomes were shaped by teachers' perceptions of their influence over performance standards, the curriculum, teacher evaluation policies, professional development, teacher recruitment and hiring, student discipline, and budgetary decisions, as well as their autonomy over classroom instruction, assignments, and student assessments. It further examined the level of influence that principals have over such school decisions and the degree to which families are involved in key school operations and their children's schooling processes to understand their relationship to teachers' job satisfaction, commitment, and decisions to stay or leave. Principals' influence over school decisions and the support of families for student learning, along with the level of influence and control that teachers possess are expected to be related to teachers' job satisfaction, which is also expected to be related to patterns of attrition from schools and from the profession.

Furthermore, in much of past literature, the importance of employees' job satisfaction and commitment, or intent to stay, for retaining teachers has been largely assumed. Scholars of organizations have also offered theories on how such job attitudes could potentially lead to employees' withdrawal decisions, which will be further described in the next chapter. They have commonly highlighted the importance of

organizational environment, both internal and external, for determining the eventual outcome of withdrawal (e.g., Price and Mueller, 1981; Mobley, 1977). Only a small number of studies have investigated this particular question in the field of education, and have suggested that a meaningful relationship between teacher satisfaction and retention may be expected. For instance, a study of 300 randomly selected Missouri public elementary school teachers with over 5 years of teaching experience found that those who expressed satisfaction with working at their school or satisfaction with the profession of teaching were more likely to stay (Perrachione, Rosser, & Petersen, 2008). It also found teacher efficacy and job satisfaction to be more predictive of retention than extrinsic motivators like low salary. This study aims to also add to this literature, by further examining whether this association indeed exists, and if so, how this association may be particularly strong or weak in schools with varying demographic characteristics.

Chapter Summary

In all, the first aim of the study was to better understand the most recent trends in teacher turnover, as well as the intermediary outcomes of job satisfaction and commitment to the profession, specifically by honing in on the aspects of authority and influence over school operations possessed by key school actors—the school principals, teachers, and families. It also investigated the extent to which the associations between the level of influence principals, teachers, and families are able to exert over school decisions and various teacher outcomes are moderated by school-level characteristics of students, including schools' racial diversity, the average socioeconomic status of its student body, and school performance levels.

Then, the study attempted to trace the reasons for teacher moving out of their schools into a different school or deciding to leave the profession. It identified the factors that mattered most for teachers who ultimately made the decision to leave their current schools or the teaching profession.

Next, the study addressed these same questions using data from four time points between 1999 and 2013, in order to observe trends across time. The connection between accountability policies and teacher outcomes has yet been fully understood by past research, but nevertheless, several attempts have been made. For instance, regarding the relationship between the strength of accountability systems and teacher autonomy, Grissom, Nicholson-Crotty, and Harrington (2012) found that teachers felt their control over classroom instruction had generally increased within the first few years of NCLB although it dipped back down in the years 2007-08. The initial increase was slightly steeper in states that did not have accountability systems prior to NCLB (Grissom et al., 2012), suggesting that stronger accountability policies are somehow associated with more teacher autonomy. Contrary to common rhetoric, the authors also found that teachers' perception of support from their school leaders, colleagues, and families was also relatively higher after the implementation of NCLB. On the contrary, job demands, or teachers' work hours, had notably increased with the federal push for standards-based accountability (Grissom et al., 2012). Interestingly, they also found that teacher job satisfaction and commitment to the profession have also increased over this time period. Although the authors never linked the changes in teachers' job demand, classroom autonomy, and support from their workplace community to the outcomes of job satisfaction and commitment, the findings do raise additional questions about how these

may be potentially related and whether the nature of those associations have or have not changed over time. The changing climate of our public schools may have made some aspect of the teachers' workplace conditions—be it demand, support, or control—more important for teacher outcomes, or it may be that regardless of such changes in the educational climate and external policy environment, those factors may have had similar implications for teacher outcomes over time. Hence, to begin to answer these remaining questions, this study examined trends over time.

CHAPTER 2

Theoretical Framework

The Demand-Control-Support Model

The Demand-Control-Support, or Job Strain, model, is a common theoretical model applied to organizational studies of job satisfaction or occupational stress (Karasek, 1979; Karasek & Theorell, 1990). It theorizes that when job demands on employees exceed the degree of their autonomy and the level of support necessary to meet such demands, high job stress and lower employee satisfaction and commitment result. Autonomy refers to employees' control over their own tasks and how to accomplish them, as well as their perceived influence in various organizational decision-making processes (Karasek & Theorell, 1990). Support could be offered in various ways, such as in the form of concrete resources and training and supplementary coaching provided for doing their jobs or the communication of the organizational mission and vision, as well as the key strategies for enabling them, to the employees to ensure that they collectively understand the value of their work and potential achievements. On the other hand, the positive impact that a strong sense of autonomy and support can have for employee satisfaction may be undermined by how demanding their work is, which may be determined by the average work hours, perception of workplace challenges and barriers to attaining organizational goals, added administrative or routine tasks that divert energy from the tasks that contribute to organizational performance and actual outcomes, and various external pressures placed on employees that may amplify job-related stress and feelings of burnout (Grissom et al., 2012; Karasek & Theorell, 1990).

The applicability of the Demand-Control-Support model to the field of education has been tested, mostly through qualitative studies using data from interviews and field observations. For instance, Ashton and Webb (1986), through an analysis of data from over 80 hours of classroom observations and interviews with 42 secondary school teachers on teacher attitudes and efficacy, found that the lack of support from administrators and colleagues, inadequate salaries, great work demands, and lack of influence and control, as well as general decline in morale, were drivers of teacher attrition or desires to quit. A large majority of teachers who expressed such desires to leave the profession named the immense stress and dissatisfaction from long work hours, excessive amounts of non-teaching tasks, and low salary levels as some of their main reasons for not wanting to stay—findings that have been also supported by past works on teacher work conditions, job satisfaction, and turnover (e.g. Webb, 1982; NEA, 1982).

A more recent study by Perrachione, Rosser, and Petersen (2008), which investigated various predictors of teacher satisfaction and dissatisfaction through interviews with educators, also offered support for the Demand-Control-Support model. The authors interviewed groups of teachers who reported feeling generally satisfied and those who reported dissatisfaction. They found that satisfied teachers tended to mention most often as sources of their satisfaction supportive administration and colleagues, positive school environment, high work efficacy, and satisfaction with the profession itself. On the other hand, dissatisfied teachers most frequently raised issues of excessive job demand, student discipline problems, and large class sizes in describing their work conditions. Many of these teachers reported that administrative responsibilities, which often take time that could be spent on working with students, and the low compensation

relative to the demands of their work, as well as lack of parent support, were key sources of their dissatisfaction.

Hence, in investigating teacher outcomes, it is helpful to consider collectively the demands on teachers' jobs, the support they receive in carrying out their responsibilities, and the control they have over their work which allows them to successfully fulfill those roles. However, as past literature suggests that organizational situations are just as important considerations for studies of school outcomes, this study extended this Demand-Support-Control framework to consider how the broader systems of locally held control or influence may additionally shape teacher outcomes. The next section further describes the importance of paying greater attention to these within-school systems of influence within a study of teacher outcomes.

Within-School Systems of Influence and Teacher Outcomes

In their investigation of school outcomes, Ingersoll and Collins (2017) honed in on the control mechanisms that are in play within schools among the many conditions of schools. Through this, they desired to depart from a framework focused on teachers and their practices alone for explaining school or student outcomes and rather, to draw from the sociological perspective on organizations, occupations and work. They stressed the need for shifting attention to the possibly more important sources and forms of control that already exist within schools, particularly in an era where school reform efforts are focused on teacher accountability-based means—such as establishing external performance standards, utilizing assessments to evaluate teacher performance, and instituting incentives and sanctions to induce improvement in teaching and teacher

quality—assuming that measures of organizational control for successful school outcomes, such as standardized curricula, student testing, and teacher evaluations, are largely missing in underperforming schools, and assuming that it is such lack of control and the various deficits of teachers themselves that are the primary sources of unsuccessful schools.

The authors claimed that this fails to consider the control and management systems that already exist in the schools themselves, which led to their three main inquiries: (1) Who controls teachers' work; (2) What is the balance between teachers' responsibility and teachers' control; and (3) What difference does teachers' control make? Addressing the first and second questions, the authors highlighted the imbalance between responsibilities and power that characterizes the teaching profession. For the third inquiry raised in the study, the authors found that the control teachers are granted over their work was indeed associated with student misconduct, staff collegiality, and teachers' voluntary turnover, but in their study, it was one specific aspect of control that was found to be meaningful, and that was teacher influence over student discipline and school and classroom student behavior—a set of social and non-academic issues.

What Ingersoll and Collins (2017) added to the literature base were insights on what control means within the school organization and in the broader system of schools, as well as what it does for student misconduct, staff collegiality, and teacher exit decisions.

Thus, the study considered teachers' job demands, support for teachers' work, teacher autonomy for accomplishing their roles, as well as other aspects of locally held

control or influence to understand their links to teacher outcomes. The study was undertaken based on this framework.

The next section describes theories on employee turnover from the broader literature on organizations since the study is ultimately interested in understanding not only predictors of teachers' attitudinal outcomes, but actual trends in the voluntary turnover of teachers.

Job Satisfaction, Commitment, and Turnover

Two major theories have been offered from the organizational studies literature regarding the connection between employee satisfaction/job commitment and turnover. On the one hand, Mobley (1977) described this connection as a process that entails multiple steps to eventual withdrawal. It begins with thoughts of quitting and the evaluation of costs and benefits of quitting, leading to a search for and assessment of the expected benefits of alternative options. Once the benefits of available alternatives are determined as outweighing the costs of quitting, dissatisfied employees would ultimately decide to leave their workplace. Mobley and his colleagues also stressed the importance of commitment in a later review of the turnover literature, which consistently found a significant negative relationship between commitment and employee attrition (Mobley, Griffeth, Hand, and Meglino, 1979). On the other hand, Price and Mueller (1981) depicted employee job satisfaction and intent to stay as intervening variables between the voluntary turnover of employees and its multiple determinants. In other words, those determinants, such as employee autonomy and influence, collegiality, salary and incentives, and promotional opportunities, could lead to decisions to leave the workplace

once levels of satisfaction are low enough and strength of job commitment becomes sufficiently weak.

Many studies of schools have examined teacher job satisfaction or intent to stay as an outcome of school contexts and conditions, and they have largely assumed that work satisfaction and job commitment are important for teacher retention. However, not many have empirically tested whether satisfaction and job commitment indeed impact voluntary attrition, and if so, to what degree. Also, more needs to be understood about how this association may be strong or weak in schools that have varying demographic characteristics.

This study uses the Demand-Support-Control model as the main theoretical framework. Further building upon existing studies that have examined the importance of job demand, support, and control for teacher satisfaction or professional commitment (e.g., Grissom, Nicholson-Crotty, and Harrington, 2012), the study considered other aspects of within-school control and influence. Also, the study modeled such local influence as a group of aggregated measures—principal influence, teacher influence and autonomy, and family participation in schools—and as disparate elements for understanding whether there were specific aspects of influence held by various stakeholders there were more strongly associated with teacher outcomes than other aspects of such influence or control. Furthermore, the study aimed to provide a test of the hypothesized link between employee satisfaction/commitment and voluntary turnover, which has largely been assumed to be true in for teachers.

Literature Review

This section will provide a review of past research on teacher job satisfaction and turnover and the wide array of factors that have been found to be relevant to these teacher outcomes. First, the section will summarize studies that have examined predictors of teacher attrition, including individual characteristics of teachers such as their educational backgrounds, teaching certification, and years of experiences, compensatory systems such as salary levels and pension policies, and demographic characteristics of schools.

Second, a review of studies that have examined teachers' job satisfaction will be provided. These studies have found social conditions of schools, such as the work culture, leadership, school-community ties, and school demographics, such as racial diversity and socioeconomic background, to be important predictors of teachers' work satisfaction (Johnson, Kraft, & Papay, 2012; Grissom et al., 2010; Scafidi et al., 2007). They have particularly highlighted the significance of various aspects of teachers' working environments, such as the organizational structure of schools, school climate, and collegial relationships (Ingersoll, 2001; Simon & Johnson, 2015; Ladd, 2011).

In later sections, what the field has learned about the relevance of school principals' leadership practices and the engagement of families in various school processes for the work of teachers will further be delineated.

Studies of Teacher Turnover

Research on teacher turnover has moved from studying narrowly the effects of individual teacher characteristics or compensation systems on teacher mobility to more fully accounting for the demographic and organizational context of schools, its dynamic

processes and relationships among individuals, and the conditions of the workplace. One key piece of knowledge imparted by the collection of these past studies is that school context matters significantly for teacher outcomes, and should not be overlooked by an emphasis on the individual characteristics of teachers, such as their training or professional background, or policies on teacher compensation in studying teacher satisfaction and mobility.

A meta-analysis of the teacher turnover literature by Borman and Dowling (2008) found that across the 34 studies included in their review, most of them evaluated some subset of the following demographic traits as moderators of attrition: gender, race, age, and marital status. Results suggested that female teachers and white teachers, as well as older teachers until they reached the age of 50, tended to have higher rates of attrition; marital status did not appear to be a practically significant moderator. Kelly (2004) also examined teacher traits and background to explore patterns of teacher attrition, including the number of coursework taken in teaching methods, certification type, or membership in a professional organization. He found that teachers who took more courses in teaching methods, had regular state certification, and were members of professional organizations had lower rates of attrition.

Studies have also examined the effect of compensation policies, such as salaries and pensions, on teacher mobility (Clotfelter, Ladd, and Vigdor, 2011; Goldhaber, Destler, and Player, 2010). For instance, some have suggested that early retirement patterns in education are due in some part to the high pension to salary ratio (Borman and Dowling, 2008). Furthermore, using a decade of data from North Carolina public schools, Clotfelter, Ladd, and Vigdor (2011) examined whether compensatory policy and resulting

salary differentials were related to teacher sorting within and across districts. They were particularly interested in how teachers with prior experience in teaching or strong qualifications, which were defined as having scored in the highest quartile on the teaching licensure examination and having attended a competitive undergraduate institution, responded to differences in salary levels. The study reported mixed findings for different groups of teachers.

For novice teachers, those who had begun teaching sometime within the years their data spanned, increases in salary levels were associated with lower odds of teachers leaving their current schools, but this connection was much weaker for teachers who had strong qualifications. For veteran teachers, there was little to no association between salary differentials and their exit decisions. On the other hand, student demographics, especially the proportion of nonwhite students, were more strongly associated with teachers' decisions to leave their current schools, and even more so for teachers with strong qualifications. In another example, Kelly (2004) conducted an event history analysis using nationally representative data from 1990-1991 to examine teacher attrition. This study also explored the relative impacts of compensatory policy and student characteristics. It found that while there was a small effect of salary on teacher turnover, which was slightly more pronounced for novice teachers, there was stronger evidence that teachers were more likely to exit schools for other reasons, such as their assignment to teach students in lower academic tracks.

Shifting away from focusing on individual teacher attributes and compensation systems, researchers took greater interest in the relationships between the school environment, teacher work conditions, and attrition. At the outset, this line of research

placed focus mainly on static characteristics of the student body. For instance, Hanushek, Kain, & Rivkin (1999) used teacher transitions data from Texas to divide them into subgroups on the basis of level of experience, ethnicity, gender, and other demographic factors. The researchers then examined differences among these subgroups of teachers in their responsiveness to salary and various working conditions, and found that with regard to teacher transitions, student characteristics mattered more than teacher salaries. In their data, the most dramatic differences in school transition rates were related to student achievement, as well as the percent of minority students and percent of students eligible to receive subsidized meals, an indicator of family poverty. Teachers tended to gravitate towards low-poverty schools, schools with higher levels of student achievement, and schools with smaller percentages of black and Hispanic students.

Another study that examined teacher sorting—which encompasses all movement of teachers within the system, into other districts, or out of the profession—using data of public school teachers in North Carolina found that school demographics were predictive of teachers moving into other schools but staying within the public school system, but less so of their decisions to leave the school system entirely (Guarino et al., 2011). This study also provided evidence that different types of teacher mobility may be driven by different factors, making this distinction important for designing future work on this topic.

Hanushek, Kain, and Rivkin (2004) considered key school characteristics in their study of teacher transfers into other schools, including percent of low income students, percent of black and Hispanic students, and average student achievement score. The study presented evidence that teachers who choose to leave high-poverty schools serving

large numbers of students of color were likely to transfer into schools serving more advantaged populations of students.

Many interpreted these findings as implications about teacher preferences for certain types of students, and suggested that teachers systematically favor schools that dominantly serve more privileged students. Those schools that teachers gravitated towards were often high achieving schools with small proportion of minority students and small percentage of students from low SES backgrounds (Simon & Johnson, 2015). Such studies have a key limitation, the failure to consider characteristics and working conditions of the organizations teachers left (Ingersoll, 2001; Simon and Johnson, 2015).

Alternative perspectives and interpretations of those findings have been proposed by others. For instance, Hanushek, Kain, & Rivkin (1999) posited based on their findings that school characteristics may be partially capturing more general working conditions, such as the severity of disciplinary problems, quality of leadership, student turnover, and school climate and safety, highlighting the importance of understanding the sources of the relationship between teacher labor supply and student and school characteristics. Studies such as this have prompted researchers to place greater emphasis on working conditions, in contrast to school demographics, in examining the issue of teacher attrition.

Studies reflecting these voices have placed greater emphasis on dynamic school processes rather than static features of schools. These works have used teacher reports about their working conditions—encompassing school leadership, school safety and climate, support from co-workers, families, and the broader community, and the level of autonomy and control that teachers possess—to examine the relationship between teacher

perceptions of these traits of the school context and their decisions to leave or move schools (Ingersoll, 2001; Simon and Johnson, 2015; Ladd, 2011).

Studies of Teacher Job Satisfaction

Past studies have investigated various factors that predict teachers' satisfaction with their jobs. In particular, teacher autonomy and the support of other individuals, including the school leader, other colleagues, families, and members of the community, for their work have been emphasized as key determinants of teacher outcomes (e.g., Ashton and Webb, 1986; Shann, 1998).

Using nationally representative data collected in 2003-2004, Shen, Leslie, Spybrook, and Ma (2012) investigated static characteristics of school leaders—their educational background and work experience—and dynamic school processes—which was conceptualized as a function of the principals' leadership and included multiple aspects such as teachers' control in the classroom and influence in the school, internal collegiality among staff, communication and support of leadership, and parental support—and their relevance to teacher job satisfaction. The general finding from this study was that various organizational characteristics were important determinants of teachers' satisfaction with their jobs. More specifically, the more years a principal worked at the current school, the more satisfied teachers tended to be in their jobs. Collegiality among faculty and the conditions of the workplace—including measures of teachers' perception of class size and salary—had significant and positive relationship with teacher satisfaction. However, this study found that how teachers perceived the level of parental support and the leadership's communication with staff had no significant

association with how satisfied they were. These findings, further supporting the evidence offered by other past studies regarding the importance of teacher autonomy and support of other actors in schools for their work, also highlighted the key role that school processes play in shaping the satisfaction of teachers.

The next sections discuss the important role that school leaders and families play in shaping the work environment of teachers.

Teachers and School Leaders

Traditionally, teachers have had a high degree of autonomy and authority in executing their instructional responsibilities (Weick, 1976; Lortie, 1975). On the other hand, the decentralization and fragmentation of authority in the American school system have restricted the discretion of school principals (Chubb & Moe, 1990). Hence, leadership decisions often have to be made within the bounds of externally set regulations and standards (Chubb & Moe, 1990; Weick, 1976). Under these circumstances, principals have limited power to exercise control over other constituents, including teachers, staff, families, and community partners, who are instrumental in actualizing their vision and mission for their schools (Leithwood et al., 2004; Chubb & Moe, 1990). It is considered to be integral that school leaders overcome this particular challenge to impact school improvement efforts, accomplished through setting directions for the school community and communicating them with the staff and faculty, as well as families, maintaining positive school and classroom climate, and supporting the work of teachers by shaping their attitudes and developing their instructional practices (Leithwood et al., 2004; Griffith, 2000; Oakes, 1989).

Also, school principals are expected to play the key role of establishing relationships among members of the school community, as the main link between the school and the external community and an important lever for impacting individual behavior and for eliciting cooperation and creating functional relationships among all members of the school organization (Marzano, Waters, and McNulty, 2005; Scott, 2005; Barnard, 1938). Their work in this capacity is thought to also shape the attitudes of families about the school (Marzano, Waters, and McNulty, 2005). Ultimately, such efforts help establish trust and cohesion in schools, which creates a positive climate for principals to be able to coach and communicate with teachers to improve instruction at scale (Alvoid & Black Jr., 2014; Bryk and Schneider, 2002). They also result in more shared understanding of the vision that school leaders have for their schools (Marzano, Waters, and McNulty, 2005).

In some places, to accommodate such changes and lessen the burden for principals, new administrative models are emerging where a leadership team collaboratively handles a diverse array of tasks by having one leader carry out all managerial responsibilities, such as maintenance and operations, student management, parental complaints, budgeting, and personnel hiring and firing, and having another focus strictly on academics, such as curriculum and instruction, staff evaluation, teacher assignment, and course development (Alvoid & Black Jr., 2014). Such collaboration among members of the school community are becoming more and more in demand.

While it is broadly recognized that school leadership, such as leadership in setting goals, guiding reform, and supporting teachers and classroom instruction, is an important determinant of school outcomes, evidence particularly regarding the effects of principals'

central authority on their teachers' perceptions, attitudes, and behavior have been mixed (Price, 2012). Some studies have shown that one of the ways in which effective principals enhance teacher success is by authentically involving school staff in decision making to achieve school improvement and success (Bryk et al., 2010; Elmore, 2000; Leithwood & Jantzi, 1990; Louis et al., 2010; Robinson et al., 2008) and distributing leadership and power (Leithwood & Jantzi, 1990). However, some studies have suggested that teachers' participating in decision-making is irrelevant for their job satisfaction and it may even wane due to added burdens of administrative duties and responsibilities outside the classroom, making the case for a more centralized authority (Hulpia et al., 2009; Somech, 2005). Hence, there remains much to be learned about the nature of the relationship between the strength of principals' decision-making authority and teacher satisfaction and mobility.

Marks and Nance (2007) suggest principals' decision-making authority is shaped by both the context within and outside of schools. In their study, the authors were interested in addressing a gap in our current understanding about the relationship between the strength of state control over instruction and curriculum—believed to have increased in recent decades amidst the federal education policy shifts—and the level of autonomy and authority principals possess over the instructional domain of their schools. Instead of using longitudinal data, they used cross-sectional data to conduct a preliminary examination of this question, capitalizing on the variation that existed across states in the level of control over school instruction and curriculum. They expected to see decreased principal influence over instruction, as opposed to unchanged influence over the supervisory domain, with stronger state control over instruction and curriculum. Here, the

instructional domain encompassed standards, curriculum and instruction, and assessment, and the supervisory domain included issues of hiring and evaluating teachers, school budgets, and discipline policy. In their data, strong state control indeed predicted weak principal influence over both instructional and supervisory domains of schools, as was expected.

However, they also found the variation in the influence of principals over instruction to be only minimally attributable to differences in state control; within-state differences explained 98% of the variation in principals' influence over instruction and 97% of their supervisory influence. The within-school factors, or more specifically the influence possessed by other actors within the school community, explained much of this variation. The study found that where there was strong influence of teachers and parent associations over instruction and curriculum, the negative association between state control and principals' influence was attenuated to a statistically insignificant level. Based on these findings, the authors suggested that principals appear to derive their decision-making power, particularly more so in the instructional domain than the supervisory, from the influence exercised by other key actors in their schools. This suggested that school leaders, teachers, and families may not be competing for authority over school decision-making processes and that they may collectively share the weight of making decisions about instruction, curriculum, discipline, and other matters of instruction and school management. It also highlights the importance of considering the distribution of influence across all key school subsystems and their responsibilities to engage in school processes for examining any school outcome, rather than focusing on single groups at a time.

Others have found evidence from longitudinal survey research that there are increasing constraints on the work of principals due to changes in the external conditions of schools (Marks and Nance, 2007), which are important to consider for this dissertation project. Such conditions include the school accountability context and enhanced understanding of the critical role played by principals in school improvement efforts. In 2012, MetLife conducted a nationwide survey of 500 principals and reported on the working conditions of school leaders. Notably, seventy-five percent of principals surveyed believed that their jobs have become too complex in recent years. These sentiments were shared by a similar proportion of principals in schools regardless of their demographic characteristics such as grade level, location, proportion of low-income or minority students, or the proportion of students performing at or above grade level in English language arts and math. Also, nearly seventy percent reported that a school principals' responsibilities had altered greatly compared to five years ago.

For one, principals face greater pressures to engage actively in teacher development and evaluation in light of policy efforts to implement more rigorous standards-based accountability systems. To meet the heightened standards for student performance, principals must now provide more support for teachers and staff and offer instructional guidance, as well as engage in formative and constructive evaluations (Alvoid & Black Jr., 2014). Not only does this require school leaders to possess more diverse competencies in curriculum, instruction, data use, human capital development, and public relations, but such changes also dramatically change the frequency and nature of the interaction between school leaders and teachers. In places that have aptly responded to these shifting demands, such as through creating better structures for

classroom observations, assessment and feedback, and coaching, principals and teachers engage in more regular conversations about instructional practices (Alvoid & Black Jr., 2014).

Additionally, with enhanced understanding of the impact that good leadership in schools can have on student outcomes, principals are increasingly expected to move beyond executing a managerial role—such as maintaining order in school buildings or making personnel decisions (Leithwood et al., 2004; Marzano, Waters, and McNulty, 2005; Alvoid & Black Jr., 2014). Hence, such stronger constraints over principals' work came with more responsibilities and increased demands, which are expected to be related to the degree of influence principals have in various aspects of school processes.

To add to this existing literature base, the study explored whether and how the influence of principals, operating within the highly interdependent and interrelated system of schools, helped explain variations in teachers' job satisfaction, commitment and voluntary turnover.

Teachers and Families

As much as other stakeholders in schools, families have been considered to be important partners in the schooling of children, especially since differences in student backgrounds have tended to translate directly to the degree of academic support they receive at home and the kinds of home and community resources they have access (Coleman, 1967). Over time, researchers have come to recognize that it is not only the fixed traits of families but the quality of their connections with schools and communities that have important ramifications for students' learning and growth throughout their time

in school. Schools also perceive families as important partners in the education of their students. For instance, according to a study by MetLife, in 2008, teachers reported that lack of parental support was the biggest challenge to learning for a quarter or more of their students. Moreover, past studies have found that robust programs of family, school, and community partnerships predicted higher academic achievement of students (Galindo and Sheldon, 2012) and higher rates of school attendance (Epstein & Sheldon, 2002; Sheldon, 2007). There is also evidence that family and community involvement activities predict fewer disciplinary actions taken at schools, as well as fewer student behavior problems (Domina, 2005; Sheldon & Epstein, 2002).

The concept of school-family connections not only concerns those disparate roles to be played by parents and educators in their respective contexts of the home and the school. Rather, it places the emphasis on reciprocal relationships, mutual communication, sharing of responsibilities, and the deep awareness of the complementary roles to be played by families and schools for the common goal of promoting behavioral, academic, and socio-emotional well-being and success of children (Kim & Sheridan, 2015).

The theory of the Overlapping Spheres of Influence illustrates the drivers that shape these connections among families, schools, and communities. It represents each group as spheres that may overlap to varying degrees, depending on three forces in control: time, experiences in school, and experiences in the home (Epstein, 2011). The histories of each sphere intertwine when they interact for a common interest in the children's education and welfare, and continually shape and alter family, school, and community relations throughout the schooling process. For instance, teachers who actively reach out to all families and form true partnerships that allow for constructive

dialogue will likely induce greater involvement of families, thus increasing the overlap. This history of engagement will likely inform future family practices of involvement, and with change in time and as new experiences with schools take place, families will likely alter their interaction with schools.

Cultural and linguistic diversity in schools resulted from global migration (Doucet, 2008; Valdès, 1998). Such increased diversity poses new challenges for school, family, and community partnerships, but further increases its importance, especially since English language learners and ethnic minority students have generally shown to underperform academically compared to their white peers (Darling-Hammond, 2010). It easily results in great dissonance in the values and beliefs of educators and families and grave misconceptions leading to helplessness and frustration of both parties (Valdès, 1998). Thus, it is becoming more important that teachers possess knowledge and skills for initiating conversations with and maintaining ties to all families based on an appreciation for the internal dynamics of the families and acknowledgement of the legitimacy of their values and beliefs about the purpose of education in order to gain greater understanding of the family backgrounds of their students and establish genuine partnerships with families. Otherwise, efforts to involve families in schools may lead only to greater disillusionment of educators (Doucet, 2008; Valdès, 1998). For instance, a national survey of American public-school teachers conducted in 2008 found that teachers in schools with high parent engagement were more than twice as likely as those in schools with low parent engagement to say they are very satisfied in their job (Markow, Macia, & Lee, 2013). Also, while past studies have not empirically tested whether a sense of community that includes families and students acts as moderating

factors of the relationship that exists between attributes of the school organization and teacher attrition/staff instability, it has indeed been suggested that a lack of such community could indeed have a negative effect on teacher retention (Smith and Ingersoll, 2004).

More recent turnover literature has begun to pay greater attention to this aspect of the teachers' workplace. Johnson, Berg, and Donaldson (2005) found a relationship between school demographics, particularly race and poverty, and teacher turnover. Rather than interpreting these findings as a matter of teacher preference, they suggested that it may be lack of teachers' preparedness to work with students of various backgrounds that mediates this relationship. Based on this interpretation, they posited that teachers' engagement of parents, leading to increased teacher-parent communication and greater support from families to help teachers understand their students, would allow teachers to gain a better understanding of their students' backgrounds and cultures. They expected that this would mitigate the strong association between school demographics and teacher turnover.

Others have also claimed that misunderstandings and tension often create barriers to trusting teacher-family relationships (Bryk & Schneider, 2002), and that this lack of support in turn negatively predicts teachers' sense of efficacy and satisfaction (Bryk et al., 2010). This argument appears to be backed by past research that finds teachers often report feeling under-trained to teach rapidly changing student populations, particularly in urban settings (McLaughlin & Talbert, 2001).

There still remains much to be learned about the relationship between families and teachers. There is little empirical research on whether the level of family engagement

in schools, especially in ways that shape student instruction, is associated with various teacher outcomes, including teacher satisfaction and retention. This study aimed to fill this gap at a time when districts and schools have increasingly invested in systemic family-engagement practices in schools, with districts creating positions and departments specifically devoted to family involvement, and school and teacher evaluations also reflect an emphasis on school-family relations (Reid, 2015).

Past literature on teacher outcomes generally hint at the importance of the contexts of school organizations, as schools are constantly impacted and reshaped by changing policies and demographic shifts. Thus, in this study, I also addressed these contextual factors to provide a fuller picture of how teachers' work demands, the support of others for teachers' work, and the influence and control held by various actors within schools relate to teacher outcomes, by exploring trends across time, as well as in schools of varying demographic composition. The next sections discuss what past literature has suggested regarding the potential relationship between teacher outcomes and the push for stronger external accountability measures, one of the most important sources of change in American public schools in the last two decades.

Heightened School Accountability Pressures and Teacher Outcomes

External Accountability Measures Shaping Within-School Systems of Control

Traditionally, schools have been described as loosely coupled systems, characterized by weak connections between the formal structural arrangement of schools, such as their rules, regulations, standards, and systems of rewards, and their informal behavioral structure, comprised of the technical activities and practices of individuals

within schools (Weick, 1976; McKinley, Mone, & Moon, 1999). For instance, regarding teachers, schools may set strict requirements for their qualification, professional background, or training, but there tends to be relatively less rigid control over, and monitoring of, their pedagogical and instructional approaches (Meyer and Rowan, 1978). Lortie (2002) explains that throughout the development of the modern-day education system from one-room schoolhouses of the past, there has been limited constraint placed over teacher authority because teachers are expected to possess the best knowledge about their students and hold the necessary technology and resources for educating them. The administration would then have little more to add to classroom instruction that cannot be offered by teachers themselves. Although school sizes grew and multiple classrooms were created within every school building, requiring a higher degree of coordination among their constituents, teacher autonomy within the classroom was largely preserved. In such loosely coupled system of schools, individuals can take autonomous action despite the presence of a hierarchy (Meyer and Rowan, 1978).

More recent literature, however, suggests teachers hold little control over the conditions and contents of their work despite the immense responsibility they have for the successful education of their students. According to Ingersoll and Collins (2017), the national system of schools tends to be highly decentralized, and school districts and leadership hold much control over local decisions. On the other hand, within schools there tends to be a high degree of centralization, where most decisions directly or indirectly impact the work in the classrooms, such as those regarding the curriculum or teacher job assignment are rarely made by teachers. They further suggest that this large gap in administrator and teacher influence has remained over the past two decades, if not

widened. Moreover, the authors added that while recent accountability-based reform efforts have translated into greater responsibilities for teachers, teachers' control over their work and their schools seem to have decreased.

How do we reconcile the seeming differences? As mentioned above, all schools are nested within a broader system; changes in the external environment of schools often have impact on their internal functioning (Weick, 1976). As external conditions change, schools also transform and adapt. One main source of change that has taken over the education sector in the past two decades was the adamant push for standards-based accountability, such as the No Child Left Behind (NCLB) and the Common Core State Standards.

Naturally, it has been of interest to many scholars how various actors in schools have responded to the federal push for stronger accountability (e.g., Spillane & Burch, 2006; Diamond, 2012; Diamond, 2004). Several have claimed that when state and district policies trickle down to the level of schools, they are usually re-interpreted and adapted locally (Spillane et al., 2002; Spillane, Reiser & Reimer, 2002), and that education policies often penetrate the classroom to varying degrees, depending on factors like how various individuals, through collegial interactions, make sense of those policies and decisions about implementation are made (Diamond, 2007; Spillane & Burch, 2006; Bidwell, 2001).

For instance, Diamond (2004) suggested that school accountability policies could push teachers to teach more rigorous content to improve student outcomes but could also lead to test-based instruction and selection of curricular content, marginalization of persistently low-performing students, and didactic pedagogy. Diamond and Spillane

(2004) also claimed that these responses to policy depend on how schools are positioned in relation to the accountability regime. As an example of this, they showed that in schools that are under relatively greater threat due to having multiple years of poor outcomes, key decision-makers such as the principal or communities of teachers tended to promote classroom practices that improve immediate test performance rather than the genuine learning of students.

Furthermore, past studies have shown that the impacts of accountability have varied across different school contexts. This variation is due to the inconsistent penetration of state and district policies into the classroom, depending on how individuals in schools choose to respond to these mandates and reflect them in their practice (Murnane & Papay, 2010; Diamond, 2012).Schools serving a large proportion of black students tend to be particularly affected negatively in high stakes accountability systems (Diamond & Spillane, 2004), and many of these schools have responded in ways that fail to address educational inequality. For instance, some schools disproportionately focused their instructional resources on students who are near proficiency thresholds, or they channeled most of the instructional support towards teachers in benchmark grades, placing other groups of students at even greater relative disadvantage. Such responses were also found to be common in low-performing schools (Diamond & Spillane, 2004). As such, school context also plays important role in how actors in schools understand, interpret, and adapt educational policies into their practices.

In sum, a strong push for school accountability and the tightening of regulations on academic results has persisted throughout the last fifteen years, and there have been more recent efforts to establish common curricular standards for all states. Per such

trends, there has been a surging interest of scholars, educators, and policymakers in understanding how the actual implementation of such policies have shaped the work environment for teachers, impacting their job satisfaction and mobility outcomes (McGuinn, 2012). Unfortunately, implications of past studies on the impact of accountability policies have been mixed and quite variable. This was mainly due to the differences in how those policies were locally translated into practice.

At times, it also provided more resources for achieving substantial improvements in student achievement. Moreover, past survey findings have shown that teachers are generally in support of higher standards for instruction and student performance, as long as they are provided the adequate guidance and direction from those in their professional community (Johnson, 2006). On the other hand, teachers have also reported feeling that many aspects of their workplace—the leadership, the organizational structure of schools, or instructional strategies and practices—were largely left unchanged despite such calls for stronger accountability measures.

Mixed Evidence on the Link between External Accountability and Teacher Outcomes

With the push towards high-stakes testing-based school and teacher accountability systems that have ramifications for the work conditions of teachers, job demands have continued to increase, according to past research (Grissom et al., 2012). Stronger accountability systems have also played a significant role in reshaping the level of teacher autonomy and support from other stakeholders in schools, making these policies a key consideration in studies of teacher outcomes (Grissom et al., 2012). Connections

between accountability policies and such outcomes have not been fully understood by past research, which have suggested both positive and negative relationships.

On the one hand, studies have found that federal education policies including NCLB, RTTT, and Common Core State Standards have been controversial and met with great push back from educators (Dee and Wyckoff, 2015). Given such strong resistance of educators to implementing high-stakes teacher assessments tied to financial incentives and possible dismissals (Dee and Wyckoff, 2015), it is unsurprising that these policies have impacted various teacher labor outcomes. For instance, they increased the performance pressure felt by teachers, inadvertently amplifying feelings of frustration, burnout, stress, and emotional exhaustion (Hill & Barth, 2004). This was especially so for those teachers who felt the high-stakes tests were inadequate tools for assessing student performance based on their professional judgment, perceived goals set externally by the state or the district as unattainable and felt frustrated by the test-driven culture established in schools (Berryhill, Linney, & Fromewick, 2009; Center on Education Policy, 2006; Byrd-Blake et al., 2010).

On the other hand, a recent study by Grissom and colleagues (2012), which also considered the implications of this external policy environment for teacher work satisfaction, found that the push for stronger school accountability policies that came with the NCLB coincided with a trend of increased teacher job satisfaction, contrary to common expectations. They also did not find evidence of a differential shift in teacher satisfaction between states with and without prior accountability systems, neither did they find a difference between trends in schools where the proportion of students receiving free-and-reduced-price meals was above and below the median for the sample. Moreover,

from their analysis of teachers' intent to remain in their schools, they found substantial increases, of approximately twelve percentage points, between 1994 and 2008 across states with and without prior accountability systems. They found these results to be counter to the rhetoric and past academic and media reports on the relationship between NCLB and declining teacher morale and satisfaction.

Nevertheless, the authors do suggest the possibility that NCLB may have been only beginning to have substantively important impacts on teachers in more recent years, after 2008, as states more fully implemented the law and its sanction provisions. They claimed that future research may test this hypothesis with newer data once they are available. Furthermore, although this study began to examine differential patterns of teacher outcomes by one key school characteristic—proportion of students receiving subsidized lunch—and found no observable differences, future studies could consider other factors, particularly the percent of students from minority racial backgrounds or level of student performance. Thus, a more thorough consideration of the difference in school contexts could offer useful insights for understanding trends in teacher satisfaction, as well as its various determinants to be discussed in the next section, amidst the push for stronger teacher accountability systems, also connecting teachers' feelings of satisfaction to the decisions they make about remaining in or leaving their schools of varying characteristics. Hence, there is a need to better understand the significance of teacher work satisfaction and its implications for teacher labor supply in order to establish workable and constructive systems of standards-based accountability moving forward.

Importantly, as mentioned above, all of the reviewed works further stress the importance of the context in which teachers work since it sets the stage for them to be effective and to desire to stay in their schools (Allensworth, 2012). The quality of their work environment—determined by factors such as teachers' perceptions of their colleagues as collaborators, the influence they have over their work environment, their relationships with parents, and their trust in the principal as an instructional leader—was strongly predictive of teacher retention.

In a study of Chicago public school teachers, Bryk and colleagues (2010) found that teachers who changed schools tended to report better working conditions in their new schools than their former schools, suggesting they make decisions to move between schools partly based on their perception of the conditions of their workplace. Ashton and Webb (1986) also suggested that ecological reforms are needed to address factors that lead to teacher dissatisfaction and attrition, which do not tighten management controls but rather grants teachers more autonomy within a school environment that is supportive and democratic. The school environment, which is a sum of its various subsystems, shape teachers' perceptions of their job demands, classroom autonomy, and the support of various members of the school community, which in turn determine their level of work satisfaction.

Summary of Chapters

In light of these past works, the present study pays particular attention to questions regarding teachers' influence over school decisions and autonomy in the classroom, school leaders' influence over supervisory and instructional decisions, and the

extent of family presence in schools and their roles might affect teachers' decisions to stay at their school, move to another school, or leave the teaching profession. I addressed the following three major inquiries in this study: (1) the importance of teacher work demands, support, and within-school influence and control for teacher outcomes, (2) over-time change in the degree of influence held by various within-school actors, and (3) over-time changes in the connection between teacher control and teacher outcomes. In Chapter 4, the key question to be addressed is how such allocation of power and influence across multiple stakeholders help explain teacher outcomes, including job satisfaction, job commitment, and voluntary teacher decisions to move or leave. In Chapter 5, a more expansive list of reasons will be provided for why some teachers decided to move from one school to another, and for why others decided to exit the profession. Also, the chapter will discuss differences between teachers who eventually left and those who stayed at their school their perceptions of their former and current school context. In Chapter 6, the focus is on over-time change in the trends and patterns observed in the previous two chapters. Although over time change cannot be equated to a direct result of accountability policies, analyzing over-time trends will provide preliminary information on whether those external measures to enhance control and accountability within schools led to any changes in the control that already existed within schools themselves, and whether those potential changes in the allocation of influence across various actors had any impact on their association with teachers' attitudinal outcomes and voluntary turnover. Finally, Chapter 7 will provide a discussion of the implications of the study's findings.

CHAPTER 3

Methods

Research Question 1a: To what extent do the measures of within-school control and influence (i.e., teachers' influence over school decisions, teacher control in the classroom, principals' influence over school decisions, and family engagement in schools) predict teachers' job satisfaction, commitment to the profession, and decisions to stay at their current schools, move schools, or leave the profession? Do the two intermediary outcomes of work satisfaction and job commitment predict teachers' decisions to stay or leave?

Research Question 1b: To what extent do these associations differ across varying school contexts?

Research Question 2: What are key factors considered by "movers" and "leavers" in making their career decisions?

Research Question 3: Were there changes between 2003 and 2012 in the levels of principals' influence over school decisions, teachers' influence over school decisions, and teachers' autonomy in the classroom? Between 1999 and 2013, to what extent did associations between the measures of within-school control and influence and teachers' attitudinal and voluntary turnover outcomes remain consistent or differ?

Data

The study used a combined data set of four waves of the Schools and Staffing Survey (SASS) between years 1999 and 2012 (1999-2000, 2003-2004, 2007-2008, &

2011-2012), and the Teacher Follow-up Survey (TFS) between years 2000 and 2013 (2000-2001, 2004-2005, 2008-2009, & 2012-2013). SASS and TFS data are most appropriate for addressing the inquiries posed in this dissertation project because they provide data regarding the multiple perspectives of school leaders and teachers, which can also be matched with data on teacher mobility.

The SASS was comprised of five questionnaires, three of which was used for this study. The School Questionnaire, which was addressed to the school principal, asked about various aspects of school conditions, such as student characteristics, staffing, student-to-faculty ratios, programs and services, and high school graduation rates. The Principal Questionnaire, completed by the principal, obtained demographic information about principals, as well as their training, experience, salary. It also gauged the opinions and attitudes of school leaders on multiple aspects of the school process and context, such as school problems that they view as serious and how they perceive the influence of various stakeholders on school policies. The Teacher Questionnaire, filled out by teachers, collected data about teacher training, teaching experience, certification, and teachers' attitudes about teaching and workplace conditions (Gruber et al., 2002). The sample of schools in every wave of SASS data match that of the Common Core of Data (CCD) in the preceding year, which is a nationally representative sample of U.S. public schools. Schools, which are the primary sampling unit, were asked to provide a list of their teachers, making up the teacher sampling frame (Tourkin et al., 2010; Tourkin et al., 2007; Gruber et al., 2002).

The TFS is a one-year follow-up survey to SASS and consists of the Former Teacher Questionnaire and the Current Teacher Questionnaire. The TFS sample is

constructed by first sorting teachers who participated in SASS into different strata based on their initial weights in SASS, main subject taught, Census region, school locale, and enrollment, and then, randomly drawing teachers using a systematic probability proportional to size (PPS) sampling procedure. The TFS obtained information on teacher attrition, characteristics of teachers who stayed in teaching or left the profession, and on the reasons for teachers' decisions to move to a new school or leave the teaching profession (Graham et al., 2011). There were three subpopulations in TFS: individuals who left teaching ("leavers"), those who continued teaching but moved to a different school ("movers"), and those who continued to teach at the same school ("stayers").

For the analysis, the study used data on public schools only, defined as institutions receiving public funds to provide educational services for at least one of grades 1-12. Among public schools, the analytic sample included only regular public schools, excluding special education, vocational/ technical, and alternative schools. The school sample sizes ranged between 5,700 and 6,000; the teacher sample for SASS merged with TFS ranged between 3,300 and 4,500 across the four waves of data, and the number of teachers per school was on average 1.5 teachers. In SASS and TFS, survey weights are provided, which makes it possible to adjust for unequal probabilities of sample selection, resulting from the stratified sampling design of these surveys. By using these weights in the analyses, sample estimates can be scaled up to represent the target survey population for this study, which was the population of regular public schools and their teachers. Since the analytic sample only included those teachers who responded to the follow-up survey, all analyses incorporated TFS survey weights, which was

constructed based on SASS survey weights and accounted additionally for sampling and nonresponse (Marks and Nance, 2007).

An Additional Note About the Analytic Sample

Two groups of teachers were excluded from the analytic sample. First, in order to limit the analysis to a comparison of stayers to voluntary movers and leavers, teachers who involuntarily left schools or the profession were omitted from the analytic sample. Second, there was a small portion of missing variables for the percent of free-and-reduced-lunch (FRL) eligible students per school, a key demographic variable for the study and the only measure of family income level that was available in SASS. This was because not all schools participated in the National School Lunch Program (NSLP), in which case schools did not report relevant information. Not all schools are required to offer NSLP meals to their students. In 2008, non-participating schools made up about 6 percent of the population (Ralston et al., 2008), and this rate of program participation has stayed fairly stable for nearly three decades. There is limited understanding regarding the reasons that this small population of schools chose not to participate in NSLP, but one can conjecture that it may be due to the presence of alternative meal-subsidizing programs or simply due to the affluence of the student body in these schools. However, it is deemed probable that the non-participating schools differ in significant ways from the large majority of schools that do participate in NSLP. Thus, for this study, these cases will be removed from the analytic sample rather than attempting to impute these values for the analysis.

Variables

Dependent Variables

Teacher turnover is a discrete variable with three categories: stayers, movers, and leavers. *Teacher job satisfaction* was measured by a survey item that asked teachers to rate how much they agreed with the statement "I am generally satisfied with being a teacher at this school." Responses were on a four-point scale ranging between strongly agree (scored as 4) and strongly disagree (scored as 1). Due to the skew in the responses, where close to half of the respondents answered that they strongly agreed that they were generally satisfied with teaching at their schools, ratings between 1 and 3 were combined to create a binary measure of teacher job satisfaction (strong work satisfaction versus weaker work satisfaction).

Teachers' job commitment was constructed from a survey item asking "How long do you plan to remain in teaching?" The response categories changed over the years. In the first two waves, there were 5 possible responses: (1) As long as I am able, (2) Until I am eligible for retirement, (3) Will probably continue unless something better comes along, (4) Definitely plan to leave teaching as soon as I can, and (5) Undecided at this time. In the later two waves, there were 8 possible response categories: (1) As long as I am able, (2) Until I am eligible for retirement benefits from this job, (3) Until I am eligible for retirement benefits from a previous job, (4) Until I am eligible for Social Security benefits, (5) Until a specific life event occurs (e.g., parenthood, marriage), (6) Until a more desirable job opportunity comes along, (7) Definitely plan to leave as soon as I can, (8) Undecided at this time. Across all waves, close to half of the respondents stated that they planned to remain in teaching for as long as they were able. All other

responses suggested weaker or conditional commitment to the teaching profession or intent to stay only under certain circumstances. Hence, all of these other response categories were combined to create a binary measure of teacher job commitment (strong commitment to the profession versus weak commitment to the profession).

Key Independent Variables

Aggregated Measures. Survey items on principal and teacher influence were divided into separate measures of instructional and supervisory influence, based on practices of past research that considered school decision-making authority to be exert over these two broad domains (Marks and Nance, 2007; Hulpia et al., 2009). *Principal's Instructional Influence* included principals' responses to two items asking them how much influence they have over setting performance standards and establishing the curriculum. For each item, the principal responded using a four-point scale ranging from "no influence" (scored 1) to "a great deal of influence (scored 4). *Principal's Supervisory Influence* included five items on how much influence they had in determining content of teacher professional development programs, in hiring teachers, in setting disciplinary policy, setting teacher evaluation policies, and in making budgetary decisions.

Teacher's Instructional Influence was measured based on principals' responses to two items asking them how much influence their teachers have over setting performance standards and establishing the curriculum. For each item, teachers responded using a four-point scale ranging from "no influence" (scored 1) to "a great deal of influence (scored 4). *Teacher's Supervisory Influence* included five items on how much influence they had in determining content of teacher professional development programs, in hiring

teachers, in setting disciplinary policy, setting teacher evaluation policies, and in making budgetary decisions.

Teacher classroom control was constructed using teachers' ratings, ranging between "no control" (scored 1) and "a great deal of control" (scored 4), on how much individual control teachers reported having over the following areas of planning and teaching: the selection of textbooks and instructional materials, the content and skills to be taught, and teaching techniques, student assessment, student discipline, and the amount of homework assignment.

A measure of *families' school-based engagement* was constructed by taking an average of principals' reports of the proportion of families that participated in open house and parent-teacher conferences, engaged in school governance and matters related to student instruction, or were involved as parent volunteers in the prior school year. The survey asked principals "What percentage of students had at least one parent or guardian participating in the following events?" and the possible responses they could provide were 0-25% (scored 1), 26-50%, 51-75%, or 76-100% (scored 4). On these items, schools and/or principals could also select "Not applicable." The frequency of this response was very low (below 2%) and it was presumed that this response implies such schools did not hold those particular opportunities for family engagement, and thus a lack of any such collaboration. Under this assumption, "Not applicable" was given a score of 0.

Cronbach's alphas were calculated for each set of items used to create the five aggregate measures; they are reported in *Table A1*. As shown in the table, the reliabilities of the measures were quite variable, and particularly low for the set of items relevant to principal influence over school decisions in the most recent wave and for the set of items

relevant to families' school-based engagement in the first wave (SY 1999-2000). They were between 0.65 and 0.80 for teacher influence and autonomy measures across the four waves. Factor scores were calculated to consider the factor loadings for each item in constructing aggregate measures. These aggregate measures were used for analyses that addressed Research Questions 1a, 1b, and 3, results of which are reported and discussed in Chapter 4 and Chapter 6.

Non-aggregated Measures. For all multiple-item measures of teacher influence and control, principal influence, and family engagement in schools, the response distribution tended to vary from item to item. For instance, there were several items in the measure of principal influence (i.e., their influence over hiring new teachers or teacher evaluation) for which more than 90% of the sample responded they had strong influence over these decisions. The skew was not as extreme for other items in the same measure. For some items measuring of teacher influence or family empowerment there was a substantial positive skew, and for others, a significant negative skew. Exploratory analyses of these measure also suggested that their internal reliability, especially for items regarding principals' influence over school decisions, was fairly low. Furthermore, since the degree to which responses were scattered differed quite a bit from item to item, there was the concern that the resulting variation in the composite measure may be driven more significantly by those items that had larger variations than others. Thus, to address this concern, the study ran a second set of analyses for RQ 1a and 1b, which modeled individual items as unique variables, rather than relying singularly on combined measures of teacher influence and control, principal influence, and families' school-based engagement. The problematic skew in individual items was resolved by transforming

them into binary variables by splitting the responses to be closest to a median-split. In other words, categories were combined in order to create a binary variable for each item, where the percent breakdown most closely resembled a median-split. Among measures of principals' influence over school decisions, three items asking about principal's influence on setting policy on teacher evaluations, hiring teachers, and setting disciplinary policy were omitted from the analysis due to the lack of sufficient variation in the responses; over 90% of respondents had responded that they had a great deal of influence regarding these particular school decisions.

Job Demand and Support

The best measure of job demand that could be found in the SASS survey was the total weekly hours worked, measured as an estimate of how many hours teachers spent on all teaching and other school-related activities during a typical full week at the school. Grissom, Nicholson-Crotty, and Harrington (2014) also utilized this item as their measure of demand. There were slight differences in the ways this question was asked over the years, and thus the distribution of estimated hours per week differed quite significantly across the multiple waves, including the minimum and maximum hours. Thus, the hours were divided into six categories, in intervals of five hours other than the lowest and highest categories, where the ranges were larger due to outliers; then, the categories were assigned values of 1 through 6. Assigning values 1 to 6 to the categories also helped adjust for the large differences in the distributions and ranges of estimated hours across the waves.

Teacher perception of support from administrators was measured by a single survey item that asked teachers to rate how much they agreed to the statement, "The school administration's behavior toward the staff is supportive and encouraging," on a four-point scale ranging between strongly agree (scored as 4) and strongly disagree (scored as 1), that they were satisfied or perceived these supports in their work. *Teacher perception of support from parents* was measured by teachers' ratings of how much they agreed to the statement, "I receive a great deal of support from parents for the work I do," on a four-point scale ranging between strongly agree (scored as 4) and strongly disagree (scored as 1), that they were satisfied or perceived these supports in their work. Again, due to the skewed distribution in these responses, binary variables were created for both measures of teacher perceptions of support.

Controlling for Other Aspects of Teachers' Workplace Conditions

Three measures were used in order to control for demographic differences of schools, as well as to address Research Question 1b, which entails analyses of subsamples divided by demographic characteristics of schools. These variables were constructed as binary measures for the purpose of over-time comparison, and also for the subsample analysis.[1] The first variable, *high minority schools,* was a binary variable operationalized as schools that had above-sample-median proportion of students who identified themselves as Black or Hispanic. It was created by first summing the number

[1] Additionally, when continuous or near-continuous covariates are used in a logistic regression analysis, the frequency in each unique cell, or each set of cases cross-classified by the set of explanatory variables in the analysis, tends to be extremely small—often 0 or 1. Having an adequate count in each cell is important, for the presence of small or empty cells can cause the model to become unstable (Garson, 2013). Garson, G. D. (2013). *Factor analysis*. Statistical Associates Publishing.

of Black or Hispanic students, as reported by schools in the SASS, dividing this number by total enrollment, calculating the median percentage of Black or Hispanic students for the full sample of schools, and then splitting the sample at this calculated median into two categories. The above-median category was given the value of 1, and the below-median category was given the value of 0.

The second variable, *high poverty schools,* was a binary variable operationalized as schools that had above-sample-median proportion of students eligible to receive free-and-reduced lunch (FRL). It was created by first dividing the number of students eligible to receive FRL reported by the school by total student enrollment, calculating the median percentage of FRL eligible, and then splitting the sample at this calculated median into two categories. The above-median category was given the value of 1, and the below-median category was given the value of 0.

The third variable, *low performing schools*, was operationalized as schools that had failed to meet their AYP in the prior year, or the state or district-designated performance standard in the case of the first two waves.

Key Measures for Research Question 2

Three scales on the TFS were used to address RQ2. In the first scale, Movers were asked to compare their former and current schools' working conditions by responding whether they were better in SY2011-12, better in SY2012-13, or unchanged across the years (See *Table A3* for full list of survey items for each analysis).

Second, a series of measures gauged the perceptions of Stayers and Movers, rated on a scale of 1-5, regarding how effective their principal's leadership was in their schools in SY2011-12 (See *Table A4* for full list of survey items for each analysis).

Lastly, using teachers' responses to the following questions: "From the reasons listed, which do you consider the one most important reason in your decision to leave the position of a K–12 teacher?" or "From the reasons listed, which do you consider the one most important reason in your decision to leave last year's school?" data on the most important reasons for teachers' withdrawal decisions were analyzed (See *Table A4* for full list of survey items for each analysis). This survey question was only available in the Teacher Follow-up Survey of 2004-05, 2008-09, and 2012-13. The list of reasons respondents could choose from changed significantly over the years. To achieve consistency across multiple waves for comparison purposes, categories were regrouped for each wave, ultimately resulting in eight categories: (1) *Personal Life Factors*, (2) *Retirement*, (3) *Salary and Other Job Benefits*, (4) *Career Factors*, (5) *Further Training*, (6) *Job Assignment and Classroom Factors*, (7) *Accountability Policy*, (8) *Other Factors.* Teachers responded that the most important reason for their decision to leave their current school or the profession was one of the listed items, each of which belong in one of the eight categories. The distribution of these responses was compared across the three waves for which data are available.

Regrouping was done based on a subjective judgement of the nature of individual items. For instance, in the most recent wave, relevant items for *Job Assignment and Classroom Factors* included teachers' dissatisfaction with their job assignment, lack of classroom autonomy, dissatisfaction with large class sizes, and the high frequency of

intrusions on their teaching time. In the prior wave, this subscale included more specific items on teachers' attitudes about their job assignment, which were teachers' dissatisfaction with an involuntary transfer to a different assignment and their dissatisfaction with the grade level or subject area that they were assigned to. However, in the 2004-05 wave of TFS, the only relevant item for this subscale that was available was a general item that inquired about teachers' dissatisfaction with their school and teaching assignment. Thus, *Job Assignment and Classroom Factors* was a category that included a different set of relevant items in each year of data collection. Also, several sub-categories that made sense to include for TFS 2008-09 and TFS 2012-13, such as *Lack of Control*, *Lack of Support*, and *Other Workplace Conditions,* were combined into the *Other Factors* category for the analysis since such specific response options were available only in these two waves. *Career Factors* included two items that were available in all three waves. These items inquired about teachers' plans to pursue a career other than teaching and their dissatisfaction with teaching as a career. *Further Training* referred to teachers' decisions to take courses to improve career opportunities within the field of education was considered as teachers' desires to stay in the profession but to pursue further training; this item was also available in all three waves (see *Table A4* for more details on the availability of measured items across waves).

Analysis

RQ1a was addressed by running a series of logistic regression models predicting teacher satisfaction and teachers' commitment to the profession. Also, a set of multinomial logistic regression models predicting teachers' decisions to stay in the same

school, transfer schools, or leave the profession in the subsequent year were run. Next, the intermediary outcomes of teacher satisfaction and commitment were entered into the multinomial logistic regression model predicting teacher turnover outcomes.

The logistic regression modeling the predictors of teacher job satisfaction will be specified as follows:

$$Satisfaction_i = \beta_0^S + \beta_p^S x_{1i} + \beta_t^S x_{2i} + \beta_f^S x_{3i} + \beta_C^S x_{Ci} + \varepsilon$$

Here, β_0^S is the logit coefficient for intercept, β_p^S is the vector of logit coefficients for principal influence, β_t^S, the logit coefficients for teacher influence and classroom control variables, β_f^S, the logit coefficient for family support, and β_C^S is the vector of logit coefficients for all control variables. Also, x_{1i} refers to the principal influence covariates, x_{2i}, the teacher influence and classroom control covariates, x_{3i}, the family support covariates, and x_{Ci} is the vector of control variables.

The logistic regression modeling the predictors of teacher job commitment will be specified as follows:

$$Commitment_i = \beta_0^S + \beta_p^S x_{1i} + \beta_t^S x_{2i} + \beta_f^S x_{3i} + \beta_C^S x_{Ci} + \varepsilon$$

Here, β_0^S is the logit coefficient for intercept, β_p^S is the vector of logit coefficients for principal influence, β_t^S, the logit coefficients for teacher influence and classroom control variables, β_f^S, the logit coefficient for family support, and β_C^S is the vector of logit coefficients for all control variables. Also, x_{1i} refers to the principal influence covariates, x_{2i}, the teacher influence and classroom control covariates, x_{3i}, the family support covariates, and x_{Ci} is the vector of control variables.

For the multinomial logistic regression analysis, the reference category will be "Stayers", and the full model will consist of two parts—one modeling the probability of teachers moving to other schools ("Movers") compared to the probability of staying ("Stayers") and the other modeling the probability of teacher leaving the profession ("Leavers"), again, compared to the probability of staying. The model will account for a set of control variables, including teacher's years of teaching experience, proportion of minority students in school, proportion of FRL eligible students in school, grade level (elementary, secondary, or combined), urbanicity (city, rural, or town), and school enrollment size. The model will be specified as follows:

$$\ln\left(\frac{\Pr(Mobility_i = 2)|X}{\Pr(Mobility_i = 1)|X}\right) = \beta_0^M + \beta_p^M x_{1i} + \beta_t^M x_{2i} + \beta_f^M x_{3i} + \beta_C^M x_{Ci}$$

For the outcome variable, $Mobility_i$, "Stayers" are coded as 1, and "Movers" as 2. β_0^M is the logit coefficient for intercept, β_p^M is the vector of logit coefficients for principal influence, β_t^M, the logit coefficients for teacher influence and classroom control variables, β_f^M, the logit coefficient for family support, and β_C^M is the vector of logit coefficients for all control variables. Also, x_{1i} refers to the principal influence covariates, x_{2i}, the teacher influence and classroom control covariates, x_{3i}, the family empowerment covariates, and x_{Ci} is the vector of control variables.

$$\ln\left(\frac{Pr(Mobility_i = 3)|X}{Pr(Mobility_i = 1)|X}\right) = \beta_0^L + \beta_p^L x_{1i} + \beta_t^L x_{2i} + \beta_f^L x_{3i} + \beta_C^L x_{Ci}$$

For the outcome variable, $Mobility_i$, "Stayers" are coded as 1, and "Leavers" as 3. β_0^L is the logit coefficient for intercept, β_p^L is the vector of logit coefficients for principal influence, β_t^L, the logit coefficients for teacher influence and classroom control variables, β_f^L, the logit coefficient for family support, and β_C^L is the vector of logit coefficients for all control variables. Also, x_{1i} refers to the principal influence covariates, x_{2i}, the teacher influence and classroom control covariates, x_{3i}, the family empowerment covariates, and x_{Ci} is the vector of control variables.

To address RQ1b, above set of analyses for RQ1 will be conducted on subsamples of schools and their teachers, grouped by schools' level of racial diversity, poverty, and academic performance—three characteristics of the school context consistently found in past literature to be associated with differences in rates of teacher attrition (Hanushek, Kain, and Rivkin, 2004; Guarino et al., 2011). In essence, these analyses would explore whether the school context moderates the extent to which the role of principals, families, and teachers in shaping student learning and classroom instruction predicts teachers' work satisfaction and their decisions to stay at or leave their current schools.

To address RQ2, a descriptive analysis was conducted using data on Movers' comparisons of their former and current schools on various working conditions. Then, using data on teachers' ratings of the effectiveness of their leadership in SY2011-12, a series of independent t-tests were run to examine which actions of leadership saw the largest differences in ratings by teachers who eventually stayed in the same school or moved schools in SY2012-13. Lastly, a descriptive analysis was conducted using data on what movers and leavers found to be the most important reasons for their exit decisions. All of the above analyses will be conducted separately for the high minority, high

poverty, and low performing school subgroups in order to observe differences by school demographics.

For RQ3, descriptive statistics across the waves were compared, particularly for measures of principal influence, teacher influence and classroom control, and family empowerment to note any changes over time. Then, the same logistic regression models predicting teacher satisfaction and teachers' commitment to the profession and the same set of multinomial logistic regression models predicting teachers' decisions to stay in the same school, transfer schools, or leave the profession as in RQ1 were run, but using data from the three prior waves in order to test for differential effects of principal influence, teacher influence and classroom control, and family empowerment on teacher job satisfaction, commitment, and mobility at various points in time. The four waves of data collection each took place prior to NCLB, near its inception, during its implementation, and lastly during the institution of the Race to the Top as the guiding federal education policy, in the year that states began to be granted waivers from the statutes under NCLB. This allows a meaningful comparison to be made across the four cohorts regarding the roles of school subsystems and their relation to the investigated teacher outcomes. Over these years, test-based accountability gained stronger foothold in the American education system, and schools chose to respond to these pressures in different ways. In this context, it is unclear the extent to which the role of principal influence, teacher influence and control in the classroom, and degree of family presence in school have shifted over time, as well as in how potential changes in these conditions are related to the job satisfaction of teachers and their job commitment.

All analyses conducted to address the research questions 1 and 3 accounted for other potential factors that may be systematically related to teacher job satisfaction and mobility, as suggested by the findings of past studies. These control variables broadly included teacher characteristics (e.g., years of teaching experience), and school characteristics (e.g., proportion of minority students, proportion of FRL eligible students, school performance, school grade level, urbanicity, and school size).

Also, past literature has suggested states tend to differ greatly in terms of their education policies, as well as in terms of their population and demographic contexts (Carnoy and Loeb, 2002; Grissom, Nicholson-Crotty, and Harrington, 2014). Hence, it is highly likely that school environments, the working conditions of schools as perceived by teachers, the degree of centralization and decentralization of authority, control, and power throughout the administrative hierarchy of the state school system, and other factors impacting the perceptions of teachers toward their work and occupation, as well as their assessments of the school labor market, also vary just as much. Hence, all models adjusted for the clustering of schools and teachers within each state, or the potential downward bias in OLS standard errors, using cluster-robust standard errors for statistical inference.

CHAPTER 4

What Principal Authority, Teacher Influence and Classroom Control, and Families' School-Based Engagement Mean for Our Teachers

As noted previously, past studies have found that school's working conditions, as perceived and experienced by teachers, tend to be directly or indirectly related to their decisions about staying in their workplace or choosing to leave. Throughout the current era of accountability, teachers, especially those in under-resourced and/or under-achieving schools, have faced heightened performance pressures and the burdens of having to raise test scores at all costs. In this policy climate, teachers have increasingly found the various conditions of their workplace, such as the support from their school community and colleagues, their family and student relationships, instructional demands, and other characteristics of their school environment, to play a crucial role in determining their attitudes toward teaching, desires to stay in the profession, and their career decisions.

As mentioned previously, in studying various aspects of the teacher's workplace environment, relatively less emphasis has been placed on investigating how teacher outcomes are shaped by the level of influence they are able to exert over decisions about school operations and the level of autonomy they have in classroom instruction and management. Also of question are whether and how teacher attitudes and outcomes tend to differ with respect to how influential their building leaders are in making key decisions for the school, which ultimately impacts their classroom instruction. Last but not least, in response to the call for strengthening the role of families as a key stakeholder and

important partner in educating our students, there is a need to better understand how teacher perceptions about their work satisfaction and commitment are shaped by the degree to which their families are empowered to take part at the school and in the classroom. Especially since shared decision-making has been increasingly highlighted as an effective model of school leadership, all of these questions are worth addressing to add to the understanding of why teachers are choosing to leave their schools or the profession entirely.

In this chapter, I present findings from an analysis of SASS 2011-12 and TFS 2012-13 data regarding the hypothesized connections between the teacher influence and autonomy over school and classroom decision-making and teacher outcomes, as well as the effects of principal influence and families' school-based engagement on these same outcomes. The key questions addressed were the extent to which teacher satisfaction and job commitment in a given year were related to the principals' perceptions of their influence over various aspects of school decisions, teachers' perceptions of their influence over school decision-making and control over classroom instruction, and the level of families' school-based engagement in the same year. These analyses were conducted using aggregated measures of these key predictors. These associations were also tested for teachers in different school subsamples: high-minority schools (those that had above the national median level of racial minority students) and low-minority schools, high-FRL schools (those that had above the national median level of students eligible to receive subsidized lunch) and low-FRL schools, and low-performing schools (those that had failed to meet AYP in the previous year) and high-performing schools.

Next, questions regarding whether teacher satisfaction, as well as their commitment to remaining in the profession for as long as they can, was related to their ultimate decisions to move to a different school or leave the profession were tested. Also tested were the questions of whether the levels of principal authority, teacher influence and control, and families' participation in schools were associated with the likelihood of teachers moving schools or leaving the profession rather than continuing to teach in the same school. Subsequently, the same analyses were also conducted using subsamples of teachers to explore whether in schools of different characteristics, there were any variations in the associations tested.

Lastly, the study tested the extent to which teacher satisfaction, job commitment in a given year, and the voluntary turnover of teachers were related to the individual items measuring various aspects of principals' influence over school decisions, teachers' influence over school decision-making and their control over classroom instruction, and the level of families' school-based engagement. Findings are described in the following sections.

Teacher Satisfaction

Prior to the analysis, I expected to see that teachers would be less satisfied teaching in schools where they lacked voice in decision-making, school administrators had weak control over school operations, and families tended to have little presence on school grounds and in the classroom. The study findings did not fully support these expectations but did find that while teacher satisfaction was not dominantly related to influence held by any single school actor, among the independent variables of interest,

factors regarding teachers' autonomy in the classroom tended to be the most meaningfully associated with teacher perception of strong job satisfaction.

As reported in *Table B2*, the results showed that job demand, or average hours worked, did not have a significant association with teachers' job satisfaction (OR=1.00, p>0.05). Teachers' perceptions of their principals' support for their work did have a significant relationship with the odds of teachers' strongly agreeing that they are generally satisfied with their jobs (OR=2.78, p<0.001); with an increase of a rating on the measure of principals' support for teachers, teachers had 178% greater odds of reporting such job satisfaction. This was also the case for teachers' perception of support from their families (OR=1.65, p<0.001); with an increase of a rating on the measure of support from families, teachers had 65% greater odds of reporting such job satisfaction.

As for the key measures of the different types of control and influence held by those within the school, there were mostly no statistically meaningful relationships between those measures and teacher perceptions of their job satisfaction. For instance, there were no such relationships found with aggregated measure of principals' influence over instructional decisions (OR=0.93, p>0.05), principals' influence over supervisory decisions (OR=1.10, p>0.05), teachers' influence over instructional decisions (OR=1.16, p>0.05), teachers' influence over supervisory decisions (OR=1.17, p>0.05), and families participation in schools (OR=0.98, p>0.05). On the other hand, with a unit increase in the aggregate measure of teachers' classroom control, the odds of teachers' reporting strong general job satisfaction was 33% greater (OR=1.33, p<0.001).

As reported in *Table B3*, principals' influence over instructional decisions, for teachers who served in high minority schools, was not related to their general satisfaction

(*OR*=0.72, $p>0.05$), whereas for teachers who served in low minority schools, there was a significant positive relationship (*OR*=1.34, $p<0.05$). For teachers who served in high poverty schools, there was a significant negative relationship between the influence of principals over instructional decisions and odds of teachers strongly agreeing that they were generally satisfied in their jobs (*OR*=0.70, $p<0.05$). On the other hand, although not significant at alpha of 0.05, the coefficient for this measure of principal influence was 1.37 ($p<0.10$) for teachers who had served in low poverty schools. There were no differences between the sample of teachers who had served in schools that met AYP goals in the previous year and did not meet AYP in terms of this association; both found no statistically significant relationship. In terms of principals' influence over supervisory decisions, there were no statistically significant relationships with teachers' perception of job satisfaction for any of the subgroups of teachers.

Stronger influence of teachers over supervisory decisions, for those who served in high minority schools, was associated with stronger job satisfaction (*OR*=1.48, $p<0.05$), whereas for teachers who served in low minority schools, there was no significant relationship (*OR*=0.98, $p>0.05$). For teachers who served in high poverty schools, the coefficient was 1.29 ($p<0.10$) although it was not significant at alpha of 0.05; there was no significant relationship between the influence of principals over supervisory decisions and odds of teachers strongly agreeing that they were generally satisfied in their jobs for the sample of teachers who served in low poverty schools (*OR*=1.09, $p>0.05$). There were no differences between the sample of teachers who had served in schools that met AYP goals in the previous year and did not meet AYP in terms of this association; both found no statistically significant relationship. In terms of teachers' influence over

instructional decisions, there were no statistically significant relationships with teachers' perception of job satisfaction for any of the subgroups of teachers.

The level of autonomy of teachers in the classroom had a positive association with teachers' job satisfaction in the full sample. This association was found in the sample of teachers who taught in high minority schools (OR=1.31, p<0.05), in the sample of teachers taught in high FRL schools (OR=1.56, p<0.001), and in both samples of teachers who served in underperforming (OR=1.27, p<0.05) and high performing schools (OR=1.36, p<0.01). For the groups of teachers who served in low minority (OR=1.33, p<0.10) or low poverty schools (OR=1.12, p>0.05), there was no such significant association.

The level of families' school-based engagement was not associated with teachers' perceptions of job satisfaction in any subgroup. In the following sections, findings regarding the outcome variable of teachers' intent to remain in the teaching profession for as long as they can, or job commitment, and its relationship with principal influence over school decisions, teacher influence over school decisions and classroom autonomy, and families' school engagement will be described.

Teacher Job Commitment

Prior to the analysis, I expected to see that teachers would be less likely to express a strong intent to remain in teaching for as long as they can when they felt that they lacked voice in decision-making, their school leaders reported having weak influence over decisions about instruction and other school operations, and their families tended to have little presence in school and in the classroom.

As reported in *Table B2*, teachers' perceptions of their principals' support for their work did have a significant relationship with the odds of teachers reporting that they desire to stay in teaching for as long as they are able versus leave as soon as they can or when better opportunities come along (OR=1.21, p<0.01); with an increase of a rating on the measure of principals' support for teachers, teachers had 21% greater odds of reporting such strong commitment to the profession. This was also the case for teachers' perception of support from their families (OR=1.22, p<0.01); with an increase of a rating on the measure of principals' support for teachers, teachers had 65% greater odds of reporting such job commitment (OR=1.65, p>0.05).

As for the key measures of the different types of control held by those within schools, there were no statistically meaningful relationships between those measures and teacher perceptions of their job commitment. For instance, there were no such relationships found with aggregated measure of principals' influence over instructional decisions (OR=0.93, p>0.05), principals' influence over supervisory decisions (OR=1.10, p>0.05), teachers' influence over instructional decisions (OR=1.16, p>0.05), teachers' influence over supervisory decisions (OR=1.17, p>0.05), teachers' autonomy within the classroom (OR=1.17, p>0.05), and families participation in schools (OR=0.98, p>0.05).

Results of Subsample Analyses

As reported in *Table B4*, principals' influence over instructional decisions, for teachers who served in high minority schools, was not related to their long-term commitment to the profession (OR=1.41, p>0.05), whereas for teachers who served in

low minority schools, there was a significant negative relationship (OR=0.67, p<0.05). There were no statistically significant relationships between the strength of principals' influence over school decisions and teachers' job commitment for any other subgroup of teachers.

There were also no statistically significant relationships between the strength of teachers' influence over school decisions and teachers' job commitment for any subgroup of teachers. Between teachers' autonomy in the classroom and their commitment to staying in teaching for as long as they are able, there were statistically significant, positive associations for the group of teachers who had served in high minority schools (OR=1.45, p<0.01), and in high FRL schools (OR=1.32, p<0.05).

There were generally no statistically significant relationships between the level of family engagement in schools and teachers' professional commitment, other than in low FRL schools (OR=0.84, p<0.05), where an increase of 1 on the aggregated measure of the level of families' school-based engagement was related to 16% lower odds of teachers expressing that they would be staying in teaching for as long as possible. The next sections will describe the findings regarding teacher turnover outcomes—whether teachers continued to serve in the same school, moved to a different school but stayed in the profession, or left the profession entirely.

Teacher Turnover

The study first tested the relationship between teachers' decisions to move to another school or leave the profession and their job satisfaction and intent to remaining in teaching. Strong teacher job satisfaction was meaningfully related to a lower risk of

teachers moving to a different school (*RRR*=0.49, $p<0.001$), but not significantly related to teachers' job commitment (*RRR*=0.77, $p>0.05$). On the other hand, strong teacher job commitment was meaningfully related to lower risk of teachers leaving the profession (*RRR*=0.36, $p<0.001$), but not significantly related to teachers' job satisfaction (*RRR*=0.84, $p>0.05$) (see *Table 2*).

Furthermore, as reported in Table 2, the results showed that job demand, or average hours worked, did not have a significant association with teachers' risk of moving schools versus staying in the same school in the subsequent year (*RRR*=0.99, $p>0.05$). Teachers' perceptions of their principals' support for their work did have a significant relationship with the risk of teachers moving schools (*RRR*=0.71, $p<0.01$); with an increase of a rating on the measure of principals' support for teachers, teachers had 29% lower risk of moving to a different school. This was also the case for teachers' perception of support from their families (*RRR*=0.85, $p<0.05$); with an increase of a rating on the measure of support from their families, teachers had 15% lower risk of moving schools.

As for the key measures of the different types of control held by those within schools, there were generally no statistically meaningful relationships between those measures and the risk of teachers moving schools. For instance, there were no such relationships found with aggregated measure of principals' influence over instructional decisions (*RRR*=1.07, $p>0.05$), principals' influence over supervisory decisions (*RRR*=0.97, $p>0.05$), teachers' influence over instructional decisions (*RRR*=0.73, $p>0.05$), teachers' autonomy within the classroom (*RRR*=0.96, $p>0.05$), and families participation in schools (*RRR*=0.90, $p>0.05$). On the other hand, there was a significant

relationship between teachers' influence over supervisory decisions and teachers' risk of moving schools (*RRR*=1.44, $p<0.01$); for a 1-point increase in the aggregate measure of teachers' influence over supervisory decisions, there was a 44% higher risk of teachers moving to a different school.

Moreover, the results showed that job demand, or average hours worked, did have a significant association with teachers' risk of leaving the profession versus staying in the same school in the subsequent year (*RRR*=0.99, $p<0.05$), a finding which was contrary to what was expected. The longer hours teachers worked, the less likely teachers were to leave teaching for good. However, teachers' perceptions of their principals' support for their work (*RRR*=1.10, $p>0.05$), as well as the families' support for their work (*RRR*=1.12, $p>0.05$), did not have a significant relationship with the risk of teachers leaving the profession.

As for the key measures of the different types of control held by those within schools, there were mostly no statistically meaningful relationships between those measures and the risk of teachers leaving the profession. For instance, there were no such relationships found with aggregated measure of principals' influence over instructional decisions (*RRR*=0.94, $p>0.05$), principals' influence over supervisory decisions (*RRR*=1.10, $p>0.05$), teachers' influence over supervisory decisions (*RRR*=1.19, $p>0.05$), teachers' autonomy within the classroom (*RRR*=0.89, $p>0.05$), and families participation in schools (*RRR*=0.94, $p>0.05$). On the other hand, there was a significant relationship between teachers' influence over instructional decisions and teachers' risk of leaving the teaching profession (*RRR*=0.80, $p<0.05$); for a 1-point increase in the

aggregate measure of teachers' influence over instructional decisions, there was a 20% lower risk of teachers leaving the profession.

Comparison of high-minority schools to low-minority schools

There was no difference between teachers who served in high and low minority schools in terms of the association between the risk of teachers moving schools or leaving the profession and the aggregate measure of principals' influence. For teachers who had served in high minority schools, strong influence of teachers over supervisory decisions predicted a 45% higher risk of teachers moving schools ($p<0.05$), whereas for teachers who had served in low minority schools, there was no statistically significant association ($RRR=1.38$, $p<0.10$). For teachers who had served in high minority schools, strong influence of teachers over instructional decisions predicted 31% lower risk of teachers leaving schools ($p<0.001$), while for teachers who had served in low minority schools, strong influence of teachers over instructional decisions predicted 42% lower risk of teachers moving to a different school ($p<0.01$). Moreover, for teachers who had served in high minority schools, strong classroom autonomy of teachers was not significantly related to teacher turnover outcomes, whereas for teachers who had served in low minority schools, strong classroom autonomy of teachers predicted a 27% lower risk of teachers leaving the profession ($p<0.05$). There was no difference between teachers who served in high and low minority schools in terms of the association between the risk of teachers moving schools or leaving the profession and the aggregate measure of families' school-based engagement.

Comparison of high-FRL schools to low-FRL schools

There was no difference between teachers who served in high and low FRL schools in terms of the association between the risk of teachers moving schools or leaving the profession and the aggregate measure of principals' influence. For teachers who had served in high FRL schools, teachers' influence over school decision-making was not significantly related to teacher turnover outcomes, whereas for teachers who had served in low FRL schools, strong teacher influence over supervisory decisions predicted a 60% higher risk of teachers moving to a different school ($p<0.01$). There was no difference between teachers who served in high and low FRL schools in terms of the association between the risk of teachers moving schools or leaving the profession and the aggregate measure of teachers' classroom control, and well as the aggregate measure of families' school-based engagement.

Comparison of schools that met and did not meet AYP in the previous year

For teachers who had served in schools that met AYP in the previous school year, principals' influence over school decision-making was not significantly related to teacher turnover outcomes, whereas for teachers who had served in schools that did not meet AYP in the previous year, strong principal influence over instructional decisions predicted a 33% higher risk of teachers moving to a different school ($p<0.05$). For teachers who had served in schools that met AYP in the previous school year, teachers' influence over school decision-making was not significantly related to teacher turnover outcomes, whereas for teachers who had served in schools that did not meet AYP in the previous year, strong teacher influence over supervisory decisions predicted a 68% higher

risk of teachers moving to a different school ($p<0.01$). There was no difference between teachers who served in high and low FRL schools in terms of the association between the risk of teachers moving schools or leaving the profession and the aggregate measure of teachers' classroom control, and well as the aggregate measure of families' school-based engagement.

Next, results for the series of analyses that used individual items to model the relationships between the influence or control of various actors within the school and teacher perceptions of job satisfaction, job commitment, and teachers' risk of moving to a different school or leaving the profession are discussed below.

Principal influence over school decisions

Satisfaction. The aggregated measure of principals' influence over instructional decisions had not been significantly associated with the odds of teachers expressing strong general satisfaction with their jobs. As reported in *Table B6*, the individual items of principals' influence over setting performance standards (OR=1.11, p>0.05) and establishing the curriculum (OR=1.23, p<0.10) also did not have statistically significant associations with teachers' perception of job satisfaction.

The aggregated measure of principals' influence over supervisory decisions was also not significantly associated with the odds of teachers expressing strong general satisfaction with their jobs. However, as reported in *Table B6*, a significant but negative association was found between principals' influence over teacher professional development and the odds of teachers strongly expressing job satisfaction (OR=0.58, p<0.001), suggesting that when principals perceived a high level of influence over

teacher PD, the odds that a teacher in that school would feel strong satisfaction from their workplace would be only 0.58 times the odds that a teacher would feel such satisfaction when their principal reported having weaker influence over teacher PD. On the other hand, teachers' work satisfaction was not statistically associated with principals' influence over school budgeting (*OR*=1.21, *p*>0.05).

Commitment. The aggregated measure of principals' influence over both instructional and supervisory decisions had not been significantly associated with the odds of teachers expressing their desire to remain in teaching for as long as they are able. As reported in *Table B6*, in schools where principals had strong influence over establishing the curriculum, teachers were more likely to express the intent to remain in teaching for as long as they can, or strong commitment to the profession (*OR*=1.40, *p*<0.05). Other aspects of principal's decision-making influence were not statistically significantly associated with teachers' commitment to the profession, including principals' influence over setting performance standards (*OR*=0.83, *p*>0.05), teacher professional development (*OR*=0.96, *p*>0.05), and school budgeting (*OR*=1.01, *p*>0.05). In general, there is no meaningful relationship between teachers' commitment to the profession and the principals' perception of their influence over various school decisions. The only notable finding was the positive relationship between principals' influence over establishing the school curriculum and teachers' intent to remain in the teaching profession for as long as they can.

Turnover. The aggregated measures of principals' influence in making school decisions were not statistically significantly related to the risk of teachers moving to another school or leaving the profession. The model estimated using individual measures

of principal influence, however, did find that the strong influence of principals in making budgeting decisions was significantly related to the risk of teachers leaving the profession. Where principals reported having strong influence over setting the budget, the risk of teachers leaving teaching was 1.56 times the risk of teachers deciding to leave the profession in the next year where their principals reported having weak influence over setting the budget ($p<0.05$). There was no difference between the model estimated with and without the intermediary outcomes of teachers' job satisfaction and job commitment. Other aspects of principal influence were not statistically significantly related to the risk of teachers moving schools or leaving the profession.

Teacher influence over school decisions and control over classroom instruction

Satisfaction. The analysis using aggregate measures of within-school control or influence found no significant relationship between teacher perceptions of strong job satisfaction and teachers' influence over school decisions but did find a significant relationship with teachers' autonomy in the classroom. However, using individual items as predictors, the analysis found that teachers' job satisfaction was associated with teachers having strong influence over setting performance standards ($OR=1.38$, $p<0.05$), but not associated with teachers having strong influence over establishing the curriculum ($OR=1.26$, $p>0.05$). As for individual items measuring teacher influence over supervisory decisions, they were not significant predictors of teachers' job satisfaction.

The aggregate measure of teachers' autonomy in the classroom was associated with the odds of teachers strongly agreeing that they were generally satisfied in their jobs. Using individual items as predictors, the estimated model found teachers' strong control

over instructional techniques (*OR*=1.54, $p<0.05$) and student discipline in the classroom (*OR*=1.66, $p<0.01$) to be significant, positive predictors of teachers' perception of job satisfaction; other variables were not significantly associated. Where teachers perceived great autonomy in determining their approaches to and methods for teaching, they had 54% higher odds of feeling strong work satisfaction than teachers who perceive weaker influence over instructional techniques. Also, teachers who felt they had stronger control over student discipline had 66% higher odds of feeling strong satisfaction than teachers who felt they possessed weaker levels of control over classroom discipline.

Although the expected positive associations between teacher influence and control and teacher satisfaction did not hold up for all independent variables, it generally appears that teacher autonomy within the classroom setting had stronger connections to teacher satisfaction than teacher influence over school-level decisions. Findings also suggested that among the various aspects of teachers' classroom control, strong control over student discipline tended to be robustly associated with teacher satisfaction, as well as control over teaching techniques.

Commitment. Aggregate measures of teachers' influence over both instructional and supervisory school decisions were not associated with teachers' intent to remain in teaching for as long as they can. However, using individual items as predictors, the analysis found that teachers' strong influence over determining the components of their professional development was significantly associated with strong commitment of teachers to the teaching profession (*OR*=1.77, $p<0.001$). Other aspects of teachers' decision-making influence were not statistically significantly associated with their commitment to the profession.

Whereas the aggregate measure of teachers' classroom control was not significantly associated with teachers' intent to stay in the profession for long-term, when the model was estimated using individual items measuring teacher autonomy as predictors, it was found that teachers' strong control over teaching techniques (*OR*=1.39, $p<0.05$) was significantly related to stronger commitment of teachers to staying in the profession. Where teachers perceived great influence over determining their approaches to and methods for teaching, they had 39% higher odds of feeling strong commitment to remaining in the profession than teachers who perceived weaker influence over instructional techniques. Teachers' commitment to remaining in the profession was not meaningfully associated with any other items.

In all, among the measures of teacher influence over school-level decisions, only that over teacher professional development had any meaningful relationship to teachers' strong job commitment, and among teachers' classroom autonomy measures, only control over teaching techniques had any meaningful association with teacher job commitment.

Turnover. Aggregated measures of teacher influence over making instructional and supervisory decisions were, respectively, found to be associated with lower risk of teachers leaving the profession, and with higher risk of teachers moving to a different school. Analyzing the same outcome variable, but using individual items as predictors, it was found that there was actually no statistically significant association between the risk of teachers leaving their profession and the individual measures of teacher influence over setting performance standards (*RRR*=0.80, $p>0.05$) and over establishing the curriculum (*RRR*=0.82, $p>0.05$). The signs of the coefficients did, however, suggest a negative relationship between teachers' influence and their risk of leaving the teaching profession.

Also, it was found that for most items regarding teachers' influence over supervisory decisions, there was actually no statistically significant association with the risk of teachers moving to a different school, including teachers' influence over teacher professional development (*RRR*=1.22, $p>0.05$), over teacher evaluations (*RRR*=1.46, $p<0.10$), over setting disciplinary policies (*RRR*=1.27, $p>0.05$), and over setting the budget (*RRR*=1.26, $p>0.05$). However, again, the signs of the coefficients did suggest a positive relationship between teachers' influence and their risk of moving the teaching profession.

The aggregated measure of teachers' classroom control had no significant association with teachers' decisions to move to another school or with their decisions to leave the teaching profession. However, when individual measures of teacher autonomy was used to model teacher turnover outcomes, it was found that teachers' control over instructional materials (*RRR*=0.59, $p<0.05$) was negatively associated with the risk of teachers moving to a different school, meaning that teachers who taught in schools where they could exert strong control over the materials and textbooks used for classroom instruction had 41% lower risk of deciding to move to another school as opposed to staying at the same school than teachers who had less control over their instructional materials.

Other measures were not statistically significantly related to the risk of teachers moving to another school. General trends were that teacher control over the instructional content (*RRR*=1.19, $p>0.05$), student discipline (*RRR*=1.22, $p>0.05$), teaching techniques (*RRR*=0.88, $p>0.05$) all had no significant relationship with teachers moving

to a different school. Also, none of the teacher classroom control measures had a significant association with teachers' decisions to leave teaching completely.

Families' school engagement

Satisfaction. The aggregate measure of the level of families' school-based engagement measures had no significant associations with teacher satisfaction, as with individual items measuring different aspects of families' engagement.

Commitment. Also, the aggregate measure of the level of families' school-based engagement measures had no significant associations with teacher commitment, as with individual items measuring different aspects of families' engagement.

Turnover. The aggregated measure of families' school-based engagement was not significantly associated with teachers' decisions to move schools or to leave the profession, and this was also the case for most of the individual measures of family engagement, such as the extent of family participation in instructional issues (movers: RRR=0.71, p<0.10; leavers: RRR=1.45, p<0.10) or as volunteers (movers: RRR=1.03, p>0.05; leavers: RRR=0.96, p>0.05). However, a high level of families' participation in school governance was significantly related to a 35% lower risk of teachers leaving the profession (p<0.05), whereas it was not significantly related to teachers' risk of moving to a different school (RRR=1.05, p>0.05).

Chapter Summary

Control held locally by school leaders and teachers over various types of instructional and management decisions, as well as the level of families' school-based

engagement, were not consistently related to the teacher outcomes of interest in this study. There were several preliminary takeaways that could offer directions for future studies that explore the implications of local control of schools, particularly teacher leadership or autonomy in our schools and classrooms.

First, the level of influence teachers had over various school decisions was generally not related to their satisfaction or commitment, and the only meaningful relationship that was found was between teacher satisfaction and their influence over setting performance standards. However, teacher influence over instructional decisions was found to be related to their voluntary turnover, as teachers who had stronger influence over instructional decisions, such as setting performance standards or establishing the instructional curriculum, were less likely to leave the profession. The subsample analysis found that this association was statistically significant only for those teachers who had served in high minority schools.

On the other hand, teachers who reported having stronger influence over supervisory decisions, such as school budgeting, setting disciplinary policies, the course of their professional development, teacher evaluations, or the hiring of new teachers, were more likely to transfer to a different school. In the subsample analysis, this relationship was found only for those teachers who had served in high minority schools and in those schools that had failed to meet AYP in the previous year, and not for their counterparts. Interestingly, among the individual measures of teacher influence over the various non-instructional decisions, teachers' strong influence over determining the components of their professional development was associated with stronger commitment of teachers to the teaching profession, suggesting that while teachers with greater

influence over making general management decisions are more likely to opt to move schools, teachers granted stronger voice in determining their course of professional development are actually more likely to desire to remain in the teaching profession.

Furthermore, the level of teachers' autonomy in the classroom was the only measure related to teachers' general satisfaction with their jobs, although it did not ultimately predict teachers' decisions to leave the profession or move to a different school. The subsample analysis found that this association was observed only for those teachers who had served in high minority and high FRL schools, and not for those teachers who had served in low minority and low FRL schools; a significant association was found in both underperforming and high performing schools. Furthermore, although in the full sample analysis, no significant association was found between teachers' commitment to staying in the profession and their level of autonomy in the classroom, in high minority and high poverty schools, there was a significant positive association. Thus, teacher autonomy appears to be important for teachers, especially in racially diverse contexts and in more economically disadvantaged schools.

More specifically, it was teachers' autonomy over their teaching techniques and their control over student discipline in the classroom, among all teacher autonomy measures, that were associated with positive attitudinal outcomes for teachers. Although a relationship with teacher turnover was not found for the aggregate measure of teachers' classroom autonomy, teachers' control in choosing their textbooks and other instructional materials, in particular, did predict a lower chance of teachers opting to transfer schools. These findings collectively suggest that giving teachers greater autonomy in their classrooms may be a good way to improve teacher morale and to create a more stable

teaching force in those schools, especially more so in those schools with high rates of racial diversity or poverty.

The strength of principals' influence in making key decisions for the school was not related to most of the teacher outcomes explored in this study. The subsample analysis, however, did suggest that a positive relationship between principals' influence over instructional decisions and teachers' general work satisfaction existed for teachers who served in schools that have lower proportions of racial minority students and students eligible to receive subsidized lunch. On the other hand, a negative relationship between strong principal influence over instructional decisions and teacher job satisfaction was observed for teachers in schools that have higher percent of students eligible to receive subsidized lunch. Hence, it appears that the nature of the relationship between the strength of the authority held by school leadership in shaping instruction and performance goals for the school and teachers' perceptions of their general workplace satisfaction differed by schools' demographic make-up, and more likely to be positive in schools that were traditionally more advantaged and negative in schools that were traditionally more disadvantaged.

Additionally, results suggested that although principals' influence over instructional decisions generally was not related to teachers' strong commitment to staying in the profession, principals' influence over establishing the curriculum, in particular, predicted stronger commitment to the profession. Also, although principals' influence over supervisory decisions generally was not related to any teacher outcomes, their influence over decisions regarding teachers' professional development, in particular, appeared to have been related to stronger teacher perceptions of satisfaction, and the

strong influence of school leaders over setting the budget to higher risk of teachers leaving the profession.

Lastly, findings suggested that although the level of family engagement in school was generally not related to any of the teacher outcomes, there may be relationship between higher levels of family engagement in school governance and lower risk of teachers choosing to leave the profession. Further studies are needed to fully understand why this association may exist.

CHAPTER 5

Why Do Teachers Leave?

Teachers tend to find excessive organizational control over their work to be limiting their sense of autonomy and flexibility. Past literature has also suggested that having little control over the processes and outcomes of their work can potentially cause teachers to feel that their work is not worthwhile (Ingersoll and Collins, 2017).

In the previous chapter, it was shown that teachers' perception of autonomy over the textbooks and materials used in teaching and over instructional approaches and techniques, as well as the course of their professional development appeared to be the most relevant to teachers' job satisfaction or professional commitment, out of all of the factors regarding principals' and teachers' influence over various decisions and families' engagement in the school, especially in culturally diverse schools and schools with high proportions of low-income students. In terms of their out-of-the-classroom control, teachers' influence over making decisions was not meaningfully related to any of the teacher outcomes. On the other hand, principals' strong influence over teacher professional development and their strong influence over school budgeting were negatively associated with teacher job satisfaction and the chance of teachers staying in their current positions versus leaving the profession of teaching, respectively, while their strong influence over establishing the curriculum was positively associated with teachers' intent to remain in teaching for as long as they can.

Interestingly, higher teacher job satisfaction was significantly related to lower chances of teachers moving schools, but not related to teacher decisions to leave the

teaching profession completely. On the other hand, teachers' intent to stay in teaching for as long as possible was significantly related to lower chances of teachers leaving the profession, while it was not significantly associated with their decisions to move to a different school. Most of the measures regarding principal influence, teacher influence and autonomy, and families' school engagement were not significantly related to whether teachers deciding ultimately to move schools or to leave schools. As such, there were some differences in trends found for the groups of movers and leavers.

This chapter uses different sets of measures to further examine teachers' opinions and perceptions regarding the various characteristics of organizations, which could both encourage them to or deter them from continuing to teach at a school, or remain in the profession at all. First, the single most important reason for why some teachers decided to leave the profession and why some others decided to move to a different school was analyzed not only for the most current wave, but also SY 2007-09 and SY 2003-05 (not SY 1999-2000 due to data availability). This was followed up with a slightly different analysis of the ratings by movers and leavers of how important various personal life, workplace, and career factors were for making their decisions to stay in the profession but leave their former schools or to leave the profession entirely. Next, teachers who had made the voluntary decision to work at a different school—movers—and teachers who opted to remain in the schools where they taught—the stayers—provided their evaluations of the conditions and terms of their work. Lastly, an analysis of how movers compared their former and current schools in terms of the actions of their leadership in working in collaboration with teachers was conducted. These latter two inquiries were addressed to provide a sense of what types of schools that teachers sought out in making

a transition to another school. These descriptive analyses further supplemented the findings of the previous chapter to better illustrate their implications and to put these findings into perspective.

Why Teachers Ultimately Left the Profession or Opted for a Different School Between the School Years 2011-12 and 2012-13

The most frequently named reason for why teachers decided to move to another school was for reasons other than factors relevant to their workplace conditions or their professional aspirations. While other factors may have reinforced teachers' decisions, personal life factors, which included relocation, marriage, pregnancy, personal health, or other family-related matters, were named by nearly half, 48.03%, of the movers as their most important reason for choosing to transfer schools. Other than personal life factors, the second most frequently named reason for why teachers moved to a different school was their dissatisfaction with and lack of support from their administrators; 24.41% of movers provided this reason as the most important factor that led to their decisions to discontinue teaching at their current school. A much lower percentage of movers gave their dissatisfaction with salary and benefits (6.43%), job assignment (7.00%), working conditions (7.63%), such as resources, facility, or class size, as the most important reason for moving to a different school. The least named reasons were the impact of accountability policies on instruction, rewards and sanctions, or assessments (1.42%), and job security (1.54%).

The most frequently named reason for why teachers decided to leave the profession was also their personal life factors; 37.75% of leavers named this as their most

important reason for their decision. The next most frequently named reasons for why teachers left the profession was retirement (18.08%) and career change (13.29%). A much lower percentage of leavers gave their dissatisfaction with salary and other job benefits (8.75%) as the most important reason for leaving the profession. The least named reasons were job security (0.28%), pursuit of further training within the field of education (2.75%), and dissatisfaction with job assignment (2.79%).

Between the School Years 2007-08 and 2008-09

As found in the most recent wave (SY 2011-13), in SY 2007-09, the most frequently named reason for why teachers decided to move to another school was personal life factors, named by nearly half, 49.62%, of the movers as their most important reason for choosing to transfer schools. Other than personal life factors, the second most frequently named reason for why teachers moved to a different school was also, as in SY 2011-13 (wave 4), the lack of support from the administration for their work; 18.43%, which is less than the 24.41% in wave 4, of movers provided this as the single most important factor that led to their decisions to discontinue teaching at their current school. Lower percentages of movers gave their dissatisfaction with job assignment (10.71%) or school conditions (9.61%) as the most important reason for moving to a different school. The least named reasons were job security (1.35%), lack of control/autonomy in their work (2.91%), and the impact of accountability policies on instruction, rewards and sanctions, or assessments (3.22%).

The most frequently named reason for why teachers decided to leave the profession was also their personal life factors; 31.78% of leavers named this as their most

important reason for their decision, which was slightly lower than the 37.75% in SY 2011-12. A close second most frequently named reason for why teachers left the profession was retirement (25.22%), which was seven percentage points higher than the 18.08% who named retirement as their single most important reason for leaving the profession SY 2011-12. Career change was named by 16.71% of leavers, and a much lower percentage of leavers gave lack of support (8.14%) as their most important reason for leaving the profession. The least named reasons were job security (0.15%), dissatisfaction with job assignment (1.49%), or the pursuit of further training within the field of education (2.39%).

Between the School Years 2003-04 and 2004-05

In SY 2003-05, the most frequently named reason for why teachers decided to move to another school was, again, personal life factors, named by about a quarter of the movers (25.27%). This was much lower than the near 50% in SY 2011-13 or in SY 2007-09. Lack of support was named by 24.00% of movers as their main reason for transferring, similar to the percent of responses in SY 2011-13. On the other hand, job assignment was much more frequently named as the single most important reason for moving schools (23.24%) in SY 2003-05. Lower percentages of movers reported that school conditions (10.20%) and salary and other job benefits (8.43%) were their most important reason for moving to a different school. The least named reasons were control/autonomy in their work (3.99%) and job security (4.87%).

The most frequently named reason for why teachers decided to leave the profession was also their personal life factors; 36.58% of leavers named this as their most

important reason for their decision, similar to the 37.75% in SY 2011-13. The second most named reason was retirement (23.43%), which was about five percentage points higher than the 18.08% in SY 2011-13 and similar to the 25.22% in SY 2007-09. Career change was named by 22.71% of leavers. Also, 3.39% mentioned further training within the field of education as their main reason for leaving teaching; this could potentially be just a temporary leave, given that they are pursuing further studies within the field. The least named reasons were salary and job benefits (6.81%) and dissatisfaction with job assignment (7.09%). Lack of support or general school conditions, such as availability of resources or conditions of the school facilities, had not been included in the SY 2004-05 TFS survey. These responses had been given by 12% of leavers in SY 2007-09 and 8.50% of leavers in SY 2011-13, rendering it difficult to make direction comparisons across the three waves.

In all, across all groups of movers and leavers in the three waves of data collection, teachers were most likely have left for personal life factors, which could be marriage, health, relocation, or other matters related have moved due to personal reasons not related to working conditions. What is notable is the big difference seen between SY 2003-05 and the latter two waves in the percentage of movers who responded that personal life factors were the main reason for their decisions, as well as those who responded that they moved schools because of their job assignment. In more recent years, a much lower proportion of teachers were likely to offer job assignment as their reason for moving schools, whereas almost twice as more were likely to name personal life factors and their main reason.

Another factor that seemed to have been critical for movers' decisions was their dissatisfaction with support from their administrators across all waves. Retirement was, not surprisingly, an important factor for leavers, but the proportion of leavers who gave retirement as their most important reason was the smallest in the most recent wave (SY 2011-13). One of the key measures of interest, teacher autonomy and control was not a key determining factor for a majority of the teachers at any point.

While it was probably a combination of multiple reasons that teachers ultimately decided to voluntarily leave their schools or the profession, the findings of this chapter offer one more explanation for why reducing the voluntary turnover of non-retiring teachers is challenging, especially in this day and age when personal life factors are the biggest drivers of teachers opting to teach at a different school. Thus, in our conceptions of why teachers leave the profession or choose to teach at a different school, it is important that we consider this factor, which appears to be more systemic than random.

In the next section, this particular question of what reasons were important considerations for teachers in deciding to move schools or to leave the profession was asked differently. Teachers were asked to rate how important individual factors were, on a scale of 1 to 5, in ultimately making their decision to transfer schools in 2011-12.

Important Considerations for Teachers' Exit Decisions in SY 2011-13

Teachers who Transferred Schools

Teachers gave an average rating of 2.84 with regard to how important school or home location was in their decision to move schools, and this was the highest rated reason for leaving their former schools. Teachers who had taught in schools that had a below-median percentage of minority students, below-median percentage of FRL eligible

students, or schools that had met AYP goals in the previous year, gave average ratings close to 2.50 with regard to how important school or home location was in their decision to move schools, whereas average ratings from teachers who had served in schools that had an above-median percentage of minority students, above-median percentage of FRL students, or schools that failed to meet AYP in the previous year were higher and closer to 3.00.

Teachers rated the importance of their desire to teach in the school they transferred to an average of 2.83. Teachers in all subgroups also tended to give an average rating between 2.50 and 3.00 regarding the importance of their desire to teach in the particular school they transferred to as a reason for deciding to move. The highest average ratings on this item were given by teachers who had formerly taught in low minority schools (mean=3.14) and low FRL schools (mean=3.10).

Teachers rated the importance of their dissatisfaction with the former school's administration 2.76, on average, in terms of how important this factor was in their deciding to move to a different school. Dissatisfaction with the administration was considered to be more important drivers for teachers deciding to teach at a different school in schools with more traditionally disadvantaged students, as average ratings were lower for the subsample of teachers who had taught in low minority schools (mean=2.40), low FRL schools (mean=2.62), and schools that had met AYP in the previous school year (mean=2.54). Teachers in high minority (mean=2.99), high FRL (mean=2.82), and underperforming schools (mean=2.91) gave average ratings higher and closer to 3.00 regarding how important their dissatisfaction with the administration at the prior year's school in leading to their decision to transfer schools.

Teachers, regarding how important their dissatisfaction with workplace conditions was in deciding to transfer schools, gave an average rating of 2.53. Teachers that served in high minority schools, high FRL schools, and underperforming schools gave average ratings of 2.80, 2.65, and 2.74, respectively, regarding how important their dissatisfaction with workplace conditions were in deciding to transfer schools, whereas teachers who served in low minority schools (mean=2.11), low FRL schools (mean=2.27), or high performing schools (mean=2.22) gave lower average ratings for the importance of this reason.

Dissatisfaction with their lack of influence over policies and practices was rated 2.27 on average and teachers' feeling that there were too many intrusions on their teaching time was given an average rating of 2.20. Dissatisfaction with their lack of influence over policies and practices was rated between 2.16 and 2.34 across the six subgroups of teachers. Teachers feelings that there were too many intrusions on their teaching time was given ratings between 2.22 and 2.39 in high minority, high FRL, and underperforming schools; average ratings were lower in their counterparts.

Salary and benefits-related factors, perception of job security, or dissatisfaction with the support received for preparing students for assessments all received low average ratings between 1.00 and 2.00. For instance, the desire to receive retirement benefits from the prior year's school system was given the lowest average rating of 1.26, suggesting this was not an important consideration in moving schools for most teachers. Salary and benefits-related factors, perception of job security, or dissatisfaction with the support received for preparing students for assessments all received low average ratings between 1.00 and 2.00. For instance, the desire to receive retirement benefits from the prior year's

school system received average ratings between 1.16 and 1.33 across all subsamples of teachers, meaning that for a majority of teachers, this was not an important consideration in moving schools.

Teachers who Left the Teaching Profession

Leavers, unlike movers, gave an average rating of 2.64 with regard to how important other personal life reasons (e.g., health, pregnancy/childcare, caring for family) were in their decision to leave the profession, and this was the highest rated reason for leaving their former schools; for movers, the highest rated response had been relocation or proximity to school. Teachers gave average ratings close to 2.50, or between 2.40 and 2.82, regardless of the characteristics of their student body; no drastic differences existed. Also, leavers rated the importance of their desire to retire 2.40, on average, and only slight differences between teachers in the various subsamples; average ratings spanned between 2.28 and 2.53.

Dissatisfaction with how school accountability measures impacted their teaching or curriculum was given an average rating of 2.16 by leavers. Ratings were particularly high among teachers who had taught in high minority schools (mean=2.39) and high FRL schools (mean=2.42), whereas for their counterparts, teachers who had served in low minority schools and teachers who had served in low FRL schools, average ratings were both 1.89. Moreover, the pursuit of a position outside of K-12 teaching was given an average rating of 2.16, but teachers who had taught in high minority schools (mean=2.38), high FRL schools (mean=2.42), and underperforming schools (mean=2.36) prior to leaving the profession had given slightly higher ratings, on average, than their

counterparts. Furthermore, teachers rated the importance of their dissatisfaction with the teaching career as a reason for their ultimate decision to leave the profession an average of 2.13. Again, ratings were higher for those teachers who had taught in high minority (mean=2.42), high FRL (mean=2.37), and underperforming schools (mean-2.21) than for their counterparts. Salary and benefits-related factors, perception of job security, or lack of control in the school all were given low ratings, regardless of the type of schools that teachers taught in, by leavers, suggesting that these were not important considerations in their decisions to quit teaching.

From these results of the survey, it is evident that the motivation for leaving varies meaningfully between movers and leavers. For movers, the most important reasons for leaving their former schools was not related to their workplace, and rather related to relocation or the proximity to school or simply a desire to teach at a particular school. Movers' dissatisfaction with the administration and workplace conditions were also fairly highly rated in terms of how important they were in deciding to leave their former schools, and especially more so for teachers who had taught in more traditionally disadvantaged schools. Lack of control and influence in decision-making were not as important as the above factors, and only slightly important on average. The least important factors were salary, benefits, or job security. As for leavers, other personal life factors that are not related to their place of residence, such as pregnancy, marriage, and health, as well as the desire to retire, were the most important reasons for leaving the profession. Dissatisfaction with how school accountability measures impacted their teaching or curriculum, the desire to work in a different field, or the dissatisfaction with teaching as a career were not rated as highly, but teachers who had taught in traditionally

disadvantaged contexts before they quit gave higher ratings, on average, than their counterparts. Lowest ratings, as in the case for movers, were given for salary, benefits, and job security.

Movers' Comparison of Their Current and Former Schools

Movers' selection of schools may be one way that teachers could exert control over their workplace conditions. Between their schools in SY 2011-12 and schools in SY2012-13, the largest percent of voluntary movers found the intellectual challenge offered by their new positions (43.18%), sense of personal accomplishment (42.29%), general work conditions (41.75%), and opportunities to learn from other colleagues (41.07%), as well as autonomy over their work (40.44%), to be better in their new schools. A similar percent (43-50%) of movers also reported that these factors did not change between their former and current schools.

On the other hand, a high proportion of movers found that their benefits (69.98%) and opportunities for promotion (69.37%) were no different between their former and current positions. Also, over half of the voluntary movers also reported that their salaries (59.15%), procedures for performance evaluation (58.42%), or job security (56.84%) had not changed between their former and current schools.

Of all the items, the factors that Movers were mostly likely to report as having worsened were the following: availability of resources (27.49%), manageability of workload (23.98%), and personal work-life balance (23.32%).

Lastly, while 40.44% of movers reported that their work autonomy had improved, a lower percentage of movers (32.68%) reported that their influence over

policies/practice had improved in their current schools, and over half (53.92%) reported no change in such influence between their current and former schools (see *Table C1* for more details).

Comparisons across Movers Who Formerly Taught in High-minority, High-FRL, or Underperforming Schools

Across subsamples of teachers who taught in high-minority schools, high-FRL schools, or schools that failed to meet AYP, slightly higher percentages of teachers who taught in high-minority or high-FRL schools tended to report improvements in their various working conditions. For instance, while in the full sample, 43.18% of movers saw improvements in the intellectual challenge offered by their new positions, 48.75% of teachers who taught in high-minority schools and 46.05% of teachers who served in high-FRL schools reported such improvement. Also, whereas 42.29% of movers considered their sense of personal accomplishment to be greater in their new positions in the full sample, 49.02% teachers who had taught in high-FRL schools and 48.63% of teachers who had taught in high-minority schools considered their sense of personal accomplishment to have improved. Moreover, while 41.75% of the full sample of movers reported their general work conditions to be better in their current schools compared to their former schools, and 41.84% of movers from high-FRL schools and 43.35% of movers from underperforming schools, 48.34% of movers from high-minority schools rated the general working conditions in their new positions to be better than their former teaching positions.

In the full sample of teachers, a vast majority of movers had seen little to no change in their benefits (69.98%) and opportunities for promotion (69.37%). Among movers who had formerly taught in high-minority schools, 63.14%, a slightly lower percentage, reported that there was no difference in their benefits, as well as 67.93% of movers from high-FRL schools and 65.87% of movers from underperforming schools. Instead, movers from high-minority, high-FRL, or underperforming schools were slightly more likely (20-24% versus 18.61% in the full sample of movers) to report that their benefits were actually worse in their current schools.

This was also the case for teachers' salaries; movers from high-minority, high-FRL, or underperforming schools were slightly more likely (16-17%) to report that their salaries were actually worse in their current schools, whereas in the full sample of movers, 13.70% reported that their salaries had worsened from their change of positions. Also, among teachers who had taught in schools that met their AYP goals, almost 35% had reported an increase in salary, while only 20.36% of movers from underperforming schools reported that their salaries had improved in their current positions. Based on such teacher perceptions, it appears that, especially more so for teachers who had taught in traditionally more disadvantaged school contexts, salaries or benefits most likely were not the most important factors in their decisions to discontinue teaching at their former schools, or in their selection of their current schools.

In the case of opportunities for promotion, findings for each of the subsamples of movers were similar to that for the full sample of movers; 69.68% of movers from high-minority schools, 69.19% of movers from high-FRL schools, and 71.04% of movers from underperforming schools reported that there was no difference in their opportunities for

promotion. This suggests either that opportunities for promotion is not a critical consideration for teachers in choosing to move schools, or that it is not an aspect of their workplace conditions over which teachers have much choice.

In terms of job security, however, whereas 56.84% of the full sample of movers had seen no changes in their job security between their former and current schools, a much higher percentage of movers from underperforming schools (69.56%) had seen no such changes, 63.09% of movers from high-FRL schools, and 58.00% of movers from high-minority schools reported job security to be the same in former and current schools. Furthermore, whereas 26% of the full sample of movers reported that their job security had improved in their current schools, only between 15% and 22% of movers from high-minority, high-FRL, or underperforming schools considered their job security to be better in their current schools. Particularly more so for teachers who taught in traditionally disadvantaged contexts, between their former and current positions, their perceived job security did not differ greatly.

As seen in the full sample of movers, over a quarter of the movers who had taught in high-minority, high-FRL, or underperforming schools found their workload to be greater (26-30%) in their current schools, reported having less resources in their current schools (27-29%), and found their personal work-life balance to be worse in their current schools (22-26%).

Among the full sample of movers, 40.44% reported that their work autonomy had improved in their current schools. An even higher percent of movers from high-minority schools (48.41%) reported an increase in their autonomy over work, while a similar percent of movers from high-FRL schools (39.96%) and underperforming schools

(39.23%) reported such improvement in their current schools. As for teachers' influence over policies and practices, 32.68% of the full sample of movers reported that they perceived stronger influence in their current schools. Also, similar percentages of movers from high-minority schools (33.67%), high-FRL schools (32.25%), and underperforming schools (29.50%) perceived stronger influence over policies and practices in their current positions. Also, about 60% of movers from such disadvantaged school contexts saw no changes in such influence between their old and new positions.

In all, among the subsample of teachers who had taught in highly racially diverse schools or lower-income schools in the prior year, teachers reported the level of intellectual challenge, sense of accomplishment, and general conditions of the school to have improved in their new positions at slightly higher rates than for the full sample. It also appeared that across the board, teachers saw little change in salaries and benefits, chances for promotion, or job security, which could mean that they had limited choice when it came to these workplace factors, or that these factors were not critical considerations in movers' decision to leave their former schools or their choice of schools to transfer to.

Given the findings of this study, upon leaving their former schools, teachers appear to have found positions that offer them greater intellectual challenges and allow them to feel a greater sense of personal accomplishment, as well as offer them more opportunities to learn and advance their skills and knowledge base through collaboration with colleagues.

The Effectiveness of Leadership in Schools that Teachers Left

In the full sample of teachers, stayers generally tended to evaluate the performance of their school leaders in SY 2011-12, particularly in working with teachers, to have been more effective than movers perceived the performance of their former principals to be. These differences existed across all actions of school leadership, with the exception of school leadership's effort to develop agreement among staff about the school's mission (see *Table C8*). The biggest difference was in the two groups' perceptions regarding the how well their principals worked with the teaching staff in resolving problems that arise in the school or within the department (Δ=0.36, t=9.74, p<0.01), communicated respect for teachers (Δ=0.34, t=8.50, p<0.01), and worked with teachers to meet curriculum standards (Δ=0.32, t=7.69, p<0.01). The only action of school leadership for which ratings of stayers and movers did not significantly differ was their work to develop agreement among teachers about the school's mission (Δ=0.19, t=2.73, p>0.05).

For the sample of teachers who had taught in high-minority schools, the differences in the ratings of stayers and movers regarding the actions of their school leadership in working with teachers was even greater than found in the full sample of teachers, and there were significant differences across all actions of school leadership. The biggest difference, as found in the full sample, was in the stayers' and movers' perceptions of how well their principals worked with the teaching staff to solve problems that arise in the school or within the department (Δ=0.58, t=13.19, p<0.001), suggesting that stayers were likely to give over half a rating higher, on average, on a scale of 1 to 5, than movers when it came to their evaluation of their principals' effectiveness in working

with teachers to resolve problems in the previous year (SY 2011-12). Such notable differences were found also for most items, such as principals' effectiveness in working with teachers to meet curriculum standards (Δ=0.51, t=10.96, p<0.01), in encouraging teachers to use assessment results in instructional planning (Δ=0.49, t=11.98, p<0.001), and in communicating respect for teachers (Δ=0.47, t=9.54, p<0.01).

For the sample of teachers who had taught in high-FRL schools, there was little meaningful difference in the ratings of stayers and movers regarding the actions of their school leadership in working with teachers. The biggest difference was in the stayers' and movers' perceptions of how well their principals worked with the staff to solve problems that arise in the school or within the department (Δ=0.29, t=3.89, p<0.05). There was also a meaningful difference in stayers' and movers' perceptions regarding principals' effectiveness in working with teachers to meet curriculum standards (Δ=0.27, t=3.89, p<0.05). For teachers who had served in high-FRL schools, there was no difference between the assessments of teachers who continued to serve in the same school and those who opted to transfer schools.

For the sample of teachers who had taught in schools that failed to meet their AYP goals, there was no difference in the ratings of stayers and movers regarding the actions of their school leadership in working with teachers. Regarding all actions of school leadership, there was no difference between the assessments of teachers who continued to serve in the same school and those who opted to transfer schools.

The descriptive analysis conducted for subsamples of teachers in various school contexts—high minority, high poverty, or low performing schools—saw interesting results. In the case of teachers who served in high minority schools, those who stayed

perceived the effectiveness of their school leadership similarly to the full sample of teachers. However, teachers who moved from a high minority school assessed the performance of their school leadership to be much less effective, on average, than the full sample of teachers who transferred schools.

In the case of teachers who served in high poverty schools, the only meaningful difference between stayers and movers was their perceptions of school principals' effectiveness in working with teaching staff to solve school or department problems and to meet curriculum standards. Otherwise, stayers and movers reported similar levels of leadership's effectiveness; these stayers in high poverty schools also had similar perceptions of leadership performance to the full sample of stayers.

As for low performing schools, teacher perceptions of the effectiveness of school leadership in actively collaborating with the teaching staff and showing respect and support for teachers was not meaningfully different for movers and stayers.

These findings suggest that school leadership's efforts to work with teachers may matter particularly more for teachers serving in high minority schools than for teachers serving in other school contexts. Hence, this implies that principals who are leading racially diverse schools may be able to retain more teachers and prevent high rates of turnover by making sure they are always in communication with teachers, working with them directly to establish better and more effective teaching practices, as well as appropriate curricula to best serve the diverse needs of students, and collaborate with the teaching staff to solve school or department problems.

Chapter Summary

In all, results appear to suggest that teachers are leaving schools for a host of reasons, many of which may be beyond the control of a school or school system. Factors related to teachers' personal life matters (relocation, pregnancy, health, etc.) create situations where teachers have to move schools or leave the profession, or individuals' desire for career change are important reasons for teachers' withdrawal decisions and should be considered in future studies of teacher turnover.

These analyses also show, however, that school climate, characteristics of the school leadership, and perceptions of opportunities for professional growth and development are important. The findings imply that teachers seek out schools where they can feel a sense of accomplishment through their work and have autonomy and flexibility in making decisions about how and what to teach in order to become better educators through those enriching experiences. Although not all teacher turnover may be reflecting such teacher preferences, teachers' school choice is indeed indicative of their efforts to have more control over the schools they opt for.

CHAPTER 6

Trends over Time

There is much that remains to be understood about what types of control are held by teachers and other key actors within the school organization and how they may be related to school outcomes. Past research by Ingersoll and Collins (2017) suggested that for the responsibilities teachers have, they have limited power over the execution of their work; they also found that it was particularly teachers' influence over student discipline and classroom behavior, a social and non-academic domain of school processes, which was associated with teacher outcomes such as perceptions of student misconduct and staff collegiality, as well as teacher turnover. What this study added was evidence on the extent to which shifting contexts of schools moderate the association between the various aspects of control that exists within schools and teachers' attitudinal outcomes, as well as their voluntary decisions to leave their schools or the teaching profession.

The study addressed the following three inquiries: (1) what is the importance of within-school control as predictors of teacher outcomes, (2) what are the over-time changes in the levels of control existing within schools across demographic contexts, and (3) what are the over-time trends in the connections between such locally held control and teacher outcomes. In Chapter 4, the answer to the first inquiry was provided; in this chapter, I provide answers to the latter two, utilizing data from four points in time between 1999 and 2013.

Trends over Time in Principals' Influence over School Decisions

Between SY2003-04 and SY 2011-12, there was a slight increase in principals' rating of influence over setting performance standards from an average of 3.41 to an average of 3.61. There was little difference in the level of influence over setting performance standards that the full sample of principals and principals who served in high minority or high FRL schools across all three waves, but in SY 2007-08, principals who taught in schools that had failed to meet their AYP goals perceived their influence over setting performance standards to be slightly weaker compared to their counterparts (3.36 versus 3.49).

Between SY2003-04 and SY 2011-12, there was a decrease overall in the average rating of principals' influence over establishing the school curriculum, from 3.37 to 3.11, with the more significant drop observed between SY 2007-08 and SY 2011-12, from 3.42 to 3.11. There was little difference in these trends across the subsamples of principals who had served in high minority, high FRL, or underperforming schools (see *Figure 1*).

The was little change in principals' influence over teacher professional development and school budgeting decisions between SY2003-04 and SY 2011-12. Influence was rated slightly higher, on average, in SY 2007-08; 3.73 for influence over teacher professional development and 3.72 for influence over budgeting (see *Figure 1*).

To sum up, in terms of principals' influence over instructional decisions, there appears to have been, on average, an perceived increase in influence in setting performance standards regardless of school context, whereas there was a decrease, on average, in their perceived influence over establishing the school curriculum, particularly between the last two waves. In terms of principals' influence over managerial decisions,

there was little change over time. Also, compared to principals' influence over instruction-related decisions, ratings for influence over those supervisory decisions were relatively stronger.

Trends in Teachers' Influence over School Decisions

The ratings of teachers' influence over school decisions was provided by teachers themselves in SY 2011-12. However, in the prior two waves, these ratings were given by the school principals. It appears that there was a big drop in the average of ratings between SY 2007-08 and SY 2011-12, but it could be due to both the difference in the reporting entity and the actual difference in the strength of influence that teachers had. For instance, the average rating of teacher influence of setting performance standards was 3.42 in SY 2007-08 (principals' ratings) but 2.56 in SY 2011-12 (teachers' ratings). Rating of teacher influence over establishing the curriculum was, on average, 3.42 in SY 2007-08 and 2.61 in SY 2011-12. Over these two years, the biggest drop in the average ratings was observed for teacher influence over budgeting decisions, which fell from 3.09 to 1.74, as well as for teacher influence over student discipline, which fell from 3.53 to 2.33.

Regardless of who provided the rating, it does appear that teachers' influence over teacher evaluations, hiring new teachers, or school budgeting was weaker than their influence over setting performance standards, establishing the curriculum, teacher professional development, and student discipline (see *Figure 2*).

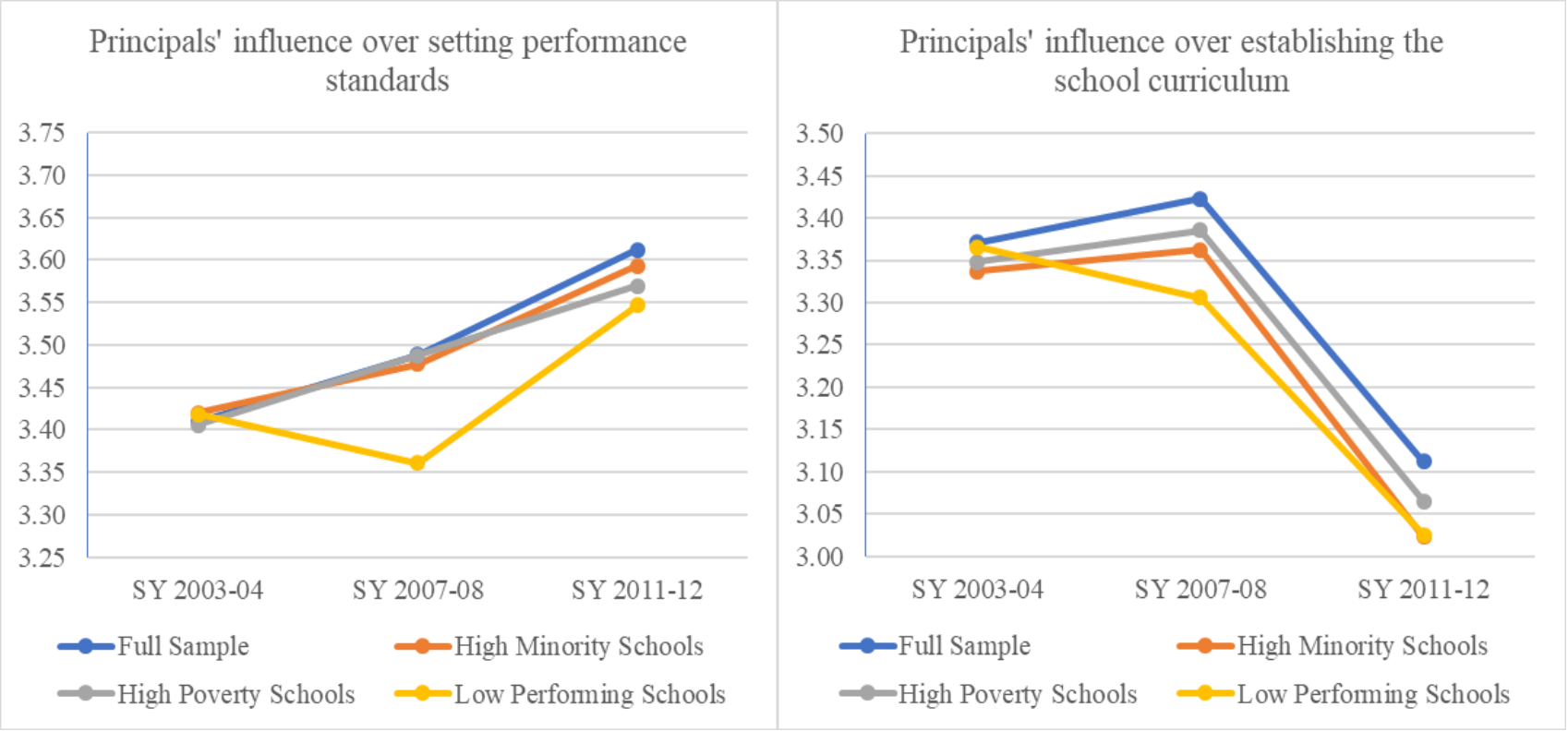


Figure D1. Trends across time in principal influence over various types of school decisions (1=No influence, 2=Minor influence, 3=Moderate influence, 4=Major influence)

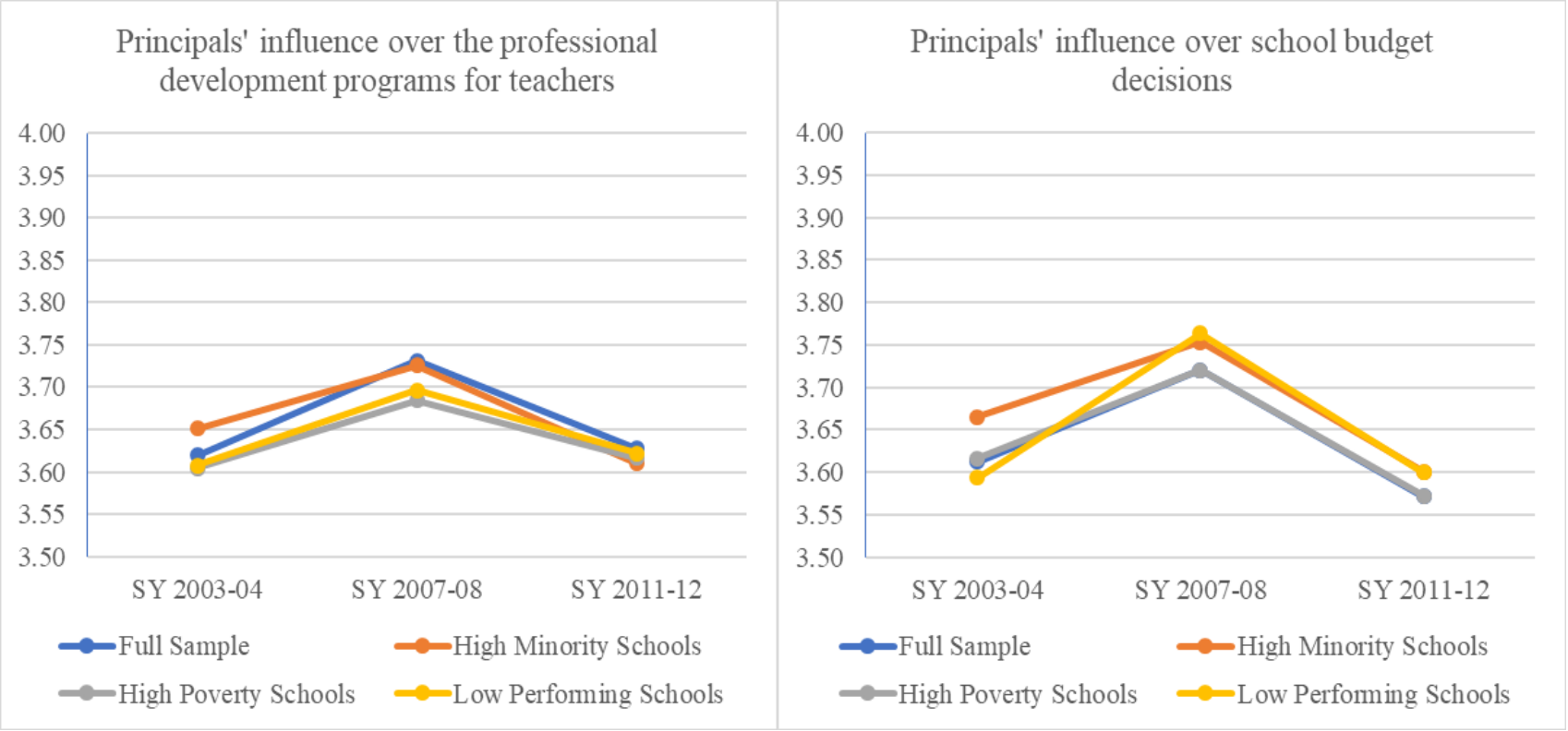


Figure D1. (Continued) Trends across time in principal influence over various types of school decisions (1=No influence, 2=Minor influence, 3=Moderate influence, 4=Major influence)

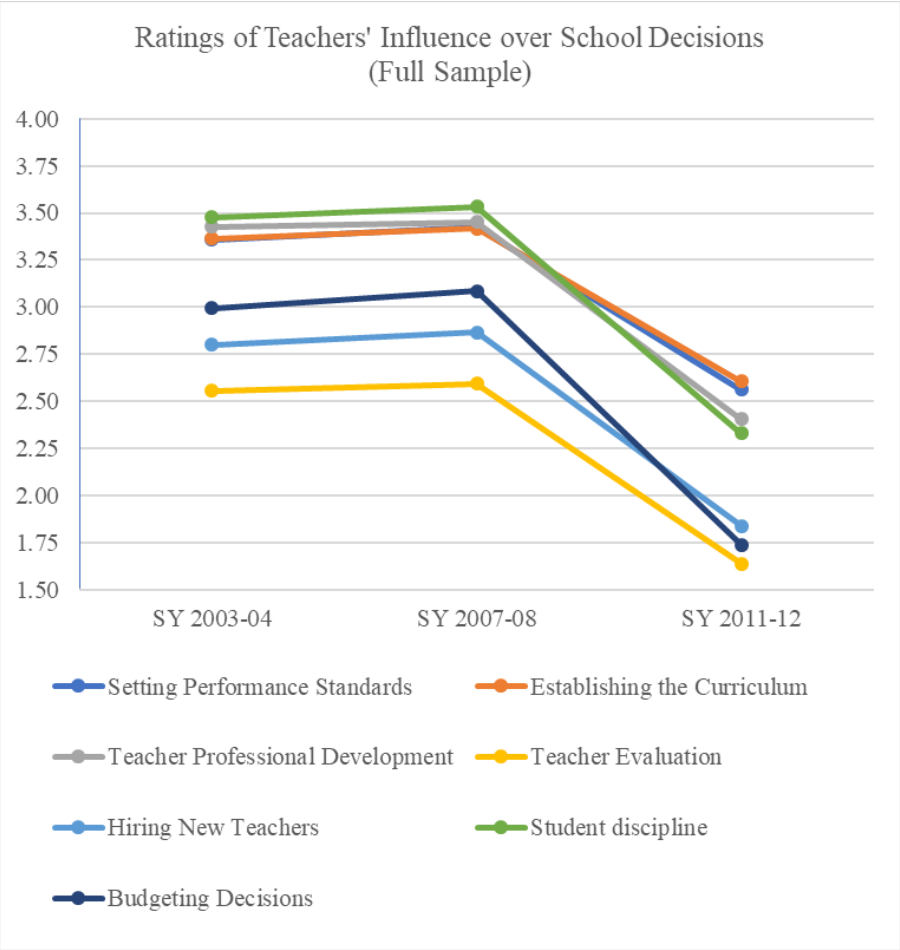


Figure D2. Trends across time in teacher influence over various types of school decisions (1=No influence, 2=Minor influence, 3=Moderate influence, 4=Major influence)

Trends over Time in Teachers' Autonomy in the Classroom

Teachers' perceptions of control over textbooks and other instructional materials was given a rating, on average, of 2.68 in SY 2011-12, which was a slight drop of 0.12 from the average of 2.80 in SY 2003-04. Bigger decreases were observed for teachers who taught in high FRL schools and in underperforming schools. Teachers who taught in high FRL schools gave an average rating of 2.57 in SY 2011-12, which was a drop of 0.17 from the average of 2.74 in SY 2003-04. Teachers who served in underperforming schools rated their control over instructional materials, 2.60, on average in SY 2011-12, which was a drop of 0.22 from the average of 2.82 in SY 2003-04. Of the subsamples, teachers who taught in high minority schools gave the lowest rating on this item across all three waves: 2.58 in SY 2003-04, 2.60 in SY 2007-08, and 2.54 in SY 2011-12.

The amount of control teachers perceived over the content, topics, and skills to be taught in their classroom was given a rating, on average, of 2.73 in SY 2011-12, which was a 0.21 drop from the average of 2.94 in SY 2003-04. Again, of the subsamples, teachers who taught in high minority schools gave the lowest rating on this item across all three waves: 2.82 in SY 2003-04, 2.59 in SY 2007-08, and 2.61 in SY 2011-12. On this item, the bigger drop was between SY 2003-04 and SY 2007-08 than between SY 2007-08 and SY 2011-12.

The amount of control teachers perceived over teaching techniques was given a rating, on average, of 3.56 in SY 2011-12, which was only a 0.08 difference from the average of 3.64 in SY 2003-04. There were little differences across the three waves in general, and little differences across the various subsamples.

The strength of teacher control over evaluating and grading students was given a rating, on average, of 3.60 in SY 2011-12, which was only a 0.08 drop from the average of 3.68 in SY 2003-04. The amount of teacher control over disciplining students in the classroom was given a rating, on average, of 3.42 in SY 2011-12, which was only a 0.10 difference from the average of 3.52 in SY 2003-04. Lastly, the strength of teacher control over determining the amount of homework to be assigned to students was given a rating, on average, of 3.42 in SY 2011-12, which was only a 0.10 difference from the average of 3.52 in SY 2003-04. For all of these items, there was generally little difference across time, and little difference in the ratings provided by teachers who taught in different type of schools.

In all, it appeared that teachers had less control over selecting the textbooks or other materials to use in their classrooms for student instruction or over choosing the topics and the content of their classroom teaching, compared to the strength of their control over teaching techniques, student evaluations, or the amount of homework that was assigned to students. Although there was generally a decreasing pattern across the three waves the differences were subtle and minor. The greatest decrease in teachers' classroom autonomy was in their control of the content and topics of their classroom teaching between SY 2003-04 and SY 2007-08.

In terms of discrepancies across subsamples of teachers, a notable observation was that teachers at high minority schools reported having less autonomy over their teaching materials and textbooks than their counterparts in all three waves. For all other items, teachers' average ratings for the subsamples of teachers were not very different from those of the full sample, across all time points.

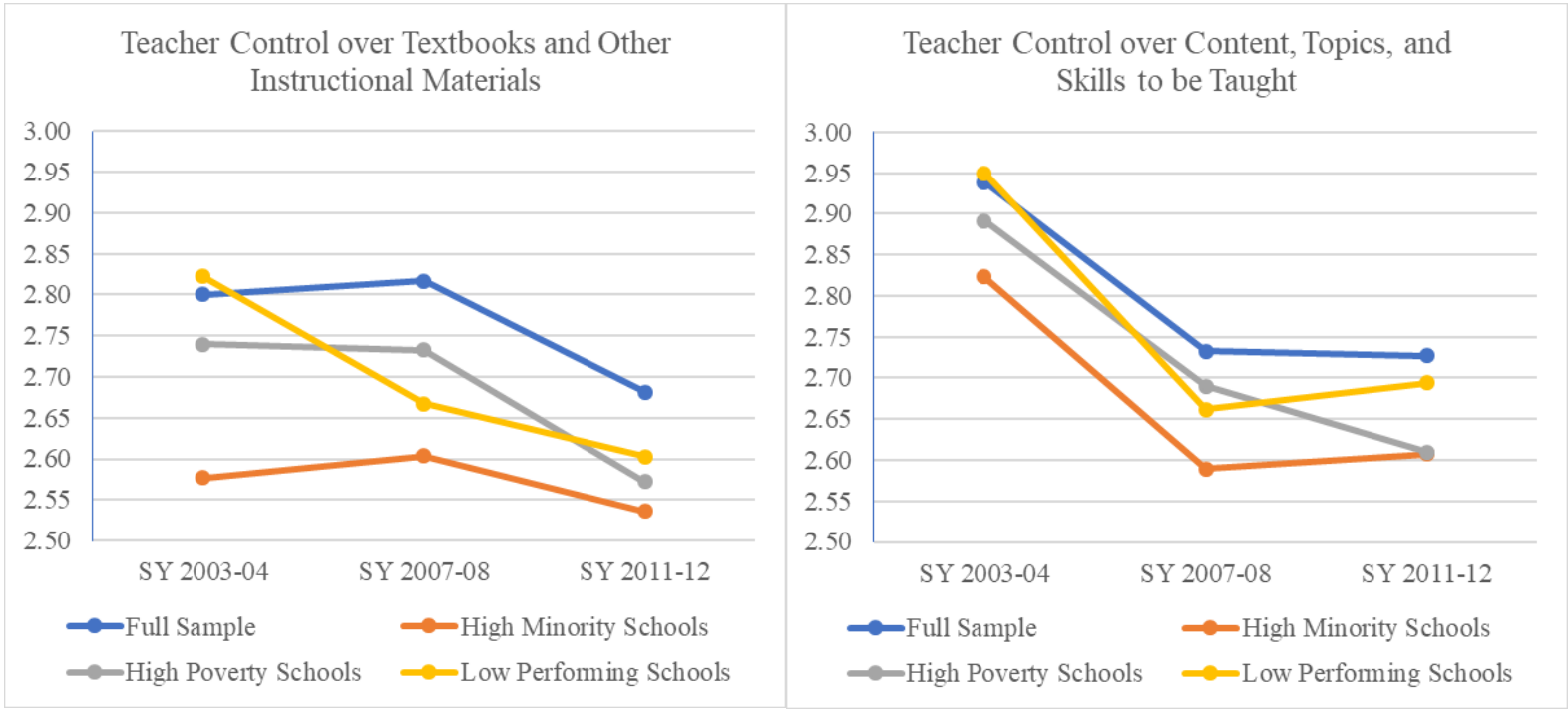


Figure D3. Trends across time in teachers' autonomy in the classroom (1=No control, 2=Minor control, 3=Moderate control, 4=A great deal of control)

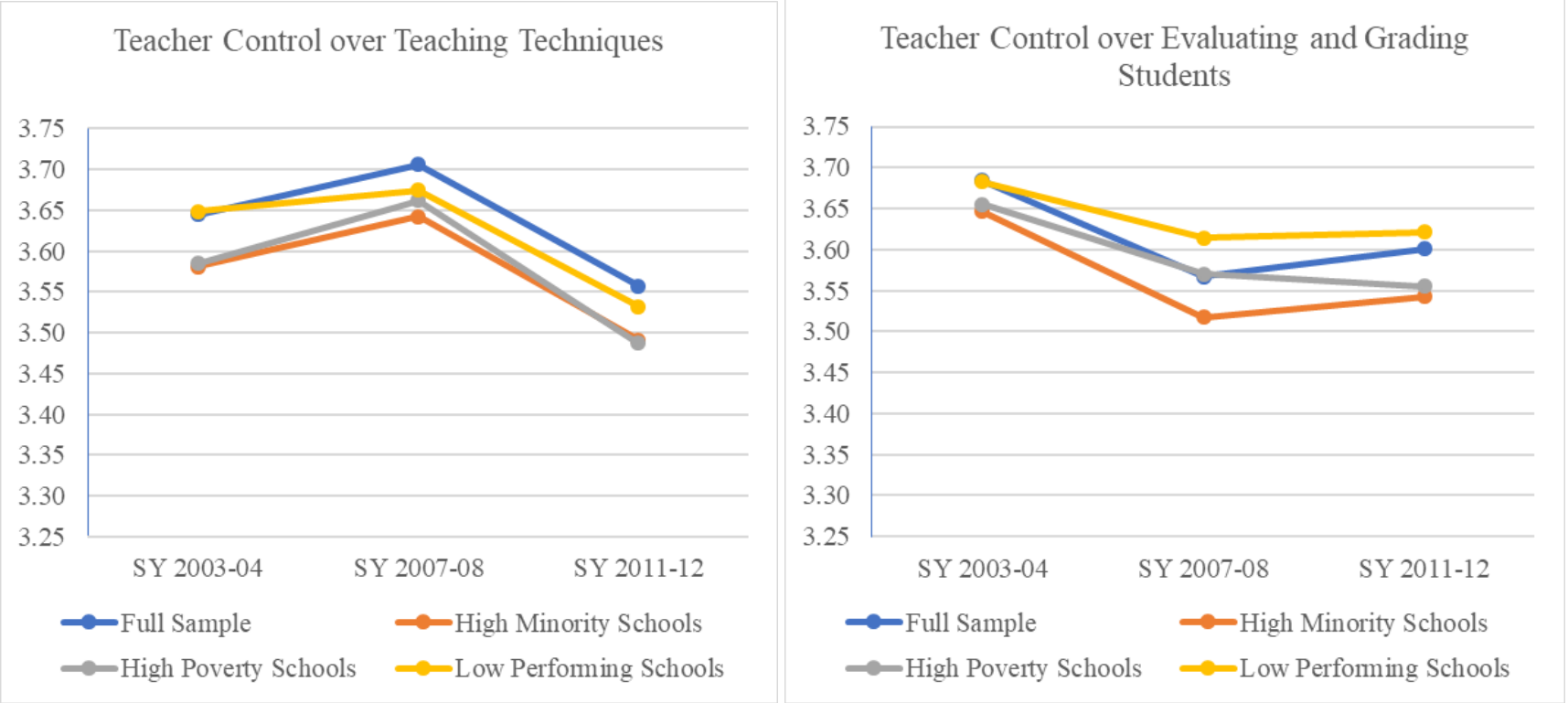
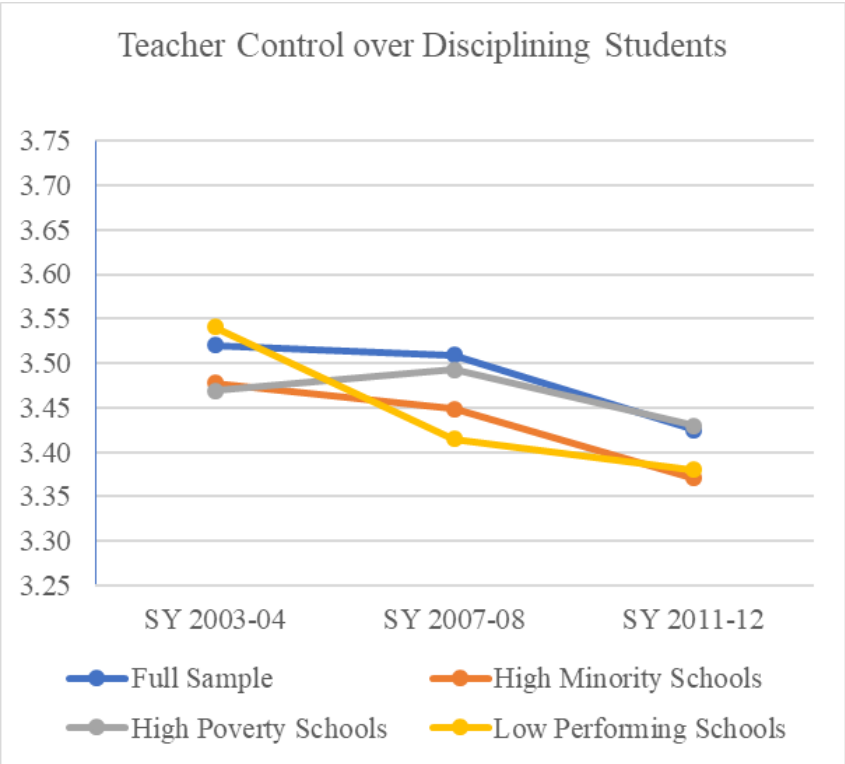


Figure D3. (Continued) Trends across time in teachers' autonomy in the classroom (1=No control, 2=Minor control, 3=Moderate control, 4=A great deal of control)



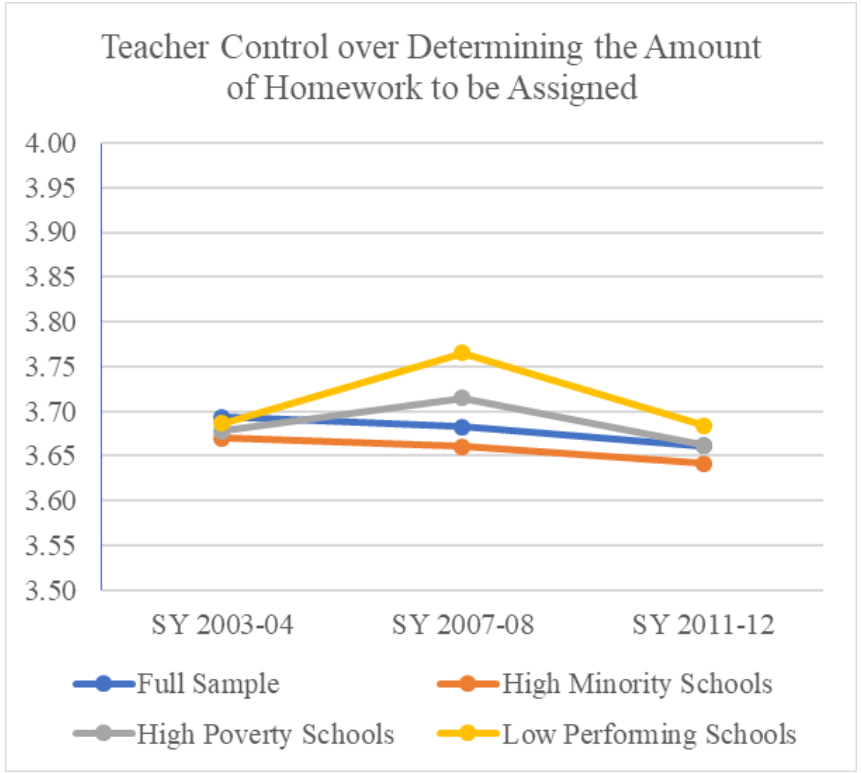


Figure D3. (Continued) Trends across time in teachers' autonomy in the classroom (1=No control, 2=Minor control, 3=Moderate control, 4=A great deal of control)

Did Measures of Control Predict Teacher Outcomes Consistently Over Time?

The Job Demand-Control-Support model posited that higher job satisfaction and commitment to their profession comes from workers having sufficient control over their work and their working conditions, as well as receiving enough support from their leaders, colleagues, and other staff, so that workers can successfully complete their given tasks and overcome the demands of their job. The results of this study found generally that for teachers serving in our public schools, support from their school leaders and families appears to be related to teachers' perception of their job satisfaction and their commitment to staying in teaching for as long as they are able, consistently across time. On the other hand, the relationship between teacher outcomes and their influence over the school-level decision-making and teachers' autonomy within the classroom over student instruction, evaluation, and discipline were mixed, and they also differed across time. As for the relationships between the attitudinal and turnover outcomes of our public-school teachers and the influence of school principals or the school-based engagement of families, there were largely no significant associations found in most years. More details follow in the next sections.

Predictors of Teacher Job Satisfaction

The amount of support from their principals and families perceived by teachers positively associated with how satisfied they felt in their jobs across all waves. The more teachers felt that they received the support of their principals, the more likely they were to report strong job satisfaction in SY 1999-2000 (OR=2.76, p<0.001), SY 2003-04 (OR=2.66, p<0.001), SY 2007-08 (OR=4.20, p<0.01), and in SY 2011-12 (OR=2.78,

$p<0.01$). Also, the more teachers felt that they received support from parents, the more likely teachers were to report strong satisfaction in SY 1999-2000 ($OR=1.60$, $p<0.05$), in SY 2003-04 ($OR=1.60$, $p<0.001$), in SY 2007-08 ($OR=1.34$, $p<0.01$), and in SY 2011-12 ($OR=1.65$, $p<0.001$).

Neither the levels of influence held by principals nor teachers over instructional and supervisory decisions were significantly associated with the odds of teachers expressing strong agreement that they were generally satisfied in their workplace across all time points between SY 1999-2000 and SY 2011-12. Higher levels of families' school-based participation were also not significantly associated with higher teacher job satisfaction across the four waves.

On the other hand, teachers' strong autonomy within the classroom was significantly associated with stronger perception of job satisfaction in all of the given years. For instance, in SY 1999-2000, with every unit increase in the aggregate measure of teachers' classroom control, the odds of teachers strongly agreeing that they were satisfied in their jobs was 0.33 times greater ($OR=1.33$, $p<0.01$). Similar trends were shown in SY 2003-04 ($OR=1.52$, $p<0.001$), in SY 2007-08 ($OR=1.43$, $p<0.001$), and in SY 2011-12 ($OR=1.33$, $p<0.001$).

Predictors of Teacher Job Commitment

There was generally a significant and positive association, across time, between how supported teachers felt by their principals and families and their desire to remain in teaching for as long as they can. The more teachers felt that they received the support of their principals, the more likely they were to indicate a desire to remain in teaching in SY

1999-2000 (*OR*=1.15, $p<0.05$), SY 2003-04 (*OR*=1.36, $p<0.001$), SY 2007-08 (*OR*=1.27, $p<0.01$), and in SY 2011-12 (*OR*=1.21, $p<0.01$). Also, the more teachers felt that they received the support of their parents, the more likely they were to report strong commitment to the profession in SY 1999-2000 (*OR*=1.27, $p<0.05$), in SY 2003-04 (*OR*=1.31, $p<0.001$), and in SY 2011-12 (*OR*=1.22, $p<0.01$), but not in SY 2007-08.

Teachers' intent to remain in the teaching profession, in general, was not significantly related to the influence that principals or teachers had over school decisions regarding instruction or other managerial aspects. Only in SY 1999-2000 was there a significant relationship between higher teacher influence over non-instructional, supervisory decisions, such as disciplinary policies, budgeting, teacher professional development, or teacher evaluations, and lower odds of teachers expressing that they would like to remain in the teaching profession for as long as they can (*OR*=0.83, $p<0.05$). There was no such relationship in SY 2003-04 (*OR*=0.97, $p>0.05$), SY 2007-08 (*OR*=0.93, $p>0.05$), or in SY 2011-12 (*OR*=1.15, $p>0.05$). As for teachers' autonomy in the classroom or the participation of families in schools, there also were no statistically significant relationships between these variables and teachers' commitment to the profession in all four waves.

Predictors of Voluntary Teacher Turnover

Data from SY 2011-13 suggested that job satisfaction was significantly associated with the odds of teachers moving schools but not with the odds of teachers leaving the profession, while job commitment was significant associated with the odds of teachers

leaving teaching, but not with teachers moving to a different school. General trends were similar across all waves.

In SY 1999-2001, teachers who strongly agreed that they were generally satisfied had 56% lower odds of voluntarily moving schools than teachers who expressed weaker agreement or disagreement that they were generally satisfied in their jobs (OR=0.44, p<0.001). Teachers' perception of their general job satisfaction was not significantly related to teachers' odds of leaving the profession. On the other hand, teachers, who expressed that they would like to remain in the teaching profession for as long as they can, had 48% lower odds of voluntarily leaving the profession than teachers who expressed they would leave teaching as soon as they could or when they found other opportunities, or once they were eligible to receive retirement benefits (OR=0.52, p<0.01).

In SY 2003-2005, teachers strongly agreeing that they were generally satisfied had 48% lower odds of voluntarily moving schools than teachers who expressed weaker agreement or disagreement that they were generally satisfied in their jobs (OR=0.52, p<0.001). Teachers who strongly agreed that they were generally satisfied also had 47% lower odds of voluntarily leaving the profession than teachers who expressed weaker agreement or disagreement that they were generally satisfied in their jobs (OR=0.53, p<0.001). On the other hand, teachers' commitment to remain in the teaching profession was not significantly related to teachers' likelihood of voluntarily moving schools (OR=1.11, p>0.05) or leaving the profession (OR=0.76, p>0.05).

In SY 2007-09, similar to trends in SY 1999-2001 and SY 2011-13, teachers strongly agreeing that they were generally satisfied had 69% lower odds of voluntarily

moving schools than teachers who expressed weaker agreement or disagreement that they were generally satisfied in their jobs (OR=0.31, p<0.001). Teachers' perception of their general job satisfaction was not significantly related to teachers' odds of leaving the profession. On the other hand, teachers, who expressed that they would like to remain in the teaching profession for as long as they can, had 72% lower odds of voluntarily leaving the profession than teachers who expressed they would leave teaching as soon as they could or when they found other opportunities, or once they were eligible to receive retirement benefits (OR=0.28, p<0.001).

Principals' influence in decision-making and teacher turnover. In the most recent wave, there was no significant association between principals' influence over instructional decisions or supervisory decisions and the voluntary turnover of teachers. In SY 2007-09, the previous wave, there was a significant and positive association between principals' influence in making supervisory decisions, such as teacher professional development or the school budget, and the risk of teachers moving to different schools rather than continuing to teach at the same school (RRR=1.41, p<0.05). In the preceding wave, SY 2003-05, the sign of the relative risk ratio was also positive although not statistically significant (RRR=1.21, p<0.10). In SY 1999-2001, there was also no statistically significant association between the influence of principals over supervisory decisions and teaches' decision to move schools. This measure of principals' influence was not associated with teachers' decisions to leave teaching in any of the waves. Also, only in SY 1999-2001 was there a significant association between stronger influence of principals over the schools' instructional decisions—setting performance standards and establishing the curriculum—and higher odds of their teachers leaving the profession

(*RRR*=1.44, $p<0.05$). In all subsequent waves, there was no such relationship. Principals' influence over instructional decisions was also not related to teachers' decisions to move schools across all waves.

Teachers' influence in decision-making and teacher turnover. In SY 2011-13, where teachers had stronger influence over instructional decisions, the odds of them leaving the profession was lower (*RRR*=0.80, $p<0.05$). This relationship did not exist between teacher influence over instructional decisions and the risk of moving schools (*RRR*=0.73, $p>0.05$). In the two preceding waves, this measure was not related to teachers' voluntary turnover, but in SY 1999-2001, a similar trend was found: teachers had 26% times lower odds of leaving the profession with every standard deviation increase in the measure of their influence over instructional decisions ($p<0.05$).

Also, it was only in SY 2011-2013 that teachers having stronger influence over supervisory decisions was associated with a higher risk of teachers moving to different schools as opposed to staying in the same school (*RRR*=1.44, $p<0.01$). No such patterns were found in any of the preceding waves.

Teachers' classroom control and teacher turnover. Finally, there were no notable relationships between teachers control in the classroom and teachers' risk of moving schools or leaving the job of teaching in SY 2011-13. Only in SY 2007-09 was there a significant relationship between teachers having stronger control in the classroom and a lower risk of teachers voluntarily moving to a different school (*RRR*=0.82, $p<0.05$), but all other waves saw trends similar to the most recent wave.

Families' school-based engagement and teacher turnover. There was generally no association between the extent of families' school-based participation and teacher turnover outcomes in any of the given years.

Chapter Summary

Although over time changes cannot be equated to change due to the impacts of accountability policies, analyzing over-time trends can be useful for gaining a preliminary understanding of whether those external measures to enhance control and accountability within schools led to any changes in the control that already existed within schools themselves, and whether those potential changes in the allocation of influence across various actors had any impact on their association with teachers' attitudinal outcomes and voluntary turnover.

Not surprisingly, principals in general perceived their influence over school decisions to be stronger than teachers' perceptions of their influence over school decisions. Also, principals tended to rate their influence over supervisory decisions to be stronger than their influence over instructional decisions, whereas teachers tended to rate their influence over instructional decisions, as well as over disciplinary policies and their professional development, to be stronger than that over other supervisory decisions, such as budgeting or the hiring of new teachers.

Furthermore, teachers, on average, had less control over choosing their textbooks or other instructional materials or over choosing the content of their classroom teaching than over their teaching techniques, evaluation of student performance in the classroom, or the amount of homework assigned to students. Across the various subsamples of

teachers, high minority school teachers had reported having particularly lower autonomy over their teaching materials and textbooks than their counterparts in all three waves. Such discrepancies were not noted for any other items.

Over time, there were generally subtle decreases in the average levels of control teachers had in the classroom, but the most notable decrease was in teachers' autonomy over their curricular topic and content between SY 2003-04 and SY 2007-08, which persisted until SY 2011-12, similar to the decrease seen in the average influence of principals over establishing the school curriculum.

Regarding how such influence of principals and teachers over school and classroom decisions were related to teacher outcomes, there were several key takeaways. First, there were no differences over time in the predictors of strong teacher satisfaction; the perception of support from school leaders and families, as well as teachers' classroom autonomy, were consistently significant predictors of teacher satisfaction. As for teachers' job commitment, the key influence and control measures generally were not significant predictors, other than in the earliest wave, SY 1999-2000, when higher teacher influence over supervisory decisions predicted lower teacher commitment. The support measures were consistent predictors of teachers' commitment to the profession. In all, it appears that predictors of teachers' attitudinal outcomes have not seen great changes over time.

As for trends regarding actual turnover outcomes, there were more notable differences across the waves. For one, teachers who had stronger instructional influence were significantly less likely to leave the profession in the first wave, just before the passing of NCLB, and in the most recent wave, as the shortcomings of NCLB or federal

standards-based accountability mandates were widely acknowledged and when plans to grant states waivers from NCLB and greater flexibility in its implementation were announced (McNeil and Klein, 2011). One hypothesis may be that these trends are shown in the first and last waves of data because there was more variation across school systems in how much instructional influence was granted to teachers in the earliest and latest years than in the middle two waves, during which the nationwide push for more standardization was in full force.

Additionally, it was only in the most recent wave of data that there was a significant relationship between teachers having strong influence over supervisory decisions and higher risk of them moving to a different school. One possible explanation for this may be that teachers tended to perceive such influence over supervisory decisions as additional burden on their time since such decisions are not directly related to their main responsibility of student instruction. Given that this trend was shown only in the most recent years, future studies should investigate whether teachers have perceived great changes over time in their administrative responsibilities, and further examine how such responsibilities have shaped the perception of teachers about their roles in schools.

On the other hand, in the case of principals' influence in decision-making, the stronger influence principals had in making supervisory decisions predicted higher risk teachers had of moving schools in only SY 2007-09 and not in any other years. SY 2007-09 was also the only time period when a significant relationship was found between teachers' autonomy in the classroom and lower risk of teachers moving schools. At this time, there was much interest in the coming reauthorization of the Elementary and Secondary Education Act, intense public discontent with the prior reauthorization, the No

Child Left Behind (NCLB), and passionate debates regarding future directions for education policy. Even prior to the formal initiation of the next reauthorization, between the years 2005 and 2007, state-level leaders were actively opposing the demands of NCLB and fighting against federal mandates and regulations, at times taking concrete measures such as filing lawsuits against the federal government and passing resolutions to give up federal funding in return for greater flexibility (DeBray-Pelot, & McGuinn, 2009). The general sentiment was that NCLB had had not improved instruction in our schools, and that it had resulted in narrow curricula, lower standards to ensure compliance with mandates, and testing-focused instruction. Hence, it was likely that SY 2007-09 was when the public discontent with standards, testing, and external accountability was particularly severe. In this climate, teachers may have, more actively than in any other years, sought out schools where they could feel that they were more in control of their work and work environment. This could partly explain why in this wave of data found unique trends. Future studies should build on this to deepen our understanding of how the broader policy climate, the organization and structure of control within schools, and the voluntary turnover of pre-retirement teachers may be interrelated.

CHAPTER 7

Discussion

For the last two decades, holding schools' instructional practices and curricular choices to high standards and implementing standardized testing for the purpose of high-stakes evaluations have been the predominant strategies for the improvement of teaching quality in our schools. To a large extent, federal education laws and policies have led these systemic changes toward stronger external control over various management and instruction-related decisions, which have ultimately led to both expected and unexpected circumstances (McGuinn, 2012). One issue that has plagued public schools in the U.S. in recent decades is the issue of high teacher turnover. In schools with high proportions of low-income and racial minority students, this issue has been found to be more severe (Ronfeldt, Loeb & Wyckoff, 2013; Guarino et al., 2006). For a more equitable education system, all schools, regardless of their history of student performance, racial and socioeconomic composition, or other characteristics of their context, should be staffed with a steady supply of highly qualified teachers (Guarino et al., 2006; Ronfeldt, Loeb & Wyckoff, 2013; Simon & Johnson, 2015). It is unfortunate that schools serving a student body that has traditionally needed more and better support from their teachers and staff have faced the greatest difficulties in recruiting highly qualified teachers and retaining them.

This study hoped to gain a better understanding of whether our public schools indeed have seen a gradual loss of locally held control over various domains of school operations, and how the various working conditions of teachers, may be connected to

teachers' attitudinal and turnover outcomes across different school contexts. A recent report by the Learning Policy Institute suggested that the loss of teacher autonomy in the classroom over instruction and curriculum and the pressure placed on them to teach to the test, as required by federal policies including NCLB and RTTT, were some of the key reasons teachers left their schools or left the profession entirely (Sutcher et al., 2016). They asserted that such trends were especially salient in the most challenged urban schools that were chronically low performing. The current study explores the findings of past research from multiple angles, using diverse kinds of data.

Discussion of Key Findings

Across all time periods, as could be expected, principals generally perceived their influence over school decisions to be stronger than teachers' perceptions of their influence over school decisions. Also, principals tended to rate their influence over supervisory decisions to be stronger than their influence over instructional decisions, whereas teachers tended to rate their influence over instructional decisions disciplinary policies, and professional development to be stronger than that over other supervisory decisions, such as budgeting or the hiring of new teachers. Furthermore, the levels of influence changed minimally between 1999 and 2013.

Teachers, on average, had less control over choosing textbooks or other instructional materials or over choosing the content of their classroom teaching than over their teaching techniques, evaluation of student performance in the classroom, or the amount of homework assigned to students. Across subsamples and waves of data, teachers who taught in high-minority schools reported having particularly lower

autonomy over their teaching materials and textbooks than their counterparts. Such discrepancies were not noted for any other classroom decisions.

Over time, there were generally subtle decreases in the average levels of control teachers had in the classroom. The most notable decrease was in teachers' autonomy over their curricular topic and content between SY 2003-04 and SY 2007-08, which persisted until SY 2011-12, similar to the decrease seen in the average influence of principals over establishing the school curriculum.

Teachers' within-classroom autonomy was a meaningful predictor of teacher satisfaction across all time points. No such persistent relationships were found for other teacher outcomes. The level of teachers' autonomy in the classroom was related to teachers' general satisfaction with their jobs, especially for teachers who had served in high minority and high FRL schools.

In the most recent wave (SY 2011-12), there was a significant positive association between teachers' commitment to staying in the profession and their level of autonomy in the classroom for the group of teachers who served in high-minority and high-poverty schools. Thus, teacher autonomy appeared to be important for teachers, especially those in racially diverse and more economically disadvantaged schools.

Furthermore, for teachers who had served in high-minority schools, there was a significant association between stronger teacher influence over instructional decisions and lower risk of teachers leaving the teaching profession. Also between stronger teacher influence in managerial decision-making processes and higher risk of teachers moving to a different school, there was a significant association found for those teachers who had taught in high-minority schools.

Moreover, for SY 2011-13, the two measures of teachers' autonomy over their teaching techniques and their control over student discipline in the classroom were associated with positive attitudinal outcomes for teachers. Although a relationship with teacher turnover was not found for the aggregate measure of teachers' classroom autonomy, teachers' control in choosing their textbooks and other instructional materials, in particular, did predict a lower chance of teachers opting to transfer schools. These findings collectively suggest that giving teachers greater autonomy in their classrooms may be a good way to improve teacher morale and to create a more stable teaching force in those schools, especially more so in those schools with high rates of racial diversity or poverty.

Lastly, descriptive analyses suggested that relocation was the biggest driver of teachers opting to teach at a different school, and that other personal life factors such as health, marriage, and pregnancy were collectively the biggest reasons that teachers decided to discontinue teaching. Furthermore, teachers who had served in schools that had high percentage of minority students or FRL-eligible students, or taught at schools that failed to meet AYP in the previous year, tended to find personal life factors to be a more important reason, on average, for their decisions to leave their schools or the profession than for their counterparts. As systemic as these reasons appeared to be in shaping teachers' voluntary turnover decisions, our conceptions of why teachers leave the profession or choose to teach at a different school should more critically consider such personal life factors.

Importance of the Role of School Leadership in Working with Teachers

Between teacher outcomes and the strength of principals' influence over making school-level decisions or the proportion of families that were engaged in schools, there was no consistency across time in terms of the nature of their relationships, and mostly, the results suggested that there were no pronounced associations. However, in the most recent wave of data, where principals had stronger influence over establishing the schools' curriculum, teachers were more likely to express that they would like to remain in teaching for as long as they are able.

Over time, principals had reported a general decrease in their influence over the curriculum; the finding that in the most recent times, this aspect of principal authority over the school curriculum, which had seen a decrease in recent times, was a significant predictor of teachers' stronger commitment to the profession is noteworthy. A potential explanation may be that the stronger the push for standardizing school curricula—taking this control from local school leadership—the more important of a consideration it becomes for whether teachers desire to remain as teachers for long-term. Further studies are necessary to delve into the relationship between local control over curriculum and teachers' professional commitment and propensity to stay in the job, and the reasons that a such association may exist.

Not all aspects of principals' influence over local decision-making were positive predictors of teacher outcomes. For one, principals possessing stronger influence over decisions regarding teachers' professional development, in particular, were related to teachers' lower satisfaction, on average, across all teachers in the sample.

Descriptive analyses described in Chapter 5 offered a possible explanation for this trend. Between SY 2011-12 and SY2012-13, the largest percentage of teachers who were voluntary movers reported greater satisfaction at their new schools with the intellectual challenge offered by their new positions (43.18%), sense of personal accomplishment (42.29%), general work conditions (41.75%), opportunities to learn from other colleagues (41.07%), and autonomy over their work (40.44%). Assuming that voluntary movers' selection of schools could be one way of exerting control over workplace conditions, this suggests that teachers find the potential for accomplishment and growth to be important considerations in choosing where to work, and thus it may be an important aspect of their work that they would like to have more direct influence over. Among the individual measures of teacher influence over the various non-instructional decisions, teachers' strong influence over determining the components of their professional development was associated with stronger commitment of teachers to the teaching profession, further supporting this explanation.

In 2016, a nationwide survey was launched to investigate the state of teacher professional development (Resources for Learning, 2017). The results based on responses from more than 6,300 teachers indicated that teachers are not deeply involved in decisions about their own professional learning. Teachers found standards-driven professional development to be one of the most efficient and accessible means to acquire new skills and practices for service the diverse learning needs of their students, and to update their curricular knowledge base. However, many believed that their backgrounds or learning needs are not sufficiently accounted for in the planning of their professional development. A vast majority also responded that principals and district leaders have the

strongest voice in this planning process, and that open discussions about teacher PD are rarely held at the school. The finding of this current study regarding the negative association between principals' influence over teacher PD and teachers' work satisfaction, along with the discussed findings of the national survey, suggests that teachers should be granted more control over the planning of their professional development.

Moreover, the study found that the relationship between the authority held by school principals in shaping instruction and performance goals for the school and teachers' perceptions of their general workplace satisfaction differed by schools' demographic make-up. The relationship was more likely to be positive in schools that were traditionally more advantaged (low-minority and low-poverty) and negative in schools that were traditionally more disadvantaged (high-poverty). School context indeed mattered in how the level of principals' influence over school-wide instructional decisions relates to teacher satisfaction; the stronger this leadership influence was in an economically disadvantaged school context the less likely teachers were to report feeling strongly satisfied with their jobs.

Descriptive analyses also suggested that principals have an important role to play in teachers' decisions to stay in their current schools or to transfer to a different one. Big differences existed in the stayers' and movers' perception of how well their principals worked with the teaching staff in resolving problems that arise in the school, how much their leaders communicated respect for teachers, and worked with teachers to meet curriculum standards. The stayer-mover difference in perceptions of how well their school leadership involved teachers in resolving school issues and in working towards

school performance goals was greater for teachers who had served in high-minority schools. This suggests that to retain teachers in high-minority schools, it may be especially important to improve principals' effectiveness in involving teachers in key roles that are directly relevant to their main responsibilities of classroom instruction and student supervision.

Implications Regarding Families' School-Based Engagement

The study found that the level of family engagement in schools was generally not related to any of the teacher outcomes of interest. Better measures of families' engagement may be necessary to understand how they may affect the work of teachers and their perceptions and attitudes towards their job satisfaction and long-term intention to stay in the profession.

The findings suggested that there may be a relationship between higher levels of family engagement in school governance and lower risk of teachers in choosing to leave the profession. Further studies are needed to fully understand how family involvement in making decisions regarding school operations or the instruction that takes place in the classroom shapes teacher outcomes, and how these links may differ across various school contexts.

Limitations and Directions for Future Studies

Building on the findings of this study, there are several directions future studies could take. First, more needs to be understood about fundamental questions of how influence or control is allocated to key individuals in schools today. Critics of the

approach to conceptualizing leadership as the role of a single positional leader have argued for shifting the focus to a coalition of actors responsible for shaping key decisions for the organization (March and Olsen, 1984; Spillane, Halverson, and Diamond, 2004). Such distributive leadership involves the interaction of positional leaders, followers, and the various circumstances and context of the organization, shaping school management and governance, as well as instruction (Spillane, Halverson, and Diamond, 2004). Questions could be addressed on how state and district systems determine the level of control held locally, how school leaders determine who holds how much influence over various aspects of school operations, and whether and how school contexts determine how much teachers and other key stakeholders in schools, such as families, can exert influence over school governance and student instruction.

Second, while the SASS and TFS survey data are good for preliminarily examination, they are not perfect. Having the responses of multiple respondents (i.e., principals and teachers), was a great advantage for this study, but information on families' school-based participation was limited to principals' perceptions. The measures used to gauge the influence of families was not quite equivalent to a measure of family empowerment, which would have been more helpful for understanding whether and how families' voice in making managerial and instructional for schools and classrooms shape teachers' working conditions, attitudinal outcomes, and ultimately, turnover outcomes.

Lastly, the sample size of teachers per school was only about 1.5. Therefore, multilevel analyses were not possible for this study. However, given that characteristics of the school context were often important moderators of connections found in the current study, as well as some items regarding the influence of school leadership, multi-

level analyses would greatly benefit a study addressing the questions raised in this study. A future study allowing for analyses of such nested effects is needed.

Chapter Summary

The current study offers several insights that future studies can build on. First, it suggests that teachers are more satisfied in their workplace when they have the power to make decisions regarding what textbooks and materials to use for their classroom instruction, how to teach and deliver instruction, and how to discipline students in their classrooms. Past studies have also found this to be the case, but this study further showed that such trends were more pronounced in schools that have higher proportions of minority students and students living in more economically disadvantaged contexts.

Second, the findings of this study generally suggested that having stronger influence over decisions that are not directly related to instruction was actually not relevant to, or even negatively related to, teachers' work satisfaction or strong job commitment. Nevertheless, one aspect of teachers' decision-making influence that appear to make a difference was their voice in the planning of their professional development. The study provided stronger support for giving more control to teachers over their professional development, emphasizing how important it is for teachers to perceive opportunities for growth as a professional and chance to learn how to better serve students with diverse learning needs.

Third, where school leaders had strong influence over establishing the schools' curriculum, teachers were more likely to express stronger commitment to the teaching profession. However, school leaders' influence in setting the school curriculum has decreased over the past decade, as shown in this study. The scope of the current study

cannot fully explain the relationship between school leaders' influence over the curriculum and teacher commitment to the profession found in recent times. The level of influence that principals have over establishing the school curriculum could be thought of as the level of instructional control existing within the school. The more local control there is over the curriculum, more likely teachers are to be given a voice in decisions regarding what they teach in their classrooms. This could affect how teachers perceive their level of autonomy, as well as the strength of instructional leadership at their schools and the administrative support for carrying out their teaching responsibilities. Such conditions are highly likely to be related to teachers' professional commitment. These hypotheses could be further explored by future studies.

Fourth, when it comes to families' school-based engagement and teacher outcomes, the current study generally found no significant associations. However, findings did suggest that there may be a relationship between higher levels of family engagement in school governance and lower risk of teachers in choosing to leave the profession. Improved measures of family empowerment, involvement in school decision-making processes, and presence in schools are definitely needed to gain a better understanding the relationship between such school-based, active involvement of families and teacher outcomes. Future studies should also conduct a more profound investigation of how the nature or strength of these associations are shaped by the characteristics of school contexts and the social organization of schools. This information will be helpful for knowing how school-family relationships can benefit all key actors within the school, including teachers.

Lastly, the most named and important reason for teacher turnover, across all years, was nothing other than the various personal life factors including marriage, relocation, pregnancy, and health. For instance, the biggest driver of teachers moving to a different school was relocation. Other factors such as marriage, pregnancy, and health together were the most named reason for teachers leaving the profession. In the most recent years, these factors were named by 50% of all teachers who transferred schools or left teaching as the single most important reason they moved or left. This suggests the dire need for schools to find ways to ensure that important site-based knowledge and expertise for serving the diverse student populations in those given school contexts are accumulated and maintained at the school sites so that despite the change in personnel and teaching staff, the families and students may be best served and well supported. Future studies should begin to unfold what the key pieces of information and sets of skills are that ought to be conserved and banked.

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Appendix A

Table A1

Cronbach's alpha for the measures of principal influence over school decisions, teacher influence over school decisions, teacher autonomy in the classroom, and families' school-based engagement as key predictors

	SY 1999-2000	SY 2003-04	SY 2007-08	SY 2011-12
Principal Authority				
Influence over Instructional Decisions	0.779	0.697	0.674	0.491
Influence over Supervisory Decisions	0.689	0.617	0.510	0.567
Teacher Influence				
Influence over Instructional Decisions	0.793	0.703	0.671	0.721
Influence over Supervisory Decisions	0.661	0.644	0.655	0.763
Teachers' Classroom Control	0.779	0.750	0.705	0.769
Families' School-based Engagement	0.596	0.680	0.691	0.721

Table A2

Variables in the SASS and TFS data across the four waves between 1999 and 2013 used to construct the variables for RQ1 and RQ3

Variables	Data	Survey items	1999-2000	2003-2004	2007-2008	2011-2012
Dependent variables						
Teacher mobility	TFS	Do you CURRENTLY TEACH any regularly scheduled class(es) in any of grades pre-K–12?	STATUS	STATUS	STATUS	STATUS
	SASS	Question: Do you agree or disagree with each of the following statements?				
Teacher perception of general satisfaction	SASS	I am generally satisfied with being a teacher at this school.	T0320	T0350	T0302	T0451
Teacher job commitment	SASS	How long do you plan to remain in teaching? (1=As long as I am able, 0=Other responses)	T0340	T0383	T0321	T0473

Independent variables

Principal Influence	SASS	School leader influence in setting student performance standards	A0079	A0062	A0046	A0083
	SASS	School leader influence in establishing school curriculum	A0087	A0069	A0053	A0084
	SASS	School leader influence in determining content of teacher PD	A0095	A0076	A0060	A0085
	SASS	School leader influence in making budgetary decisions	A0125	A0105	A0089	A0089
Teacher Influence	SASS	Teacher influence in setting student performance standards	A0081	A0063	A0047	T0420
	SASS	Teacher influence in establishing school curriculum	A0089	A0070	A0054	T0421
	SASS	Teacher influence in teacher evaluation	A0105	A0085	A0069	T0423

	SASS	Teacher influence in determining content of teacher professional development programs	A0097	A0077	A0061	T0422
	SASS	Teacher influence in hiring teachers	A0112	A0092	A0076	T0424
	SASS	Teacher influence in setting discipline policy	A0119	A0099	A0083	T0425
	SASS	Teacher influence in making budgetary decisions	A0127	A0106	A0090	T0426
Teachers' Classroom Control	SASS	Question: How much control do you have in the following areas of planning and teaching?				
	SASS	Selecting textbooks and other instructional materials	T0293	T0318	T0280	T0427
	SASS	Selecting content, topics, and skills to be taught	T0294	T0319	T0281	T0428

	SASS	Selecting teaching techniques	T0295	T0320	T0282	T0429
	SASS	Evaluating and grading students	T0296	T0321	T0283	T0430
	SASS	Disciplining students	T0297	T0322	T0284	T0431
	SASS	Determining the amount of homework to be assigned	T0298	T0323	T0285	T0432
Family Empowerment	SASS	LAST SCHOOL YEAR, what percentage of students had at least one parent or guardian participating in the following events?				
	SASS	Open house or back-to-school night	S0169	A0234	A0153	A0180
	SASS	Regularly scheduled schoolwide parent-teacher conferences	S0171	A0235	A0154	A0181
	SASS	Special subject-area events (e.g., science fair, concert)	S0173	A0236	A0155	A0182
	SASS	Parents as volunteers in the school	S0178	A0239	A0156	A0185

	SASS	Involvement in school instructional issues (e.g., planning classroom learning activities, providing feedback on curriculum)				A0186
	SASS	Involvement in governance (e.g., PTA or PTO meetings, school board, parent booster clubs)				A0187
Support						
Teacher perceptions of support from school leaders	SASS	The school administration's behavior toward the staff is supportive and encouraging.	T0300	T0331	T0286	T0435
Teacher perceptions of support from families	SASS	I feel supported by parents in the work that I do.	T0303	T0334	T0289	T0438

Demand						
Average work hours	SASS	How many hours did you spend on all teaching and other school-related activities during a typical full week at the school?	T0273, T0276, T0277	T0297	T0260	T0392
School Background						
School size	SASS	Total Enrollment (log- transformed to adjust for skew)	S0101	A0422	S0047	S0052
School urbanicity	SASS	*Constructed based on the Common Core of Data (Urban, Suburban, Small Town/Rural)				
Proportion of black and Hispanic students (continuous variable)	SASS	Number of Hispanic students	S0096	A0417	S0042	S0045
	SASS	Number of black students	S0098	A0419	S0044	S0047

High-minority schools (binary variable)	SASS	* Constructed based on *Proportion of black and Hispanic students*				
Proportion of Free and Reduced Lunch (FRL) eligible students (continuous variable)	SASS	Number of FRL eligible students	S0284	A0634	A0217	S0273
High-poverty schools (binary variable)	SASS	* Constructed based on *Proportion of FRL eligible students*				
School performance	SASS	School met school performance goal in the prior year	A0209	A0166	A0216	A0293
Teacher Background						
Years of teaching experience	SASS	How many years have you taught as a full-time teacher in a public school?	T0065	T0036	T0038	T0045

SASS	How many years have you taught as a full-time teacher in a private school?	T0068	T0039	T0041	T0047

Note—The Teacher Follow-up Surveys were consisted of data from the Former Teacher Questionnaire and data from the Current Teacher Questionnaire. The same items were given different variable names in the disparate data sets, and thus this distinction was made in the table.

Table A3

Variables for addressing RQ2 from three waves of TFS (Current) between 2003 and 2013 regarding teacher perceptions of changes in teaching conditions and assignments

Teacher perceptions of changes in teaching conditions: How would you rate your current teaching position relative to last year's teaching position in terms of each of the following aspects? If you are teaching in the same school as you were last year, report on your current teaching conditions and assignment(s) relative to last year's teaching conditions and assignment(s). (1=Better in last year's position, 2=Not better or worse, 3=Better in current position)

Survey Items	**2003-2005**	**2007-2009**	**2011-2013**
Salary	F0188	TPSAL	F1250
Benefits (e.g., health insurance, retirement plan)	F0189	TPBEN	F1251
Opportunities for professional ADVANCEMENT or PROMOTION	F0190	TPADV	F1252
Opportunities for professional DEVELOPMENT	F0191	TPDEV	F1253
Opportunities for learning from colleagues	F0192	TPLRN	F1254
Social relationships with colleagues	F0193	TPREL	F1255
Recognition and support from administrators/managers	F0194	TPADM	F1256

Safety of environment	F0195	TPSAF	F1257
Influence over workplace policies and practices	F0196	TPINF	F1258
Autonomy or control over your own work	F0197	TPAUT	F1259
Professional prestige	F0198	TPPRE	F1260
Procedures for performance evaluation	F0199	TPEVA	F1261
Manageability of workload	F0200	TPWLD	F1262
Ability to balance personal life and work	F0201	TPBAL	F1263
Availability of resources and materials/equipment for doing your job	F0202	TPRES	F1264
General work conditions	F0203	TPCON	F1265
Job security	F0204	TPSEC	F1266
Intellectual challenge	F0205	TPCHA	F1267
Sense of personal accomplishment	F0206	TPACC	F1268
Opportunities to make a difference in the lives of others	F0207	TPDIF	F1269

Table A4

Items regarding teachers' perceptions of the effectiveness of their school leaders' performance in TFS (Current) 2012-13

Teacher perceptions of school leader performance: Indicate how effectively your principal or school head performed each of the following at last year's school. (1=Not at all effectively, 2=Slightly effectively, 3=Somewhat effectively, 4=Very effectively, 5=Extremely effectively)	
Survey Items	
Communicated respect for and value of teachers	F1300
Encouraged teachers to change teaching methods if students were not doing well	F1301
Worked with staff to meet curriculum standards	F1302
Encouraged professional collaboration among teachers	F1303
Worked with teaching staff to solve school or department problems	F1304
Encouraged the teaching staff to use student assessment results in planning instruction	F1305
Worked to develop broad agreement among the teaching staff about the school's mission	F1306
Facilitated and encouraged professional development activities of teachers	F1307

Table A5

Variables for RQ2 from the TFS across the four waves between 1999 and 2013 regarding reasons for teachers' exit decisions

Reasons for teachers' exit decisions: From the reasons listed, which do you consider the one most important reason in your decision to leave the position of a K–12 teacher? (Question not available in 2000-01); From the reasons listed, which do you consider the one most important reason in your decision to leave last year's school?

Variables	Items	1999-2001	2003-2005	2007-2009	2011-2013
Personal Life Factors	Because I wanted to take a job more conveniently located OR because I moved.	NA	0579 (Former) 0172 (Current)	LVIMP (Former) MVIMP (Current)	5725 (Former) 5249 (Current)
	Because of other personal life reasons (e.g., health, pregnancy/childcare, caring for family).	NA	0579 (Former) 0172 (Current)	NA	5725 (Former) 5249 (Current)

Because I was pregnant or needed more time to raise my child(ren).	NA	NA	LVIMP (Former) MVIMP (Current)	NA
Because my health or the health of a loved one required that I leave the profession.	NA	0579 (Former) 0172 (Current)	LVIMP (Former) MVIMP (Current)	NA
Other family or personal reasons	NA	0579 (Former) 0172 (Current)	NA	NA

Retirement	Because I decided to retire or receive retirement benefits from last year's school system.	NA	0579 (Former) 0172 (Current)	LVIMP (Former) MVIMP (Current)	5725 (Former) 5249 (Current)
Salary and Other Job Benefits	Because I wanted or needed a higher salary.	NA	NA	LVIMP (Former) MVIMP (Current)	5725 (Former) 5249 (Current)
	Because I needed better benefits than I received at last year's school.	NA	NA	LVIMP (Former) MVIMP (Current)	5725 (Former) 5249 (Current)

	For better salary or benefits	NA	0579 (Former) 0172 (Current)	NA	NA
	Because I wanted a higher standard of living than my salary provided.	NA	NA	LVIMP (Former) MVIMP (Current)	NA
Job Assignment	Because I was being involuntarily transferred and did not want the offered assignment.	NA	NA	LVIMP (Former) MVIMP (Current)	NA

Because I was dissatisfied with the grade level or subject area I taught at last year's school.	NA	NA	LVIMP (Former) MVIMP (Current)	NA
Because I was dissatisfied with my job description or assignment (e.g., responsibilities, grade level, or subject area).	NA	NA	LVIMP (Former) MVIMP (Current)	5725 (Former) 5249 (Current)
Dissatisfied with previous school or teaching assignment	NA	0579 (Former) 0172 (Current)	NA	NA

Career Change	Because I decided to pursue a position other than that of a K–12 teacher.	NA	0579 (Former)	LVIMP (Former)	5725 (Former)
	Because I decided to take courses to improve career opportunities OUTSIDE the field of education.	NA	0579 (Former)	LVIMP (Former)	5725 (Former)
	Because I was dissatisfied with teaching as a career.	NA	0579 (Former)	LVIMP (Former)	5725 (Former)
Further Training	Because I decided to take courses to improve career opportunities WITHIN the field of education.	NA	0579 (Former)	LVIMP (Former)	5725 (Former)
			0172 (Current)	MVIMP (Current)	5249 (Current)
Lack of Control	Because I did not have enough autonomy over my classroom at last year's school.	NA	NA	LVIMP (Former)	5725 (Former)
				MVIMP (Current)	5249 (Current)

	Because I was dissatisfied with the lack of influence I had over school policies and practices at last year's school.	NA	NA	LVIMP (Former) MVIMP (Current)	5725 (Former) 5249 (Current)
	Because I felt that there were too many intrusions on my teaching time at last year's school.	NA	NA	LVIMP (Former) MVIMP (Current)	5725 (Former) 5249 (Current)
Lack of Support	Because I did not feel prepared to mainstream special needs (e.g., disabled) students in my regular classes at last year's school.	NA	NA	LVIMP (Former) MVIMP (Current)	NA
	Because I was dissatisfied with the lack of support I received from the administration at last year's school.	NA	NA	LVIMP (Former)	NA

				MVIMP (Current)	
School Conditions	Because I was dissatisfied with the large number of students I taught at last year's school.	NA	NA	LVIMP (Former)	5725 (Former)
				MVIMP (Current)	5249 (Current)
	Because I was dissatisfied with workplace conditions (e.g., facilities, classroom resources, school safety) at last year's school.	NA	NA	LVIMP (Former)	5725 (Former)
				MVIMP (Current)	5249 (Current)
	Because student discipline problems were an issue at last year's school.	NA	NA	LVIMP (Former)	5725 (Former)
				MVIMP (Current)	5249 (Current)

	Because I was dissatisfied with the administration at last year's school.	NA	NA	LVIMP (Former) MVIMP (Current)	5725 (Former) 5249 (Current)
	Because there were not enough opportunities for leadership roles or professional advancement at last year's school.	NA	NA	LVIMP (Former) MVIMP (Current)	5725 (Former) 5249 (Current)
Job Security	Because I was concerned about my job security at last year's school.	NA	NA	LVIMP (Former) MVIMP (Current)	5725 (Former) 5249 (Current)

Accountability Policy	Because I was dissatisfied with how student assessments and school accountability measures impacted my teaching or curriculum at last year's school.	NA	NA	LVIMP (Former) MVIMP (Current)	5725 (Former) 5249 (Current)
	Because I was dissatisfied with how some of my compensation, benefits, or rewards were tied to the performance of my students at last year's school.	NA	NA	LVIMP (Former) MVIMP (Current)	5725 (Former) 5249 (Current)
	Because I was dissatisfied with the support I received for preparing my students for student assessments at last year's school.	NA	NA	LVIMP (Former) MVIMP (Current)	5725 (Former) 5249 (Current)

Because I was dissatisfied with the influence student assessments had on the curriculum at last year's school.	NA	NA	LVIMP (Former) MVIMP (Current)	NA
Because I was dissatisfied with other aspects of accountability measures at last year's school not included above.	NA	NA	LVIMP (Former) MVIMP (Current)	NA

Appendix B

Table B1

Descriptive summary of the characteristics of teachers and the schools they serve

	High minority	Low minority	High FRL	Low FRL	Low Performing	High performing
School Characteristics						
School type (%)						
Elementary schools	70.04	61.71	75.92	55.78	62.41	69.15
	(45.82)	(48.62)	(42.77)	(49.68)	(48.45)	(46.20)
Secondary schools	27.27	31.94	18.83	40.43	33.77	25.67
	(44.55)	(46.64)	(39.10)	(49.09)	(47.31)	(43.69)
Combined grade schools	2.69	6.36	5.25	3.78	3.82	5.19
	(16.17)	(24.40)	(22.32)	(19.09)	(19.17)	(22.18)
School size	915.95	793.37	750.19	959.62	986.24	730.22
	(701.91)	(608.18)	(615.31)	(685.36)	(742.43)	(541.56)

School Urbanicity (%)						
Urban	39.49	11.90	33.76	17.57	30.09	21.52
	(48.90)	(32.39)	(47.31)	(38.07)	(45.88)	(41.11)
Suburban	40.10	49.24	34.15	55.24	45.56	43.83
	(49.03)	(50.00)	(47.44)	(49.74)	(49.82)	(49.63)
Rural/small town	20.43	38.86	32.09	27.19	24.35	34.65
	(40.33)	(48.76)	(46.70)	(44.51)	(42.93)	(47.60)
Avg. % of racial/ethnic minority students	57.99	7.98	47.59	18.32	39.00	27.31
	(24.33)	(5.93)	(33.06)	(18.84)	(31.48)	(28.70)
Avg. % of FRL-eligible students	62.03	34.79	72.77	23.94	52.66	44.38
	(26.83)	(24.51)	(17.26)	(14.18)	(28.36)	(29.19)
School performance (% underperforming)	58.26	38.96	54.97	42.21	-	-
	(-)	(-)	(-)	(-)	(-)	(-)
Student-teacher ratio	15.50	15.15	15.01	15.64	15.71	14.96
	(4.11)	(5.15)	(4.48)	(4.82)	(4.21)	(5.02)

Avg. % of racial/ethnic minority teachers	24.51	5.67	21.39	8.77	19.08	11.32
	(23.79)	(14.18)	(25.06)	(15.36)	(23.99)	(19.59)
Teacher Characteristics						
Years of teaching	13.14	14.06	13.54	13.66	13.44	13.75
	(9.17)	(9.77)	(9.50)	(9.47)	(9.59)	(9.39)
Average work hour per week	51.41	50.95	51.30	51.06	51.20	51.15
	(9.39)	(9.86)	(9.32)	(9.94)	(9.55)	(9.71)
Teacher race/ethnicity (%)						
White	73.40	94.36	76.89	90.90	80.36	87.21
Hispanic	13.36	1.63	11.81	3.16	8.86	6.20
Black	9.51	0.51	8.16	1.84	5.90	4.17
Asian	1.90	2.29	1.15	3.04	3.26	0.99
Native American/Native Hawaiian	0.50	0.88	1.19	0.19	0.94	0.46
Two or more races	1.32	0.34	0.79	0.87	0.69	0.92
Observations (teachers)	1,370	1,710	1,510	1,580	1,470	1,620

Table B2

Analysis of predictors of teacher job satisfaction, job commitment and turnover using aggregate measures of principal influence over school decision-making, teacher influence over school decision-making, teacher autonomy within the classroom, and families' school-based engagement (N=3,090)

	Outcomes					
	Teacher Job Satisfaction	Teacher Job Commitment	Teachers' Voluntary Turnover		Teachers' Voluntary Turnover	
Independent variables			Movers	Leavers	Movers	Leavers
Teacher Job Satisfaction					0.49***	0.84
					(0.10)	(0.15)
Teacher Job Commitment					0.77	0.36***
					(0.18)	(0.06)
School Grade Level (v. Elementary)						
Secondary	0.60**	0.83	0.89	0.98	0.81	0.93
	(0.11)	(0.17)	(0.18)	(0.20)	(0.17)	(0.20)

Combined	0.36**	0.74	1.08	1.70	0.93	1.52
	(0.11)	(0.21)	(0.44)	(0.84)	(0.38)	(0.78)
School Size (v. Q1)						
Q2	0.98	0.94	0.98	1.06	0.98	1.05
	(0.15)	(0.18)	(0.24)	(0.27)	(0.24)	(0.27)
Q3	1.07	1.18	1.59+	1.26	1.64+	1.31
	(0.23)	(0.20)	(0.41)	(0.37)	(0.43)	(0.39)
Q4	1.22	1.28	0.87	1.41	0.89	1.51
	(0.28)	(0.30)	(0.23)	(0.60)	(0.24)	(0.69)
School Locale						
Suburb	1.47*	0.75+	1.03	1.27*	1.08	1.18
	(0.26)	(0.12)	(0.28)	(0.13)	(0.28)	(0.12)
Small Town/Rural	1.79***	0.69	1.00	1.61**	1.06	1.55*
	(0.30)	(0.16)	(0.22)	(0.26)	(0.24)	(0.30)

High % Minority	1.00	1.42*	0.89	1.48+	0.92	1.58+
	(0.14)	(0.21)	(0.17)	(0.34)	(0.19)	(0.38)
High % FRL-eligible	1.05	1.32+	2.00***	1.28	2.04***	1.37+
	(0.14)	(0.21)	(0.39)	(0.24)	(0.41)	(0.24)
Underperforming	0.86	0.85	1.29+	0.74	1.25	0.72
	(0.15)	(0.10)	(0.19)	(0.16)	(0.18)	(0.16)
Years of Teaching (v. <5)						
5-10	1.37	0.59**	0.78	0.84	0.76	0.74
	(0.33)	(0.12)	(0.22)	(0.15)	(0.20)	(0.15)
10-20	1.18	0.74	0.34***	0.71	0.33***	0.66
	(0.27)	(0.15)	(0.08)	(0.19)	(0.07)	(0.18)
>20	1.49	0.35***	0.33***	1.89***	0.32***	1.51*
	(0.37)	(0.07)	(0.09)	(0.33)	(0.09)	(0.30)

Average Weekly Work Hour	1.00	1.01	0.99	0.99*	0.99	0.99*
	(0.00)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Principals' Support for Teachers	2.78***	1.21**	0.64***	1.02	0.71**	1.10
	(0.29)	(0.08)	(0.07)	(0.13)	(0.07)	(0.16)
Parents' Support for Teachers	1.65***	1.22**	0.80***	1.06	0.85*	1.12
	(0.13)	(0.08)	(0.05)	(0.11)	(0.06)	(0.13)
Principal Authority						
Over Instructional Decisions	0.93	1.02	1.10	0.94	1.07	0.94
	(0.13)	(0.13)	(0.17)	(0.12)	(0.18)	(0.13)
Over Supervisory Decisions	1.10	0.90	0.97	1.09	0.97	1.10
	(0.13)	(0.08)	(0.13)	(0.15)	(0.13)	(0.15)
Teacher Influence						
Over Instructional Decisions	1.16	1.11	0.71+	0.77**	0.73	0.80*
	(0.14)	(0.12)	(0.13)	(0.07)	(0.14)	(0.08)

Over Supervisory Decisions	1.17	1.15	1.38*	1.14	1.44**	1.19
	(0.16)	(0.10)	(0.17)	(0.12)	(0.19)	(0.13)
Teachers' Classroom Control	1.33***	1.17	0.92	0.86+	0.96	0.89
	(0.10)	(0.12)	(0.08)	(0.07)	(0.09)	(0.07)
Family Participation	0.98	0.94	0.90	0.95	0.90	0.94
	(0.09)	(0.05)	(0.08)	(0.07)	(0.08)	(0.08)
Constant	0.01***	0.36*	0.80	0.06***	0.72	0.07**
	(0.00)	(0.16)	(0.44)	(0.05)	(0.38)	(0.06)
Observations	3,090	3,090	3,090	3,090	3,090	3,090
Number of clusters	51	51	51	51	51	51
Log Likelihood[2]	$-1.513*10^6$	$-1.778*10^6$	$-1.164*10^6$	$-1.164*10^6$	$-1.139*10^6$	$-1.139*10^6$
Chi-square Statistics	750.9	202.5				
df	20	20	40	40	50	50
Significance	<0.001	<0.001				
Pseudo R-squared	0.208	0.0718	0.0664	0.0664	0.0866	0.0866

Table B3

Logistic regression analysis of the predictors of teachers' strong perception of general job satisfaction—results from the full sample and subsample analyses, using aggregate measures of principal influence over school decisions, teacher influence over school decisions, teacher autonomy in the classroom, and families' school-based engagement

	Full sample	High-Minority	Low-Minority	High-FRL	Low-FRL	Low Performing	High Performing
Independent Variables							
School type (vs. Elementary)							
Secondary schools	0.60**	0.80	0.42**	0.76	0.47*	0.60*	0.57+
	(0.11)	(0.19)	(0.12)	(0.21)	(0.14)	(0.14)	(0.18)
Combined grade schools	0.36***	0.15***	0.44+	0.26***	0.42+	0.23*	0.43*
	(0.11)	(0.06)	(0.19)	(0.08)	(0.21)	(0.15)	(0.15)
School size (vs. Q1)							
Second quarter (Q2)	0.99	0.83	1.03	0.88	1.04	1.32	0.85
	(0.15)	(0.23)	(0.22)	(0.20)	(0.28)	(0.35)	(0.15)

Third quarter (Q3)	1.08	0.83	1.38	1.05	1.15	1.19	1.06
	(0.23)	(0.25)	(0.44)	(0.30)	(0.35)	(0.38)	(0.28)
Fourth quarter (Q4)	1.24	1.01	1.47	1.13	1.39	1.38	1.29
	(0.29)	(0.33)	(0.49)	(0.39)	(0.44)	(0.55)	(0.30)
School Urbanicity (vs. Urban)							
Suburban	1.46*	1.55*	1.18	1.61	1.17	2.05***	1.02
	(0.24)	(0.35)	(0.35)	(0.49)	(0.30)	(0.45)	(0.25)
Rural/small town	1.77***	2.52***	1.19	2.27**	1.18	1.97*	1.45
	(0.29)	(0.64)	(0.37)	(0.66)	(0.29)	(0.61)	(0.34)
High-minority Schools	0.96			0.97	0.96	1.45	0.65*
	(0.14)			(0.19)	(0.20)	(0.36)	(0.12)
High-poverty Schools	1.10	1.06	1.18			0.94	1.27
	(0.15)	(0.20)	(0.24)			(0.22)	(0.25)

Low-performing Schools	0.86	1.10	0.64*	0.76	0.93		
	(0.15)	(0.30)	(0.14)	(0.17)	(0.21)		
Yrs of teaching (vs. <5)							
5-10	1.38	1.01	1.74+	1.32	1.55	1.39	1.21
	(0.33)	(0.34)	(0.50)	(0.44)	(0.50)	(0.52)	(0.26)
10-20	1.18	0.66+	1.91*	0.69	2.01*	1.29	1.05
	(0.26)	(0.14)	(0.61)	(0.16)	(0.71)	(0.50)	(0.19)
20+	1.48	0.79	2.63**	1.03	2.24*	1.86+	1.25
	(0.37)	(0.24)	(0.80)	(0.31)	(0.82)	(0.65)	(0.50)
Hours of teaching per week	1.00	1.00	1.00	1.00	1.00	1.00	1.00
	(0.00)	(0.00)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Support of Principals	2.78***	3.12***	2.80***	3.40***	2.42***	2.75***	2.81***
	(0.30)	(0.52)	(0.40)	(0.69)	(0.42)	(0.46)	(0.36)
Support of Parents	1.65***	1.62***	1.83***	1.58***	1.86***	1.69***	1.64***
	(0.12)	(0.15)	(0.23)	(0.16)	(0.21)	(0.23)	(0.22)

Principal Authority							
Influence over Instructional Decisions	0.93	0.72	1.34*	0.70*	1.37+	0.83	1.05
	(0.12)	(0.15)	(0.20)	(0.13)	(0.25)	(0.16)	(0.18)
Influence over Supervisory Decisions	1.10	1.13	1.01	1.11	1.03	1.15	1.02
	(0.13)	(0.18)	(0.18)	(0.15)	(0.18)	(0.24)	(0.11)
Teacher Influence							
Influence over Instructional Decisions	1.17	1.09	1.25	1.04	1.30	1.04	1.34+
	(0.14)	(0.22)	(0.21)	(0.17)	(0.22)	(0.17)	(0.22)
Influence over Supervisory Decisions	1.17	1.48*	0.98	1.29+	1.09	1.19	1.18
	(0.16)	(0.24)	(0.19)	(0.19)	(0.19)	(0.24)	(0.17)
Teachers' Classroom Control	1.33***	1.31*	1.33+	1.56***	1.12	1.27*	1.36**
	(0.10)	(0.16)	(0.20)	(0.18)	(0.13)	(0.15)	(0.16)
Family Participation	0.98	0.89	1.03	0.97	0.94	1.04	0.92
	(0.09)	(0.11)	(0.14)	(0.12)	(0.12)	(0.13)	(0.10)

Constant	0.01***	0.01***	0.00***	0.00***	0.01***	0.00***	0.01***
	(0.00)	(0.01)	(0.00)	(0.00)	(0.01)	(0.00)	(0.01)
Observations	3,090	3,090	3,090	3,090	3,090	3,090	3,090
Number of clusters	51	47	50	51	51	51	50
Log Likelihood2	$-1.513*10^6$	-724731	-741355	-707437	-717959	-746475	-744086
Model *df*	20	20	20	20	40	20	20
Significance	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Pseudo R-squared	0.208	0.245	0.214	0.264	0.238	0.200	0.233

Notes — (1) School size was linearly transformed in order to adjust for right skew. Natural logarithms of the original values were used for the analysis. (2) Schools with high % of minority students, schools with high % of FRL eligible students, and low-performing schools were binary variables. High minority was operationalized as schools that had above-sample-median proportion of students who identified themselves as black or Hispanic; high poverty was operationalized as schools that had above-sample-median proportion of students who were eligible to receive subsidized meals. Low-performing was operationalized as schools that had failed to meet their AYP in the prior year. (3) Coefficients reported in odds ratios. + p< .10 * p < .05 ** p < .01 *** p < .001

Table B4

Subsample analyses of predictors of teachers' long-term commitment to the profession—results from the full sample and subsample analyses, using aggregate measures of principal influence over school decisions, teacher influence over school decisions, teacher autonomy in the classroom, and families' school-based engagement

	Full sample	High-Minority	Low-Minority	High-FRL	Low-FRL	Low Performing	High Performing
Independent Variables							
School type (vs. Elementary)							
Secondary schools	0.79	0.48+	1.09	0.90	0.72	0.61+	1.08
	(0.17)	(0.21)	(0.25)	(0.28)	(0.18)	(0.17)	(0.33)
Combined grade schools	0.71	0.26***	1.13	0.76	0.63	0.72	0.65
	(0.19)	(0.08)	(0.41)	(0.25)	(0.35)	(0.27)	(0.25)
School size (vs. Q1)							
Second quarter (Q2)	0.94	0.71	1.08	0.77	1.20	0.71	1.22
	(0.17)	(0.21)	(0.28)	(0.15)	(0.41)	(0.21)	(0.27)

Third quarter (Q3)	1.20	0.75	1.70*	1.01	1.27	0.94	1.56*
	(0.21)	(0.21)	(0.36)	(0.20)	(0.40)	(0.24)	(0.34)
Fourth quarter (Q4)	1.31	1.09	1.70+	1.05	1.38	0.94	1.70*
	(0.30)	(0.42)	(0.50)	(0.42)	(0.49)	(0.38)	(0.39)
School Urbanicity (vs. Urban)							
Suburban	0.69*	0.65+	0.78	0.38***	1.24	0.88	0.56*
	(0.12)	(0.15)	(0.27)	(0.09)	(0.28)	(0.17)	(0.14)
Rural/small town	0.61+	0.46*	0.82	0.56*	0.75	0.77	0.49+
	(0.16)	(0.16)	(0.29)	(0.16)	(0.24)	(0.18)	(0.19)
High-minority Schools	1.06			1.30	1.01	1.64**	0.74+
	(0.12)			(0.22)	(0.17)	(0.29)	(0.13)
High-poverty Schools	1.28+	1.27	1.36+			0.77	2.18***
	(0.17)	(0.33)	(0.23)			(0.17)	(0.39)

Low-performing Schools	0.87	1.14	0.67*	0.69*	1.08		
	(0.10)	(0.16)	(0.12)	(0.11)	(0.20)		
Yrs of teaching (vs. <5)							
5-10	0.60*	0.61+	0.57*	0.55*	0.71	0.36**	0.90
	(0.12)	(0.16)	(0.15)	(0.16)	(0.22)	(0.12)	(0.17)
10-20	0.74	0.82	0.70	0.72	0.80	0.58*	0.92
	(0.15)	(0.19)	(0.19)	(0.17)	(0.23)	(0.14)	(0.23)
20+	0.34***	0.28***	0.38***	0.32***	0.36***	0.33***	0.34***
	(0.06)	(0.09)	(0.11)	(0.09)	(0.11)	(0.10)	(0.09)
Hours of teaching per week	1.01	1.01*	1.00	1.01	1.00	1.01+	1.00
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Support of Principals	1.20**	1.17	1.26*	1.21*	1.20	1.26*	1.20+
	(0.07)	(0.12)	(0.14)	(0.11)	(0.14)	(0.12)	(0.13)
Support of Parents	1.21**	1.12	1.40**	1.14+	1.26+	1.17	1.30**
	(0.08)	(0.11)	(0.15)	(0.08)	(0.16)	(0.12)	(0.13)

Principal Authority							
Influence over Instructional Decisions	1.02	1.41	0.67*	1.22	0.86	0.85	1.25
	(0.13)	(0.31)	(0.13)	(0.18)	(0.17)	(0.14)	(0.20)
Influence over Supervisory Decisions	0.90	0.93	0.85	0.99	0.85+	0.86	0.89
	(0.08)	(0.12)	(0.11)	(0.13)	(0.08)	(0.14)	(0.09)
Teacher Influence							
Influence over Instructional Decisions	1.12	1.01	1.24	1.00	1.28	1.01	1.28
	(0.12)	(0.10)	(0.22)	(0.14)	(0.21)	(0.15)	(0.21)
Influence over Supervisory Decisions	1.15	1.19	1.11	1.08	1.24+	1.14	1.13
	(0.10)	(0.14)	(0.13)	(0.12)	(0.14)	(0.16)	(0.13)
Teachers' Classroom Control	1.15	1.45**	0.87	1.32*	1.02	1.14	1.12
	(0.11)	(0.18)	(0.13)	(0.18)	(0.13)	(0.13)	(0.14)
Family Participation	0.93	0.98	0.88	0.95	0.84*	0.77	1.02
	(0.06)	(0.07)	(0.08)	(0.08)	(0.07)	(0.12)	(0.12)

Constant	0.42+	0.66	0.19**	0.82	0.23**	0.34	0.34*
	(0.20)	(0.49)	(0.10)	(0.48)	(0.13)	(0.23)	(0.18)
Observations	3,090	1,370	1,710	1,510	1,580	1,470	1,620
Number of clusters	51	47	50	51	51	51	50
Log Likelihood2	$-1.790*10^6$	-859371	-879273	-876839	-874602	-855860	-891458
Model *df*	20	20	20	20	20	20	20
Significance	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Pseudo R-squared	0.066	0.105	0.077	0.088	0.081	0.080	0.095

Notes — (1) School size was linearly transformed in order to adjust for right skew. Natural logarithms of the original values were used for the analysis. (2) Schools with high % of minority students, schools with high % of FRL eligible students, and low-performing schools were binary variables. High minority was operationalized as schools that had above-sample-median proportion of students who identified themselves as black or Hispanic; high poverty was operationalized as schools that had above-sample-median proportion of students who were eligible to receive subsidized meals. Low-performing was operationalized as schools that had failed to meet their AYP in the prior year. (3) Coefficients reported in odds ratios. + p< .10 * p < .05 ** p < .01 *** p < .001

Table B5

Subsample analyses of predictors of voluntary teacher turnover (Movers and Leavers vs. Stayers), using aggregate measures of principal influence over school decisions, teacher influence over school decisions, teacher autonomy in the classroom, and families' school-based engagement

	Full Sample		High-Minority		Low-Minority		High-FRL		Low-FRL		Low Performing		High Performing	
Independent Variables	Movers	Leavers	Movers	Leavers	Movers	Leavers	Movers	Leavers	Movers	Leavers	Movers	Leavers	Movers	Leavers
Teacher satisfaction	0.49***	0.84	0.41***	0.79	0.59	0.98	0.50**	0.71	0.48*	0.96	0.55*	0.81	0.38***	0.90
	(0.10)	(0.15)	(0.07)	(0.20)	(0.20)	(0.26)	(0.11)	(0.19)	(0.15)	(0.23)	(0.16)	(0.22)	(0.09)	(0.20)
Job commitment	0.77	0.36***	0.48**	0.48***	1.36	0.26***	0.80	0.53***	0.80	0.24***	0.67	0.28***	1.05	0.45***
	(0.18)	(0.06)	(0.13)	(0.07)	(0.40)	(0.08)	(0.23)	(0.10)	(0.19)	(0.06)	(0.22)	(0.07)	(0.28)	(0.10)
School type (vs. Elementary)														
Secondary schools	0.81	0.93	0.55*	0.87	1.13	0.96	0.74	1.00	0.95	0.79	0.87	1.33	0.59*	0.67
	(0.17)	(0.20)	(0.16)	(0.25)	(0.35)	(0.27)	(0.28)	(0.40)	(0.28)	(0.22)	(0.29)	(0.42)	(0.13)	(0.22)

Combined grade	0.93	1.52	0.62	0.93	1.23	2.58+	0.87	0.68	0.95	3.12+	1.16	3.36*	0.69	0.74
	(0.38)	(0.78)	(0.44)	(0.57)	(0.41)	(1.42)	(0.44)	(0.29)	(0.38)	(2.01)	(0.73)	(2.04)	(0.23)	(0.28)
School size (vs. Q1)														
Second quarter (Q2)	0.98	1.05	1.00	1.78	0.74	0.62	1.38	1.09	0.52+	0.88	1.22	0.95	0.67	0.94
	(0.24)	(0.27)	(0.35)	(0.65)	(0.25)	(0.19)	(0.44)	(0.31)	(0.19)	(0.26)	(0.43)	(0.39)	(0.25)	(0.24)
Third quarter (Q3)	1.64+	1.31	1.68*	2.06	1.24	0.86	2.38**	1.75	0.63	0.85	1.40	0.60*	1.57	2.00*
	(0.43)	(0.39)	(0.41)	(1.01)	(0.50)	(0.30)	(0.74)	(0.67)	(0.21)	(0.29)	(0.54)	(0.15)	(0.56)	(0.57)
Fourth quarter (Q4)	0.89	1.51	1.08	2.54	0.63	0.74	1.12	1.97	0.45*	0.98	0.70	0.74	1.34	2.02
	(0.24)	(0.69)	(0.40)	(1.60)	(0.29)	(0.24)	(0.49)	(1.25)	(0.17)	(0.29)	(0.23)	(0.21)	(0.54)	(1.08)
School Urbanicity (vs. Urban)														
Suburban	1.08	1.18	1.46	1.11	0.56	1.10	1.07	1.42+	1.16	0.88	1.01	1.50+	0.94	0.80
	(0.28)	(0.12)	(0.49)	(0.23)	(0.28)	(0.34)	(0.50)	(0.27)	(0.39)	(0.18)	(0.47)	(0.33)	(0.28)	(0.17)
Rural/small town	1.06	1.55*	1.33	1.43	0.61	1.26	1.11	1.57*	0.94	1.10	0.68	1.68+	1.38	1.05
	(0.24)	(0.30)	(0.33)	(0.35)	(0.28)	(0.48)	(0.38)	(0.34)	(0.32)	(0.32)	(0.26)	(0.49)	(0.37)	(0.36)

High-minority	0.92	1.58+					0.96	1.53	1.21	1.13	1.15	1.39	0.90	1.42
	(0.19)	(0.38)					(0.25)	(0.50)	(0.35)	(0.30)	(0.39)	(0.29)	(0.27)	(0.47)
High-poverty	2.04***	1.37+	1.47*	1.30	1.44	0.77					1.94**	0.91	1.18	1.22
	(0.41)	(0.24)	(0.27)	(0.27)	(0.38)	(0.23)					(0.45)	(0.25)	(0.30)	(0.29)
Low-performing	1.25	0.72	1.86**	0.62+	1.08	0.97	1.55**	0.62	0.87	0.97				
	(0.18)	(0.16)	(0.35)	(0.16)	(0.31)	(0.27)	(0.21)	(0.21)	(0.22)	(0.22)				
Yrs of teaching (vs. <5)														
5-10	0.76	0.74	0.77	1.09	0.78	0.40**	1.01	1.00	0.49*	0.52*	1.18	0.60	0.41***	0.87
	(0.20)	(0.15)	(0.28)	(0.25)	(0.30)	(0.12)	(0.43)	(0.24)	(0.15)	(0.14)	(0.48)	(0.24)	(0.09)	(0.21)
10-20	0.33***	0.66	0.26***	0.86	0.44**	0.46*	0.43**	0.96	0.23***	0.39**	0.46**	1.00	0.23***	0.50*
	(0.07)	(0.18)	(0.10)	(0.25)	(0.14)	(0.15)	(0.12)	(0.30)	(0.09)	(0.13)	(0.13)	(0.42)	(0.07)	(0.17)
20+	0.32***	1.51*	0.25***	1.70*	0.43*	1.28	0.39*	1.70+	0.18***	1.17	0.38*	1.54	0.31***	1.60+
	(0.09)	(0.30)	(0.09)	(0.41)	(0.16)	(0.35)	(0.16)	(0.53)	(0.05)	(0.27)	(0.18)	(0.46)	(0.10)	(0.41)
Hours of teaching	0.99	0.99*	1.01	0.99+	0.98**	0.99	0.98*	0.99	1.01	0.99	0.99	0.98**	1.00	0.99
per week	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)

Support of Principals	0.71**	1.10	0.65**	1.15	0.82	0.99	0.72*	1.12	0.63***	1.09	0.76+	0.94	0.63***	1.23
	(0.07)	(0.16)	(0.10)	(0.25)	(0.11)	(0.14)	(0.11)	(0.27)	(0.09)	(0.15)	(0.11)	(0.16)	(0.08)	(0.18)
Support of Parents	0.85*	1.12	0.92	1.14	0.76*	0.98	0.91	1.22	0.75*	0.92	0.78*	1.05	0.96	1.13
	(0.06)	(0.13)	(0.10)	(0.18)	(0.10)	(0.17)	(0.11)	(0.16)	(0.11)	(0.11)	(0.09)	(0.14)	(0.17)	(0.29)
Principal Authority														
Over Instructional	1.07	0.94	1.29	0.91	1.15	0.92	1.03	0.97	1.06	0.78	1.33*	0.89	0.80	0.85
Decisions	(0.18)	(0.13)	(0.22)	(0.16)	(0.27)	(0.23)	(0.21)	(0.22)	(0.30)	(0.19)	(0.19)	(0.17)	(0.26)	(0.14)
Over Supervisory	0.97	1.10	1.09	1.09	0.87	1.08	0.99	1.09	1.05	1.14	0.88	1.24	1.18	1.00
Decisions	(0.13)	(0.15)	(0.16)	(0.17)	(0.17)	(0.20)	(0.15)	(0.16)	(0.21)	(0.27)	(0.15)	(0.31)	(0.28)	(0.14)
Teacher Influence														
Over Instructional	0.73	0.80*	0.95	0.69***	0.58**	1.03	0.76	0.81	0.70+	0.78+	0.66	0.80	0.95	0.83+
Decisions	(0.14)	(0.08)	(0.23)	(0.07)	(0.12)	(0.16)	(0.19)	(0.12)	(0.15)	(0.11)	(0.23)	(0.11)	(0.18)	(0.09)
Over Supervisory	1.44**	1.19	1.45*	1.02	1.38+	1.36	1.35	1.03	1.60**	1.33+	1.68**	1.21	1.15	1.07
Decisions	(0.19)	(0.13)	(0.28)	(0.13)	(0.27)	(0.30)	(0.30)	(0.19)	(0.26)	(0.20)	(0.33)	(0.23)	(0.15)	(0.12)

Teachers'	0.96	0.89	0.86	0.95	1.16	0.73*	1.00	0.95	0.91	0.81	0.88	0.84	1.02	0.91
Classroom Control	(0.09)	(0.07)	(0.11)	(0.13)	(0.19)	(0.11)	(0.12)	(0.11)	(0.17)	(0.12)	(0.10)	(0.12)	(0.16)	(0.10)
Family Participation	0.90	0.94	0.90	1.02	1.00	0.81+	0.83+	0.97	0.99	0.87	0.86	0.99	0.90	0.92
	(0.08)	(0.08)	(0.09)	(0.09)	(0.14)	(0.10)	(0.09)	(0.10)	(0.15)	(0.10)	(0.15)	(0.13)	(0.12)	(0.13)
Constant	0.72	0.07**	0.30*	0.05**	1.19	0.29*	0.81	0.04**	1.49	0.32+	0.71	0.21+	0.94	0.05*
	(0.38)	(0.06)	(0.18)	(0.05)	(0.97)	(0.18)	(0.64)	(0.04)	(1.32)	(0.21)	(0.59)	(0.17)	(0.79)	(0.06)
Observations	3,090		1,370		1,710		1,510		1,580		1,470		1,620	
Number of clusters	51		47		50		51		51		51		50	
Log Likelihood2	$-1.139*10^6$		-615598		-498020		-647208		-475798		-554512		-561843	
Model *df*	50		40		50		50		50		50		50	
Pseudo R^2	0.087		0.106		0.100		0.078		0.110		0.112		0.092	

Notes — (1) School size was linearly transformed in order to adjust for right skew. Natural logarithms of the original values were used for the analysis. (2) Schools with high % of minority students, schools with high % of FRL eligible students, and low-performing schools were binary variables. High minority was operationalized as schools that had above-sample-median proportion of students who identified themselves as black or Hispanic; high poverty was operationalized as schools that had above-sample-median proportion of students who were eligible to receive subsidized meals. Low-performing was operationalized as schools that had failed to meet their AYP in the prior year. (3) Coefficients reported in relative risk ratios. + p< .10 * p < .05 ** p < .01 *** p < .001

Table B6

Analysis of teacher job satisfaction, job commitment, voluntary teacher turnover (Movers and Leavers vs. Stayers), using individual items regarding principal influence over school decisions, teacher influence over school decisions, teacher autonomy in the classroom, and families' school-based engagement as key predictors

	Outcomes					
	Teacher Job Satisfaction	Teacher Job Commitment	Teachers' Voluntary Turnover		Teachers' Voluntary Turnover	
Independent Variables			Movers	Leavers	Movers	Leavers
Teacher Job Satisfaction					0.51***	0.84
					(0.10)	(0.15)
Teacher Job Commitment					0.78	0.39***
					(0.20)	(0.06)
School type						
(vs. Elementary)						

Secondary schools	0.65*	0.85	0.95	0.96	0.89	0.94
	(0.13)	(0.19)	(0.20)	(0.18)	(0.21)	(0.18)
Combined grade schools	0.39**	0.66	1.15	1.82	0.99	1.64
	(0.13)	(0.20)	(0.43)	(0.86)	(0.38)	(0.75)
School size (vs. Q1)						
Second quarter (Q2)	1.00	0.98	1.00	0.94	1.01	0.96
	(0.17)	(0.18)	(0.25)	(0.22)	(0.25)	(0.22)
Third quarter (Q3)	1.11	1.19	1.55+	1.19	1.61*	1.22
	(0.23)	(0.20)	(0.36)	(0.34)	(0.39)	(0.34)
Fourth quarter (Q4)	1.28	1.25	0.88	1.27	0.92	1.35
	(0.27)	(0.27)	(0.21)	(0.45)	(0.24)	(0.50)
School Urbanicity (vs. Urban)						
Suburban	1.43*	0.69*	0.99	1.19+	1.03	1.12
	(0.25)	(0.11)	(0.32)	(0.12)	(0.31)	(0.13)

Rural/small town	1.86***	0.61*	0.96	1.47*	1.01	1.39+
	(0.35)	(0.15)	(0.24)	(0.23)	(0.26)	(0.25)
High-minority Schools	0.99	1.08	1.00	1.42+	1.02	1.40
	(0.14)	(0.15)	(0.23)	(0.30)	(0.24)	(0.29)
High-poverty Schools	1.04	1.26+	1.65*	0.92	1.71**	0.98
	(0.15)	(0.16)	(0.34)	(0.14)	(0.35)	(0.15)
Low-performing Schools	0.90	0.92	1.31+	0.73	1.27	0.72
	(0.14)	(0.11)	(0.20)	(0.17)	(0.18)	(0.17)
Yrs of teaching (vs. <5)						
5-10	1.28	0.60*	0.83	0.83	0.82	0.74
	(0.28)	(0.12)	(0.25)	(0.15)	(0.24)	(0.15)
10-20	1.12	0.74	0.37***	0.72	0.35***	0.66
	(0.21)	(0.14)	(0.08)	(0.20)	(0.08)	(0.18)

20+	1.42	0.34***	0.36***	1.84**	0.35**	1.49+
	(0.32)	(0.07)	(0.10)	(0.35)	(0.11)	(0.32)
Average work hour	1.00	1.01	0.99	0.99*	0.99	0.99+
	(0.00)	(0.00)	(0.01)	(0.01)	(0.01)	(0.01)
Support of Principals	2.81***	1.19**	0.64***	0.98	0.72**	1.05
	(0.30)	(0.08)	(0.08)	(0.11)	(0.08)	(0.13)
Support of Parents	1.73***	1.22**	0.78***	1.05	0.83**	1.11
	(0.13)	(0.08)	(0.05)	(0.12)	(0.06)	(0.14)
Principal Influence Over Instructional Decisions						
Setting Performance Standards	1.11	0.83	1.14	0.99	1.14	0.96
	(0.20)	(0.16)	(0.27)	(0.18)	(0.27)	(0.19)
Establishing Curriculum	1.23+	1.40*	1.06	0.82	1.08	0.88
	(0.15)	(0.19)	(0.31)	(0.13)	(0.32)	(0.14)

Principal Influence Over						
Supervisory Decisions						
Teacher PD	0.58***	0.96	1.11	0.88	1.08	0.86
	(0.10)	(0.16)	(0.25)	(0.15)	(0.26)	(0.16)
Budgeting	1.21	1.01	0.97	1.53*	0.96	1.56*
	(0.19)	(0.19)	(0.25)	(0.26)	(0.25)	(0.29)
Teacher Influence Over						
Instructional Decisions						
Setting Performance Standards	1.38*	1.14	0.63	0.78	0.66	0.80
	(0.22)	(0.15)	(0.19)	(0.14)	(0.19)	(0.14)
Establishing Curriculum	1.26	0.91	0.81	0.84	0.83	0.82
	(0.19)	(0.16)	(0.16)	(0.22)	(0.15)	(0.23)

Teacher Influence Over						
Supervisory Decisions						
Teacher PD	1.02	1.77***	1.17	0.68+	1.22	0.75
	(0.16)	(0.23)	(0.25)	(0.14)	(0.29)	(0.15)
Teacher Evaluation	0.98	1.13	1.44+	1.31*	1.46+	1.38*
	(0.21)	(0.19)	(0.30)	(0.18)	(0.29)	(0.20)
Hiring New Teachers	0.99	0.77+	0.91	1.26	0.90	1.18
	(0.14)	(0.12)	(0.17)	(0.24)	(0.18)	(0.24)
Disciplinary Policies	1.22	0.92	1.26	1.36+	1.27	1.35+
	(0.20)	(0.14)	(0.28)	(0.22)	(0.29)	(0.24)
Budgeting	0.90	1.12	1.26	0.89	1.26	0.91
	(0.12)	(0.17)	(0.24)	(0.13)	(0.23)	(0.13)

Teacher Control Over						
Instructional Materials	1.21	1.09	0.57*	0.80	0.59*	0.82
	(0.21)	(0.13)	(0.14)	(0.16)	(0.14)	(0.18)
Instructional Content	0.70+	1.16	1.23	0.96	1.19	0.97
	(0.13)	(0.18)	(0.27)	(0.20)	(0.26)	(0.22)
Teaching Techniques	1.54*	1.39*	0.81	0.71	0.88	0.77
	(0.30)	(0.20)	(0.24)	(0.24)	(0.25)	(0.26)
Evaluating and Grading	0.85	0.81	0.97	1.42	0.97	1.37
	(0.14)	(0.12)	(0.27)	(0.41)	(0.28)	(0.43)
Discipline	1.66**	1.05	1.16	1.05	1.22	1.06
	(0.31)	(0.16)	(0.30)	(0.21)	(0.31)	(0.22)
Assigning Homework	1.26	0.97	1.01	0.76	1.01	0.74
	(0.29)	(0.13)	(0.34)	(0.16)	(0.33)	(0.16)

Families' School-based Engagement						
Attendance at Open House	0.98	1.22	1.05	0.90	1.10	0.95
	(0.22)	(0.20)	(0.28)	(0.18)	(0.29)	(0.20)
Parent-Teacher Conference	1.08	0.97	1.09	0.97	1.09	0.99
	(0.23)	(0.14)	(0.26)	(0.20)	(0.28)	(0.22)
Volunteering	1.22	1.03	1.01	0.97	1.03	0.96
	(0.24)	(0.17)	(0.21)	(0.24)	(0.22)	(0.23)
Instructional issues	0.71	1.10	0.76	1.36	0.71+	1.43+
	(0.15)	(0.24)	(0.15)	(0.27)	(0.14)	(0.29)
Governance	0.89	0.71+	1.06	0.70+	1.05	0.65*
	(0.17)	(0.13)	(0.18)	(0.15)	(0.19)	(0.13)
Constant	0.00***	0.27*	0.68	0.12**	0.53	0.13*
	(0.00)	(0.18)	(0.40)	(0.09)	(0.31)	(0.11)

Observations	3,090	3,090	3,090	3,090
Number of Clusters	51	51	51	51
Log Likelihood2	$-1.470*10^6$	$-1.753*10^6$	$-1.148*10^6$	$-1.126*10^6$
Chi-square statistics	2187	448.3		
Model *df*	40	40	50	50
Significance	<0.001	<0.001		
Pseudo R^2	0.230	0.085	0.079	0.097

Appendix C

Table C1

Descriptive summary of teachers' responses regarding the single most important reason for their exit decisions in SY 2003-05, SY 2007-09, and SY 2011-13

Reasons for Exit Decisions	Wave 2		Wave 3		Wave 4	
	Movers	Leavers	Movers	Leavers	Movers	Leavers
	(*n* =1,020)	(*n* =1,330)	(*n*=500)	(*n*=690)	(*n*=690)	(*n*=1,100)
Personal Life Factors (e.g., commute, relocation, marriage, pregnancy, family, etc.)	25.27%	36.58%	49.62%	31.78%	48.03%	37.75%
Retirement	-	23.43%	-	25.22%	-	18.08%
Salary and Other Job Benefits	8.43%	6.81%	4.15%	3.60%	6.43%	8.75%
Job Assignment	23.24%	7.09%	10.71%	1.49%	7.00%	2.79%
Career Change	-	22.71%	-	16.71%	-	13.29%
Further Training	-	3.39%	-	2.39%	-	2.75%
Lack of Control	3.99%	-	2.91%	2.87%	3.54%	2.80%

Lack of Support	24.00%	-	18.43%	8.14%	24.41%	4.59%
School Conditions (e.g., resources, facility, disciplinary issues, class size, etc.)	10.20%	-	9.61%	4.06%	7.63%	4.50%
Job Security	4.87%	-	1.35%	0.15%	1.54%	0.28%
Accountability Policy (e.g., impact on instruction, rewards and sanctions, assessments, etc.)	-	-	3.22%	3.60%	1.42%	4.42%
Total	100%	100%	100%	100%	100%	100%

Notes—(1) Unit: % (2) All summary statistics have been weighted using the survey weights provided in the Teacher Follow-up Survey (3) Items that do not have a reported percentage in the table were those that were not offered as a potential response for this particular survey question in TFS.

Table C2

Ratings of how important the following factors were in leading to the decision to leave last year's school and move to a different school in SY 2011-13, on a scale of 1 (not at all important) to 5 (extremely important) (n=690)

Reasons for Moving to a New School	Average of Ratings (*SD*)
Personal Life Factors	
Because I wanted to take a job more conveniently located OR because I moved.	2.84 (1.75)
Because of other personal life reasons (e.g., health, pregnancy/childcare, caring for family).	2.39 (1.63)
Salary and Benefits	
Because I wanted or needed a higher salary.	1.76 (1.32)
Because I needed better benefits than I received at last year’s school.	1.44 (1.05)

Because I wanted to receive retirement benefits from last year's school system.	1.26 (0.79)
Position or Job Assignment	
Because I was dissatisfied with my job description or assignment (e.g., responsibilities, subject, etc.).	2.25 (1.50)
Lack of Control	
Because I did not have enough autonomy over my classroom at last year's school.	1.78 (1.28)
Because I was dissatisfied with the lack of influence I had over school policies and practices.	2.27 (1.53)
Because I felt that there were too many intrusions on my teaching time at last year's school.	2.20 (1.48)
Because there were not enough opportunities for leadership roles or professional advancement.	1.92 (1.44)

Lack of Support	
Because I was dissatisfied with the administration at last year's school.	2.76
	(1.70)
Because I was dissatisfied with the support I received for preparing my students for assessments.	1.93
	(1.33)
Working Conditions	
Because I was dissatisfied with workplace conditions (e.g., facilities, classroom resources, school safety).	2.53
	(1.54)
Because I was dissatisfied with the large number of students I taught at last year's school.	1.81
	(1.31)
Because student discipline problems were an issue at last year's school.	2.32
	(1.55)
Because I wanted the opportunity to teach at my current school.	2.83
	(1.54)

Job Security	
Because I was concerned about my job security at last year's school.	1.54
	(1.11)
Accountability Policy	
Because I was dissatisfied with how school accountability measures impacted my teaching or curriculum.	1.96
	(1.36)
Because I was dissatisfied with how some of my compensation was tied to student performance.	1.48
	(0.97)

Notes — (1) All summary statistics have been weighted using the survey weights provided in the Teacher Follow-up Survey

Table C3

Ratings of how important the following factors were in leading to the decision to leave last year's school, reported for each subsample of teachers who, in SY 2011-12, taught in high minority schools, low minority schools, high FRL schools, low FRL schools, schools that failed to meet AYP in the previous year, and schools that met AYP in the previous year—possible responses were not at all important (1), slightly important (2), somewhat important (3), very important (4), or extremely important (5) (n=690)

Reasons for Moving to a New School	High minority (*n*=370)	Low minority (*n*=320)	High FRL (*n*=410)	Low FRL (*n*=280)	Low performing (*n*=370)	High performing (*n*=320)
<u>Personal Life Factors</u>						
Because I wanted to take a job more conveniently	3.04	2.52	2.95	2.61	3.05	2.53
located OR because I moved.	(1.77)	(1.67)	(1.75)	(1.75)	(1.73)	(1.74)
Because of other personal life reasons (e.g., health,	2.32	2.50	2.32	2.53	2.48	2.26
pregnancy/childcare, caring for family).	(1.64)	(1.60)	(1.63)	(1.61)	(1.64)	(1.61)

Salary and Benefits						
Because I wanted or needed a higher salary.	1.80	1.71	1.67	1.96	1.78	1.74
	(1.40)	(1.18)	(1.27)	(1.39)	(1.34)	(1.29)
Because I needed better benefits than I received at last year's school.	1.47	1.41	1.45	1.43	1.46	1.42
	(1.12)	(0.93)	(1.08)	(0.97)	(1.04)	(1.06)
Because I wanted to receive retirement benefits from last year's school system.	1.24	1.30	1.28	1.22	1.33	1.16
	(0.82)	(0.74)	(0.80)	(0.76)	(0.87)	(0.66)
Position or Job Assignment						
Because I was dissatisfied with my job description or assignment (e.g., responsibilities, grade level, or subject area).	2.24	2.26	2.18	2.40	2.19	2.33
	(1.56)	(1.41)	(1.51)	(1.48)	(1.50)	(1.50)
Because I wanted the opportunity to teach at my current school.	2.63	3.14	2.71	3.10	2.92	2.71
	(1.56)	(1.47)	(1.51)	(1.59)	(1.54)	(1.55)

Lack of Control						
Because I did not have enough autonomy over my classroom at last year's school.	1.84 (1.36)	1.69 (1.16)	1.76 (1.29)	1.84 (1.27)	1.73 (1.25)	1.86 (1.32)
Because I was dissatisfied with the lack of influence I had over school policies and practices at last year's school.	2.34 (1.54)	2.16 (1.51)	2.25 (1.53)	2.30 (1.53)	2.25 (1.50)	2.29 (1.58)
Because I felt that there were too many intrusions on my teaching time at last year's school.	2.39 (1.57)	1.92 (1.29)	2.24 (1.53)	2.13 (1.38)	2.22 (1.50)	2.19 (1.46)
Because there were not enough opportunities for leadership roles or professional advancement at last year's school.	1.90 (1.41)	1.93 (1.48)	1.86 (1.43)	2.03 (1.45)	1.80 (1.34)	2.09 (1.55)
Lack of Support						
Because I was dissatisfied with the administration at last year's school.	2.99 (1.74)	2.40 (1.59)	2.82 (1.70)	2.62 (1.69)	2.91 (1.71)	2.54 (1.67)

Because I was dissatisfied with the support I received for preparing my students for student assessments at last year's school.	2.13 (1.41)	1.64 (1.13)	1.94 (1.33)	1.93 (1.31)	1.85 (1.21)	2.06 (1.47)
Working Conditions						
Because I was dissatisfied with workplace conditions (e.g., facilities, classroom resources, school safety) at last year's school.	2.80 (1.61)	2.11 (1.31)	2.65 (1.55)	2.27 (1.46)	2.74 (1.53)	2.22 (1.49)
Because I was dissatisfied with the large number of students I taught at last year's school.	1.93 (1.43)	1.64 (1.07)	1.83 (1.35)	1.77 (1.22)	1.85 (1.38)	1.76 (1.20)
Because student discipline problems were an issue at last year's school.	2.56 (1.59)	1.96 (1.40)	2.47 (1.59)	2.01 (1.41)	2.55 (1.61)	1.98 (1.39)
Job Security						
Because I was concerned about my job security at last year's school.	1.49 (1.10)	1.62 (1.11)	1.50 (1.09)	1.63 (1.13)	1.56 (1.13)	1.52 (1.08)

Accountability Policy						
Because I was dissatisfied with how student assessments/school accountability measures impacted my teaching or curriculum at last year's school.	2.13 (1.45)	1.71 (1.17)	1.98 (1.41)	1.92 (1.25)	1.97 (1.33)	1.95 (1.41)
Because I was dissatisfied with how some of my compensation, benefits, or rewards were tied to the performance of my students at last year's school.	1.59 (1.04)	1.31 (0.84)	1.47 (0.98)	1.51 (0.96)	1.49 (0.98)	1.47 (0.96)

Notes — (1) All summary statistics have been weighted using the survey weights provided in the Teacher Follow-up Survey

Table C4

Ratings of how important the following factors were in leading to the decision to leave the teaching profession in SY 2011-12, on a scale of 1 (not at all important) to 5 (extremely important) (*n*=1,100)

Reasons for Leaving the Profession	Average of Ratings (*SD*)
Personal Life Factors	
Because I wanted to take a job more conveniently located OR because I moved.	1.51 (1.20)
Because of other personal life reasons (e.g., health, pregnancy/childcare, caring for family).	2.64 (1.76)
Retirement	
Because I decided to retire or receive retirement benefits from last year's school system.	2.40 (1.72)
Salary and Benefits	
Because I wanted or needed a higher salary.	1.63 (1.22)

Because I needed better benefits than I received at last year's school.	1.40 (1.01)
Position or Job Assignment	
Because I was dissatisfied with my job description or assignment (e.g., responsibilities, subject, etc.).	1.74 (1.20)
Career Factors	
Because I decided to pursue a position other than that of a K–12 teacher.	2.16 (1.61)
Because I decided to take courses to improve career opportunities OUTSIDE the field of education.	1.31 (0.87)
Because I was dissatisfied with teaching as a career.	2.13 (1.46)

Job Training	
Because I decided to take courses to improve career opportunities WITHIN the field of education.	1.58 (1.28)
Lack of Control	
Because I did not have enough autonomy over my classroom at last year's school.	1.78 (1.29)
Because I was dissatisfied with the lack of influence I had over school policies and practices.	1.96 (1.32)
Because I felt that there were too many intrusions on my teaching time at last year's school.	2.09 (1.36)
Because there were not enough opportunities for leadership roles or professional advancement.	1.59 (1.15)
Lack of Support	
Because I was dissatisfied with the administration at last year's school.	2.14 (1.52)

Because I was dissatisfied with the support I received for preparing my students for assessments.	1.76 (1.28)
Working Conditions	
Because I was dissatisfied with workplace conditions (e.g., facilities, classroom resources, school safety).	1.67 (1.12)
Because I was dissatisfied with the large number of students I taught at last year's school.	1.66 (1.11)
Because student discipline problems were an issue at last year's school.	1.94 (1.33)
Job Security	
Because I was concerned about my job security at last year's school.	1.42 (1.00)

Accountability Policy	
Because I was dissatisfied with how school accountability measures impacted my teaching or curriculum.	2.16
	(1.45)
Because I was dissatisfied with how some of my compensation was tied to student performance.	1.61
	(1.15)

Notes — (1) Unit: % (2) All summary statistics have been weighted using the survey weights provided in the Teacher Follow-up Survey

Table C5

Ratings of how important the following factors were in leading to the decision to leave the profession, reported for each subsample of teachers who, in SY 2011-12, taught in high minority schools, low minority schools, high FRL schools, low FRL schools, schools that failed to meet AYP in the previous year, and schools that met AYP in the previous year—possible responses were not at all important (1), slightly important (2), somewhat important (3), very important (4), or extremely important (5) (n=1,100)

Reasons for Leaving the Profession	High minority (*n*=410)	Low minority (*n*=680)	High FRL (*n*=640)	Low FRL (*n*=460)	Low performing (*n*=600)	High performing (*n*=490)
<u>Personal Life Factors</u>						
Because I wanted to take a job more conveniently located OR because I moved.	1.55 (1.23)	1.47 (1.16)	1.62 (1.30)	1.39 (1.07)	1.44 (1.10)	1.57 (1.27)
Because of other personal life reasons (e.g., health, pregnancy/childcare, caring for family).	2.69 (1.73)	2.57 (1.79)	2.55 (1.72)	2.73 (1.79)	2.40 (1.74)	2.82 (1.75)

Retirement						
Because I wanted to retire from last year's school system.	2.28 (1.68)	2.53 (1.76)	2.32 (1.67)	2.48 (1.77)	2.32 (1.65)	2.46 (1.78)
Salary and Benefits						
Because I wanted or needed a higher salary.	1.70 (1.31)	1.56 (1.11)	1.78 (1.33)	1.47 (1.08)	1.78 (1.32)	1.52 (1.13)
Because I needed better benefits than I received at last year's school.	1.39 (1.01)	1.41 (1.01)	1.55 (1.15)	1.23 (0.80)	1.55 (1.17)	1.28 (0.85)
Position or Job Assignment						
Because I was dissatisfied with my job description or assignment (e.g., responsibilities, grade level, or subject area).	1.85 (1.22)	1.61 (1.15)	1.91 (1.21)	1.56 (1.16)	1.83 (1.24)	1.68 (1.16)

Career Factors						
Because I decided to pursue a position other than	2.38	1.89	2.42	1.89	2.36	2.01
that of a K–12 teacher.	(1.68)	(1.49)	(1.68)	(1.49)	(1.66)	(1.56)
Because I decided to take courses to improve						
career opportunities OUTSIDE the field of	1.37	1.24	1.42	1.20	1.40	1.25
education.	(0.95)	(0.76)	(0.95)	(0.76)	(0.95)	(0.80)
Because I was dissatisfied with teaching as a	2.42	1.77	2.37	1.87	2.21	2.06
career.	(1.50)	(1.33)	(1.49)	(1.38)	(1.55)	(1.39)
Job Training						
Because I decided to take courses to improve						
career opportunities WITHIN the field of	1.59	1.58	1.71	1.45	1.73	1.47
education.	(1.24)	(1.33)	(1.38)	(1.15)	(1.39)	(1.18)
Lack of Control						
Because I did not have enough autonomy over my	1.99	1.51	2.12	1.41	1.88	1.70
classroom at last year's school.	(1.41)	(1.06)	(1.42)	(1.00)	(1.36)	(1.22)

Because I was dissatisfied with the lack of						
influence I had over school policies and practices	2.04	1.85	2.17	1.72	2.12	1.82
at last year's school.	(1.29)	(1.34)	(1.40)	(1.18)	(1.43)	(1.20)
Because I felt that there were too many intrusions	2.29	1.83	2.32	1.83	2.11	2.07
on my teaching time at last year's school.	(1.41)	(1.25)	(1.36)	(1.30)	(1.36)	(1.35)
Because there were not enough opportunities for						
leadership roles or professional advancement at last	1.63	1.53	1.74	1.42	1.80	1.42
year's school.	(1.12)	(1.19)	(1.23)	(1.04)	(1.29)	(0.99)
<u>Lack of Support</u>						
Because I was dissatisfied with the administration	2.28	1.97	2.44	1.82	2.34	1.99
at last year's school.	(1.52)	(1.51)	(1.59)	(1.38)	(1.63)	(1.42)
Because I was dissatisfied with the support I						
received for preparing my students for student	1.95	1.53	2.07	1.43	1.87	1.68
assessments at last year's school.	(1.37)	(1.13)	(1.44)	(0.99)	(1.38)	(1.20)

Working Conditions						
Because I was dissatisfied with workplace conditions (e.g., facilities, classroom resources, school safety) at last year's school.	1.86 (1.23)	1.44 (0.93)	1.87 (1.20)	1.45 (1.00)	1.79 (1.19)	1.58 (1.06)
Because I was dissatisfied with the large number of students I taught at last year's school.	1.82 (1.19)	1.47 (0.98)	1.87 (1.17)	1.44 (1.00)	1.66 (1.11)	1.67 (1.12)
Because student discipline problems were an issue at last year's school.	2.28 (1.45)	1.52 (1.02)	2.32 (1.45)	1.54 (1.04)	1.99 (1.36)	1.90 (1.31)
Job Security						
Because I was concerned about my job security at last year's school.	1.52 (1.08)	1.29 (0.87)	1.57 (1.09)	1.26 (0.86)	1.66 (1.16)	1.23 (0.80)

Accountability Policy						
Because I was dissatisfied with how student assessments/school accountability measures impacted my teaching or curriculum at last year's school.	2.39 (1.53)	1.89 (1.31)	2.42 (1.51)	1.89 (1.34)	2.17 (1.46)	2.16 (1.45)
Because I was dissatisfied with how some of my compensation, benefits, or rewards were tied to the performance of my students at last year's school.	1.79 (1.24)	1.39 (0.98)	1.83 (1.25)	1.37 (0.97)	1.66 (1.24)	1.57 (1.07)

Notes — (1) Unit: % (2) All summary statistics have been weighted using the survey weights provided in the Teacher Follow-up Survey

Table C6

Percent of Movers who responded that their workplace conditions improved, did not change, or worsened between SY2011-12 and SY2012-13 (n=690)

	Improved	Did not change	Worsened
Intellectual challenge	43.18	43.65	13.17
Sense of personal accomplishment	42.29	43.25	14.46
General work conditions	41.75	50.09	8.16
Learning from colleagues	41.07	44.60	14.33
Autonomy over work	40.44	44.67	14.89
Opportunities to make a difference	40.08	50.78	9.14
Professional prestige	38.74	49.84	11.42
Support from administrators	38.10	50.40	11.50
Social relationships with colleagues	35.22	45.26	19.52
Professional development	35.02	55.70	9.28
Personal work-life balance	34.30	42.38	23.32

Safety of environment	32.69	57.08	10.23
Influence over policies/practices	32.68	53.92	13.40
Manageability of workload	30.94	45.08	23.98
Availability of resources/materials	30.91	41.60	27.49
Salary	27.15	59.15	13.70
Procedures for performance evaluation	25.99	58.42	15.59
Job security	25.66	56.84	17.50
Opportunities for promotion	21.79	69.37	8.84
Benefits	11.41	69.98	18.61

Notes — (1) All summary statistics have been weighted using the survey weights provided in the Teacher Follow-up Survey

Table C7

Percent of Movers who responded that their workplace conditions improved or did not change between SY2011-12 and SY2012-13, by the types of schools that teachers taught in SY2011-12

	High Minority (*n*=370)			High FRL (*n*=400)			Underperforming (*n*=370)		
	Improved	Did not change	Worsened	Improved	Did not change	Worsened	Improved	Did not change	Worsened
Intellectual challenge	48.75	42.18	9.07	46.05	46.53	7.42	41.18	52.69	6.13
Sense of accomplishment	48.63	33.08	18.29	49.02	35.17	15.81	43.01	40.15	16.84
General work conditions	48.34	39.47	12.19	41.84	46.99	11.17	43.35	46.15	10.50
Learning from colleagues	40.58	38.87	20.55	41.65	39.78	18.57	34.86	47.23	17.91
Autonomy over work	48.41	42.34	9.25	39.96	51.95	8.09	39.23	53.37	7.40
Opportunity to make a difference	45.60	44.84	9.56	40.44	51.84	7.72	36.80	56.19	7.01
Professional prestige	43.86	44.81	11.33	39.83	50.08	10.09	40.81	50.08	9.11
Support from administrators	43.04	42.77	14.19	37.49	49.10	13.41	34.49	53.21	12.30

Relationships with colleagues	42.28	41.32	16.40	43.49	41.13	15.38	37.05	48.84	14.11
Professional development	39.09	47.04	13.87	42.06	45.20	12.74	35.57	50.14	14.29
Personal work-life balance	41.10	36.56	22.34	34.53	40.57	24.90	33.05	40.89	26.06
Safety of environment	39.24	55.29	5.47	33.27	61.23	5.50	32.04	60.84	7.12
Influence over policies/practices	33.67	58.55	7.78	32.25	60.86	6.89	29.50	62.71	7.79
Manageability of workload	38.32	35.10	26.58	33.29	38.37	28.34	32.03	38.47	29.50
Resource availability	32.51	40.19	27.30	32.12	40.58	27.30	26.76	44.45	28.79
Salary	24.20	58.69	17.11	27.44	56.56	16.00	20.36	63.24	16.40
Perf. evaluation procedures	30.96	56.58	12.46	24.82	63.51	11.67	22.45	67.49	10.06
Job security	21.51	58.00	20.49	18.74	63.09	18.17	14.93	69.56	15.51
Opportunities for promotion	23.64	69.68	6.68	22.92	69.19	7.89	21.35	71.04	7.61
Benefits	12.88	63.14	23.98	11.58	67.93	20.49	12.81	65.87	21.32

Notes — (1) Unit: % (2) All summary statistics have been weighted using the survey weights provided in the Teacher Follow-up Survey

Table C8

Comparison of Stayers' and Movers' average ratings of the effectiveness of their school leadership (lowest rating=1, highest rating=5) in SY 2011-12 (n=690)

Actions of school leadership	Movers in SY11-12	Stayers in SY11-12	Diff	*t*	*p*
Communicated respect for, and value of, teachers	3.24	3.58	0.34**	8.50	0.004
Encouraged teachers to change teaching methods if students under-performing	3.18	3.43	0.25*	4.96	0.026
Worked with staff to meet curriculum standards	3.19	3.51	0.32**	7.69	0.006
Encouraged professional collaboration among teachers	3.36	3.65	0.29*	6.09	0.014
Worked with teaching staff to solve school or department problems	2.99	3.35	0.36**	9.74	0.002

Encouraged teachers to use assessment results in instructional planning	3.52	3.81	0.29**	7.75	0.005
Worked to develop agreement among teachers about the school's mission	3.25	3.44	0.19	2.73	0.099
Facilitated and encouraged professional development activities of teachers	3.34	3.59	0.25*	4.94	0.026

Notes — All summary statistics have been weighted using the survey weights provided in the Teacher Follow-up Survey

Table C9

Comparison of Stayers' and Movers' average ratings of the effectiveness of their school leadership (lowest rating=1, highest rating=5) in SY 2011-12, among teachers who had taught in high-minority schools in SY 2011-12 (n=370)

Actions of school leadership	Movers in SY11-12	Stayers in SY11-12	Diff	*t*	*p*
Communicated respect for, and value of, teachers	3.06	3.53	0.47**	9.54	0.002
Encouraged teachers to change teaching methods if students under-performing	3.00	3.46	0.46**	9.06	0.003
Worked with staff to meet curriculum standards	2.98	3.49	0.51**	10.96	0.001
Encouraged professional collaboration among teachers	3.17	3.63	0.46***	9.55	0.004
Worked with teaching staff to solve school or department problems	2.75	3.33	0.58***	13.19	<0.001

Encouraged teachers to use assessment results in instructional planning	3.35	3.84	0.49***	11.98	<0.001
Worked to develop agreement among teachers about the school's mission	3.04	3.47	0.43**	7.43	0.007
Facilitated and encouraged professional development activities of teachers	3.19	3.62	0.43**	8.33	0.004

Notes — All summary statistics have been weighted using the survey weights provided in the Teacher Follow-up Survey

Table C10

Comparison of Stayers' and Movers' average ratings of the effectiveness of their school leadership (lowest rating=1, highest rating=5) in SY 2011-12, among teachers who had taught in high-FRL schools in SY 2011-12 (*n*=410)

Actions of school leadership	Movers in SY11-12	Stayers in SY11-12	Diff	*t*	*p*
Communicated respect for, and value of, teachers	3.31	3.52	0.21	2.24	0.135
Encouraged teachers to change teaching methods if students under-performing	3.26	3.48	0.22	2.73	0.099
Worked with staff to meet curriculum standards	3.27	3.54	0.27*	3.89	0.049
Encouraged professional collaboration among teachers	3.46	3.64	0.18	1.53	0.217
Worked with teaching staff to solve school or department problems	3.03	3.32	0.29*	3.88	0.049

Encouraged teachers to use assessment results in instructional planning	3.61	3.85	0.24	3.66	0.056
Worked to develop agreement among teachers about the school's mission	3.33	3.43	0.1	0.44	0.509
Facilitated and encouraged professional development activities of teachers	3.46	3.60	0.14	1.01	0.316

Notes — All summary statistics have been weighted using the survey weights provided in the Teacher Follow-up Survey

Table C11

Comparison of Stayers' and Movers' average ratings of the effectiveness of their school leadership (lowest rating=1, highest rating=5) in SY 2011-12, among teachers who had taught in underperforming schools in SY 2011-12 (n=370)

Actions of school leadership	Movers in SY11-12	Stayers in SY11-12	Diff	*t*	*p*
Communicated respect for, and value of, teachers	3.27	3.48	0.21	2.02	0.155
Encouraged teachers to change teaching methods if students under-performing	3.28	3.37	0.09	0.39	0.534
Worked with staff to meet curriculum standards	3.23	3.49	0.26	2.99	0.084
Encouraged professional collaboration among teachers	3.43	3.57	0.14	0.82	0.365
Worked with teaching staff to solve school or department problems	3.03	3.25	0.22	2.06	0.151

Encouraged teachers to use assessment results in instructional planning	3.56	3.74	0.18	1.82	0.178
Worked to develop agreement among teachers about the school's mission	3.33	3.39	0.06	0.15	0.701
Facilitated and encouraged professional development activities of teachers	3.42	3.53	0.11	0.54	0.461

Notes — All summary statistics have been weighted using the survey weights provided in the Teacher Follow-up Survey

Appendix D

Table D1

Predictors of teacher satisfaction across time

Teacher Job Satisfaction	1999-2001 (*N*=3310)	2003-05 (*N*=3970)	2007-09 (*N*=2940)	2011-13 (*N*=3090)
School Grade Level (v. Elementary)				
Secondary	1.06	0.82	0.74	0.60**
	(0.25)	(0.16)	(0.23)	(0.11)
Combined	0.96	1.18	1.93	0.36**
	(0.55)	(0.39)	(0.95)	(0.11)
School Size (v. Q1)				
Q2	0.69+	0.99	1.38	0.98
	(0.14)	(0.15)	(0.35)	(0.15)
Q3	0.63+	0.78+	1.42	1.07
	(0.15)	(0.12)	(0.34)	(0.23)

Q4	0.62+	0.90	1.32	1.22
	(0.17)	(0.23)	(0.37)	(0.28)
School Locale				
Suburb	1.28	1.08	0.92	1.47*
	(0.23)	(0.19)	(0.27)	(0.26)
Small Town/Rural	0.84	0.81	0.79	1.79***
	(0.20)	(0.16)	(0.22)	(0.30)
High % Minority	1.01	0.81	1.17	1.00
	(0.18)	(0.13)	(0.29)	(0.14)
High % FRL-eligible	0.93	0.99	0.80	1.05
	(0.16)	(0.15)	(0.15)	(0.14)
Underperforming	1.01	0.84	0.65*	0.86
	(0.17)	(0.11)	(0.13)	(0.15)

Years of Teaching (v. <5)				
5-10	0.85	0.96	1.18	1.37
	(0.13)	(0.17)	(0.27)	(0.33)
10-20	1.26	0.90	1.04	1.18
	(0.23)	(0.16)	(0.26)	(0.27)
>20	1.46*	1.48**	2.05**	1.49
	(0.23)	(0.19)	(0.45)	(0.37)
Average Weekly Work Hour	0.99	1.00	1.01*	1.00
	(0.00)	(0.00)	(0.00)	(0.00)
Principals' Support for Teachers	2.76***	2.66***	4.20***	2.78***
	(0.36)	(0.18)	(0.58)	(0.29)
Parents' Support for Teachers	1.60***	1.60***	1.34**	1.65***
	(0.13)	(0.15)	(0.13)	(0.13)

Principal Authority				
Influence over Instructional Decisions	0.94	0.96	1.22	0.93
	(0.09)	(0.13)	(0.22)	(0.13)
Influence over Supervisory Decisions	1.14	0.84	0.89	1.10
	(0.10)	(0.10)	(0.13)	(0.13)
Teacher Influence				
Influence over Instructional Decisions	0.92	1.11	0.93	1.16
	(0.11)	(0.17)	(0.21)	(0.14)
Influence over Supervisory Decisions	0.90	1.04	1.17	1.17
	(0.12)	(0.11)	(0.13)	(0.16)
Teachers' Classroom Control	1.33**	1.52***	1.43***	1.33***
	(0.14)	(0.12)	(0.14)	(0.10)
Family Participation	1.10	1.16	1.13	0.98
	(0.11)	(0.11)	(0.13)	(0.09)

Constant		0.02***	0.03***	0.00***	0.01***
		(0.01)	(0.01)	(0.00)	(0.00)
	Observations	3,310	3,970	2,930	3,090
	Number of clusters	51	51	51	51
	Log Likelihood[2]	$-1.328*10^6$	$-1.423*10^6$	$-1.406*10^6$	$-1.513*10^6$
	Model Chi-squared	663.3	1646	351.1	750.9
	df	20	20	20	20
	Significance	<0.001	<0.001	<0.001	<0.001
	Pseudo R-squared	0.185	0.191	0.217	0.208

Notes — (1) School size was linearly transformed in order to adjust for right skew. Natural logarithms of the original values were used for the analysis. (2) Schools with high % of minority students, schools with high % of FRL eligible students, and low-performing schools were binary variables. High minority was operationalized as schools that had above-sample-median proportion of students who identified themselves as black or Hispanic; high poverty was operationalized as schools that had above-sample-median proportion of students who were eligible to receive subsidized meals. Low-performing was operationalized as schools that had failed to meet their AYP in the prior year. (3) Coefficients reported in odds ratios. + p< .10 * p < .05 ** p < .01 *** p < .001

Table D2

Predictors of teacher job commitment across time

Teacher Job Commitment	1999-2001 (*N*=3310)	2003-05 (*N*=3970)	2007-09 (*N*=2940)	2011-13 (*N*=3090)
School Grade Level (v. Elementary)				
Secondary	1.48+	0.92	1.19	0.83
	(0.31)	(0.12)	(0.24)	(0.17)
Combined	2.01	0.63+	1.02	0.74
	(1.37)	(0.16)	(0.39)	(0.21)
School Size (v. Q1)				
Q2	1.22	0.95	0.97	0.94
	(0.24)	(0.15)	(0.19)	(0.18)
Q3	1.03	0.79	0.80	1.18
	(0.18)	(0.14)	(0.15)	(0.20)

Q4	0.86	0.94	0.54**	1.28
	(0.17)	(0.17)	(0.12)	(0.30)
School Locale				
Suburb	1.30	1.07	0.76	0.75+
	(0.25)	(0.17)	(0.15)	(0.12)
Small Town/Rural	0.88	0.84	0.65+	0.69
	(0.14)	(0.15)	(0.14)	(0.16)
High % Minority	0.90	1.34*	1.07	1.42*
	(0.13)	(0.20)	(0.21)	(0.21)
High % FRL-eligible	1.68**	1.02	1.53***	1.32+
	(0.31)	(0.12)	(0.17)	(0.21)
Underperforming	0.77*	1.02	0.95	0.85
	(0.10)	(0.12)	(0.20)	(0.10)

Years of Teaching (v. <5)				
5-10	0.78	0.99	0.97	0.59**
	(0.13)	(0.19)	(0.25)	(0.12)
10-20	0.42***	0.74+	0.87	0.74
	(0.06)	(0.11)	(0.17)	(0.15)
>20	0.39***	0.71*	0.64*	0.35***
	(0.08)	(0.10)	(0.13)	(0.07)
Average Weekly Work Hour	1.00	1.00	1.01*	1.01
	(0.00)	(0.00)	(0.01)	(0.01)
Principals' Support for Teachers	1.15*	1.36***	1.27**	1.21**
	(0.08)	(0.12)	(0.12)	(0.08)
Parents' Support for Teachers	1.27**	1.31***	1.16	1.22**
	(0.10)	(0.10)	(0.12)	(0.08)

Principal Authority				
Influence over Instructional Decisions	0.96	0.91	1.08	1.02
	(0.11)	(0.11)	(0.16)	(0.13)
Influence over Supervisory Decisions	1.00	1.03	0.98	0.90
	(0.08)	(0.08)	(0.12)	(0.08)
Teacher Influence				
Influence over Instructional Decisions	0.93	1.03	0.99	1.11
	(0.10)	(0.15)	(0.15)	(0.12)
Influence over Supervisory Decisions	0.83*	0.97	0.93	1.15
	(0.06)	(0.10)	(0.11)	(0.10)
Teachers' Classroom Control	1.01	1.05	1.14+	1.17
	(0.07)	(0.10)	(0.08)	(0.12)
Family Participation	1.24+	0.90	1.00	0.94
	(0.14)	(0.08)	(0.12)	(0.05)

Constant	0.21***	0.14***	0.23*	0.36*
	(0.08)	(0.08)	(0.17)	(0.16)
Observations	3,310	3,970	2,930	3,090
Number of clusters	51	51	51	51
Log Likelihood[2]	$-1.489*10^6$	$-1.711*10^6$	$-1.804*10^6$	$-1.778*10^6$
Model Chi-squared	222.8	128.2	283.2	202.5
df	20	20	20	20
Significance	<0.001	<0.001	<0.001	<0.001
Pseudo R-squared	0.0571	0.0326	0.0402	0.0718

Notes — (1) School size was linearly transformed in order to adjust for right skew. Natural logarithms of the original values were used for the analysis. (2) Schools with high % of minority students, schools with high % of FRL eligible students, and low-performing schools were binary variables. High minority was operationalized as schools that had above-sample-median proportion of students who identified themselves as black or Hispanic; high poverty was operationalized as schools that had above-sample-median proportion of students who were eligible to receive subsidized meals. Low-performing was operationalized as schools that had failed to meet their AYP in the prior year. (3) Coefficients reported in odds ratios. + p< .10 * p < .05 ** p < .01 *** p < .001

Table D3

Predictors of voluntary teacher turnover—between SY 1999 and SY 2013

	1999-2001		2003-05		2007-09		2011-13	
Voluntary Turnover	(*N*=3310)		(*N*=3970)		(*N*=2940)		(*N*=3090)	
	Movers	Leavers	Movers	Leavers	Movers	Leavers	Movers	Leavers
Teacher Job Satisfaction	0.44***	0.86	0.52***	0.53***	0.31***	0.67	0.49***	0.84
	(0.07)	(0.20)	(0.07)	(0.08)	(0.06)	(0.17)	(0.10)	(0.15)
Teacher Job Commitment	0.99	0.52**	1.11	0.76+	1.13	0.28***	0.77	0.36***
	(0.16)	(0.13)	(0.14)	(0.12)	(0.14)	(0.06)	(0.18)	(0.06)
School Grade Level (v. Elementary)								
Secondary	0.98	1.65*	0.82	0.90	1.62+	1.18	0.81	0.93
	(0.23)	(0.36)	(0.14)	(0.15)	(0.42)	(0.24)	(0.17)	(0.20)
Combined	0.44	1.57	0.75	0.42**	1.05	0.75	0.93	1.52
	(0.26)	(0.85)	(0.20)	(0.11)	(0.53)	(0.35)	(0.38)	(0.78)

School Size (v. Q1)								
Q2	0.87	1.01	0.91	0.77	0.88	0.83	0.98	1.05
	(0.15)	(0.22)	(0.11)	(0.17)	(0.22)	(0.25)	(0.24)	(0.27)
Q3	1.02	1.03	0.94	0.73	0.61*	0.87	1.64+	1.31
	(0.18)	(0.26)	(0.18)	(0.16)	(0.15)	(0.26)	(0.43)	(0.39)
Q4	0.60+	0.94	1.00	0.75	0.56*	0.74	0.89	1.51
	(0.17)	(0.27)	(0.18)	(0.20)	(0.14)	(0.23)	(0.24)	(0.69)
School Locale								
Suburb	1.03	1.67*	0.89	0.86	0.95	0.91	1.08	1.18
	(0.19)	(0.35)	(0.23)	(0.12)	(0.17)	(0.20)	(0.28)	(0.12)
Small Town/Rural	0.85	1.25	1.02	0.76	1.09	1.04	1.06	1.55*
	(0.21)	(0.36)	(0.21)	(0.18)	(0.31)	(0.36)	(0.24)	(0.30)
High % Minority	1.21	1.01	1.12	1.00	0.97	0.73	0.92	1.58+
	(0.21)	(0.17)	(0.18)	(0.13)	(0.20)	(0.19)	(0.19)	(0.38)

High % FRL-eligible	1.17	1.51*	1.24	1.08	1.17	1.04	2.04***	1.37+
	(0.18)	(0.29)	(0.24)	(0.16)	(0.27)	(0.31)	(0.41)	(0.24)
Underperforming	1.25	0.86	0.91	0.86	1.03	1.25	1.25	0.72
	(0.23)	(0.15)	(0.12)	(0.18)	(0.16)	(0.30)	(0.18)	(0.16)
Years of Teaching (v. <5)								
5-10	0.59**	0.56*	0.41***	0.58+	0.66+	1.21	0.76	0.74
	(0.10)	(0.14)	(0.07)	(0.18)	(0.15)	(0.42)	(0.20)	(0.15)
10-20	0.30***	0.53*	0.43***	0.50**	0.47**	0.52*	0.33***	0.66
	(0.07)	(0.14)	(0.08)	(0.12)	(0.11)	(0.17)	(0.07)	(0.18)
>20	0.25***	1.03	0.29***	1.30	0.45**	1.54	0.32***	1.51*
	(0.05)	(0.25)	(0.07)	(0.27)	(0.12)	(0.43)	(0.09)	(0.30)
Average Weekly Work Hour	1.00	0.99	0.99*	0.99**	1.00	1.00	0.99	0.99*
	(0.01)	(0.00)	(0.00)	(0.00)	(0.01)	(0.01)	(0.01)	(0.01)
Principals' Support for Teachers	0.92	1.29*	1.06	1.17+	1.12	1.34*	0.71**	1.10
	(0.08)	(0.14)	(0.08)	(0.10)	(0.14)	(0.18)	(0.07)	(0.16)

Parents' Support for Teachers	0.96	1.06	1.00	0.95	0.83	0.88	0.85*	1.12
	(0.08)	(0.09)	(0.05)	(0.10)	(0.10)	(0.13)	(0.06)	(0.13)
Principal Authority								
Influence over Instructional Decisions	1.15	1.44*	0.99	1.10	1.00	1.05	1.07	0.94
	(0.18)	(0.21)	(0.17)	(0.20)	(0.18)	(0.20)	(0.18)	(0.13)
Influence over Supervisory Decisions	0.97	1.03	1.21+	1.04	1.41*	1.26	0.97	1.10
	(0.12)	(0.10)	(0.14)	(0.11)	(0.22)	(0.19)	(0.13)	(0.15)
Teacher Influence								
Influence over Instructional Decisions	0.91	0.74*	0.85	0.98	0.87	1.04	0.73	0.80*
	(0.09)	(0.10)	(0.15)	(0.16)	(0.22)	(0.21)	(0.14)	(0.08)
Influence over Supervisory Decisions	1.02	1.06	0.99	0.99	0.91	0.89	1.44**	1.19
	(0.12)	(0.14)	(0.08)	(0.13)	(0.11)	(0.11)	(0.19)	(0.13)
Teachers' Classroom Control	1.06	0.87	1.03	0.99	0.82*	0.93	0.96	0.89
	(0.10)	(0.08)	(0.06)	(0.08)	(0.08)	(0.11)	(0.09)	(0.07)

Family Participation	1.21	1.01	0.93	0.95	1.22+	1.04	0.90	0.94
	(0.15)	(0.14)	(0.10)	(0.13)	(0.15)	(0.13)	(0.08)	(0.08)
Constant	0.30**	0.04***	0.27**	0.34*	0.20*	0.09***	0.72	0.07**
	(0.12)	(0.02)	(0.11)	(0.17)	(0.14)	(0.06)	(0.38)	(0.06)
Observations	3,310	3,310	3,970	3,970	2,930	2,930	3,090	3,090
Number of clusters	51	51	51	51	51	51	51	51
Log Likelihood[2]	$-1.162*10^6$	$-1.162*10^6$	$-1.286*10^6$	$-1.286*10^6$	$-1.252*10^6$	$-1.252*10^6$	$-1.139*10^6$	$-1.139*10^6$
df	50	50	50	50	50	50	50	50
Pseudo R-squared	0.0619	0.0619	0.0494	0.0494	0.0800	0.0800	0.0866	0.0866

Notes — (1) School size was linearly transformed in order to adjust for right skew. Natural logarithms of the original values were used for the analysis. (2) Schools with high % of minority students, schools with high % of FRL eligible students, and low-performing schools were binary variables. High minority was operationalized as schools that had above-sample-median proportion of students who identified themselves as black or Hispanic; high poverty was operationalized as schools that had above-sample-median proportion of students who were eligible to receive subsidized meals. Low-performing was operationalized as schools that had failed to meet their AYP in the prior year. (3) Coefficients reported in relative risk ratios. + p< .10 * p < .05 ** p < .01 *** p < .001

Biography

Sol Bee Jung was born on August 10, 1989 in South Korea.

In 2011, Sol Bee received her B.A. in Public Policy Studies, with a minor in Asian and Middle Eastern Studies, from Duke University (Durham, NC), graduating summa cum laude and as a member of Phi Beta Kappa. She also received Highest Distinction in Public Policy Studies for her honors thesis entitled, "Evaluating the impact of evidence-based practice and policy in public health: A case study on parent-child interaction therapy," written under the guidance of Dr. Katie Rosanbalm.

In 2013, after receiving an Ed.M. in Education Policy and Management from Harvard University (Cambridge, MA), she joined the PhD program at the Johns Hopkins School of Education. At Hopkins, Sol Bee worked as a graduate student researcher under the guidance of her advisor, Dr. Steven Sheldon, at the Center for Social Organization of Schools, conducting research and program evaluations on various education topics, including the effects of school and family partnership programs on student outcomes. She also co-authored (with Dr. Stephen Morgan) "Still no effect of resources, even in the new gilded age?" published in the *Russell Sage Foundation Journal of the Social Science*, and (with Drs. Joyce Epstein and Steven Sheldon) a chapter in the *Handbook on Partnerships in Education* entitled, "Toward equity in school, family, and community partnerships: The role of networks and the process of scale up."

During her years at Johns Hopkins, Sol Bee served as an adjunct faculty, teaching a course on school, family, and community collaboration for school improvement, and worked as a teaching assistant for several statistics courses and a course on the social context of urban education.