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TECHNICAL REPORT

First-Year Principals in Urban School Districts

How Actions and Working Conditions Relate to Outcomes

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Sponsored by New Leaders

RAND EDUCATION

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Preface

Principals new to their schools face a variety of challenges that can influence their likelihood of improving their schools' performance and their likelihood of remaining the principal. Understanding the actions that principals take and the working conditions they face in the first year can inform efforts to promote school improvement and principal retention, but the research on first-year principals' experiences is limited. This report examines the actions and perceived working conditions of first-year principals, relating information on those factors to subsequent school achievement and principal retention.

This report presents findings from an analysis of schools led by principals who were in their first year at their schools. Throughout this report, we define *first-year principals* as principals in their first year at a given school including those principals with previous experience as principals at other schools. The study is based on data that were collected to support the RAND Corporation's seven-year formative and summative evaluation of New Leaders. New Leaders is an organization that is dedicated to promoting student achievement by developing outstanding school leaders to serve in urban schools. The findings will be of interest to policymakers in school districts, charter management organizations (CMOs), state education agencies, and principal preparation programs, in addition to principals themselves and teachers.

This research was conducted in RAND Education, a unit of the RAND Corporation, under a contract with New Leaders.

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Summary

Principals who are new to their school (*first-year principals*) are usually expected to improve or at least maintain prior levels of student achievement. In pursing this objective, first-year principals face a variety of potential challenges and opportunities, the nature of which vary by school and by district or CMO. First-year principals make decisions about how to allocate their time and what strategies to emphasize, and these decisions will influence principals' likelihood of improving their school's performance. A principal's ability to overcome challenges and improve performance in that first year will likely influence whether he or she remains at the school. Despite the importance of understanding principals' first-year experience, there is relatively little literature that focuses on this group. This report addresses that gap by examining the actions and perceived working conditions of first-year principals, relating information on those factors to subsequent school achievement and principal retention.

This report presents the results of a set of analyses examining the experiences of first-year principals in six of the districts partnering with New Leaders to provide new principals to serve in their schools: Memphis City Schools; Chicago Public Schools; New York City (NYC) Public Schools; Washington, DC, Public Schools; Baltimore City Public Schools; and the Oakland [California] Unified School District. In this report, we define *first-year principals* as principals in their first year at a given school, including those principals with previous experience as principals at another school.

The focus of this report is not on evaluating the New Leaders program or partner districts, but on understanding relationships among student achievement outcomes; new principals' likelihood of remaining at their schools; and their reports regarding their practices, attitudes, and perceptions of school conditions, including the capacity of their teachers. The report addresses the following research questions:

- How is the retention of first-year principals in the same schools associated with achievement in the schools where they work?
- What happens to achievement in schools that lose their first-year principals? How does this vary as a function of school performance under the principal who left?
- To what extent is principals' allocation of time associated with achievement or school-level retention?
- To what extent are principals' perceptions of teacher capacity and school and district environment associated with achievement and school-level retention?
- To what extent are principals' self-reports of their future plans associated with school-level retention?

Data and Methods

Our analysis draws on four primary data sources: district-level data on principal placements, student-level achievement test scores that allow us to calculate school-level achievement gains, principals' responses to a web-based survey administered in the spring of 2008, and a set of 20 school-level case studies of schools led by first-year principals conducted during the 2008–2009 school year. The case studies were conducted in four of the six districts mentioned above. Each data source includes both principals who completed the New Leaders principal preparation program and principals who did not. The percentages of non–New Leaders principals vary across the three data sources.

We use district data to provide a descriptive analysis of all principals who were in the first year in their school at the start of the 2007–2008 school year (425 non–New Leaders and 94 New Leaders). District data include information on principals placed in charter schools within the district, although student achievement data are often lacking for these schools. Some of the charter schools in these districts are managed by CMOs. We examine two main outcomes: retention of the principal through the start of the 2010–2011 school year and school-level average gain scores based on student-level achievement data for the 2007–2008 school years forward.[1] We relate these outcomes to the prior achievement history of the school.

After taking a broad look at the outcomes for all first-year principals, we focus more narrowly on the set of first-year principals who responded to our survey (9 non–New Leaders and 56 New Leaders). The survey was designed to collect information relevant to the New Leaders theory of action and to explore the school- and district-level conditions that are likely to influence principals' work. The survey gathered information from principals on how they spent their time, how they felt about how they spent their time (whether it was adequate or excessive), school and district conditions that might influence school leaders, sources of support, and future career plans. We examine (1) survey responses and (2) factors created on the basis of those responses and their relationship to retention and achievement outcomes described above. We supplement this analysis with an analysis of our case study data, which included 16 New Leaders and 4 non–New Leaders.

Findings

The analyses provided evidence related to the five research questions listed above.

Over One-Fifth of New Principals Leave Within Two Years, and Those Placed in Schools That Failed to Meet Adequate Yearly Progress Targets Are More Likely to Leave

Our analysis indicates that many first-year principals leave their schools after one or two years on the job. Of the 519 first-year principals in the study districts in the 2007–2008 school year, 61 (11.8 percent) left within the first year, and an additional 56 (10.7 percent) left within the second year. We observed substantial differences across districts in terms of principal retention,

[1] We created average gain scores for each school and each school year for math and reading scores based on student-level district standardized z-scores for statewide exams in reading and math. For each subject and student, we calculate the gain score as follows: We subtract the student's previous year z-score (regardless of which school the student attended in this previous year) from the current year z-score to create the gain scores for that year. We then average the student scores at each school by year to create the mean gain for students at each school.

with higher rates in New York and Chicago and lower rates in Baltimore and Washington, DC. Principals placed in schools that had achievement test scores that were high enough to meet the schools' Adequate Yearly Progress (AYP) targets[2] in the years prior to their placement or those placed in start-up schools were less likely to leave after one or two years compared with new principals placed in schools that were below AYP targets.

New principals were more likely to leave when test scores declined in their first year. Of the 61 schools that lost their first-year principals after one year, we were able to calculate average gain scores for 51 of the schools for the year that principal was in place. Forty out of the 51 had experienced clear achievement declines (meaning that the score on our gain score measure of school performance was in the lowest third of our sample in at least one subject), and 11 experienced gains or no change. The fact that 78 percent of the principals who left after one year and for whom we had gain score information had experienced declines in gain scores suggests that at least some of early career turnover among principals that is observed may be driven by concerns on the part of district leaders or other stakeholders about principals' performance. The direction of causality in this relationship cannot be determined from our data. Multivariate analyses confirm the statistical significance of this relationship between first-year achievement gains and retention. In spite of the fact that declines in test scores are associated with an increased probability that a principal will leave after one year, we also found that the vast majority of principals who experienced clear declines in gain scores remained in their schools through September 2011.

Schools That Lose a Principal After One Year Underperform in the Subsequent Year

Of those 40 schools that experienced clear declines in gain scores in the 2007–2008 school year under a first-year principal and then hired another principal in the 2008–2009 school year, we observed 9 cases in which the school clearly improved in the next year, and approximately half of the schools (20 cases) experienced clear declines in gain scores in the 2008–2009 school year. Among the 11 schools that did not experience declines in gain scores in the 2007–2008 school year but lost their principal and got another principal in the 2008–2009 school year, we observed a similar lack of improvement in 2008–2009. Seven of these schools experienced clear declines in gain scores and only one experienced gains in gain scores in the next year.

We Observed No Strong Relationships Among Principals' Time Allocation, Student Achievement, and Retention

The analysis of survey responses suggests no strong relationships between achievement and principals' allocation of time as measured by our surveys, nor were there relationships between principals' time allocation and their retention. The case study data suggest that spending time on an issue or area in and of itself was not associated with high levels of implementation or buy-in on the part of school staff. We found that all principals tended to name two to four strategies, which principals often referred to as "big rocks," on which they focused their time and effort:

- promoting data use
- conducting classroom observations

[2] Under the No Child Left Behind Act each state determines an Adequate Yearly Progress (AYP) definition and subsequent target to use each year as a rubric for assessing the academic achievement of schools and school districts (Paige, 2002).

- building culture/relationships among students, staff, parents, and the community
- forming leadership teams
- promoting teacher professional development.

All of the principals (seven) who experienced achievement gains in their first year placed a major emphasis on promoting data use. But so did many of the other principals. A key difference was in the success of implementing that strategy, as observed in the case study schools. The quality of implementation and the level of buy-in from staff were strongly associated with the probability that a principal continued with the school for a second year.

Teacher Capacity and Cohesiveness Were the School and District Conditions Most Related to Student Outcomes

Our analysis of the relationship between school and district conditions and retention and achievement outcomes revealed mostly non-significant relationships. Measures of teacher capacity and cohesiveness stand out as being related to student outcomes.[3] Principals reporting higher teacher capacity and higher levels of staff cohesiveness were more likely to experience achievement gains. The case study analysis suggests that successful implementation of the principal's strategies was not related to the capacity and characteristics of the teaching staff prior to the new principal taking over, but rather to actions taken by that first-year principal.

The case study effort suggested several promising examples of how principals can ensure buy-in for their key strategies and develop cohesiveness, including the following:

- recruiting strong staff immediately
- conducting one-on-one meetings with all staff
- respecting prior practices and culture
- being visible in the classrooms
- communicating clear and fair expectations.

We identified these practices as promising in schools that had achieved high levels of buy-in because principals reported and staff confirmed that these practices were instrumental in helping the principal to implement improvement strategies efficiently and successfully.

The other measures for which significant differences were observed across retention groups were the measures of perceived influence over decisionmaking. Although the differences were not as large as those for teacher capacity, all three areas—instructional content, personnel/management, and schedule and budget—tended to be associated with higher levels of perceived influence for principals who remained in their schools until at least the 2008–2009 school year than for those whose last school year was 2007–2008.

Principals' Reported Future Plans Were Not Strongly Related to Retention

Finally, we examined survey responses of first-year principals regarding their future career plans. Of the eight principals who left their schools at the end of the 2007–2008 school year,

[3] Our use of the term "teacher capacity" in this study refers to measures derived from principal reports of how many teachers in their school shared a particular attribute or take particular actions with five options ranging from "None" to "Nearly All" teachers. Examples include "have the skills to help others improve practice," "are able to balance student social and academic needs," and "are able to promote learning among all students." Factor analysis suggested that all of these items could be included within a single factor that we label *teacher capacity*.

shortly after the survey was administered, only three indicated on the survey that 2007–2008 would be their last year. Despite widespread concerns that principals often seek positions in their districts in schools with higher-achieving or more affluent student populations, only one of the eight principals indicated a desire for another principalship within the same district or CMO.

Conclusions

Our findings suggest that the outcomes achieved by first-year principals vary tremendously. Principals enter schools that differ in terms of context, but there is little evidence that this context drives outcomes. We find that new principals placed in low-performing schools are somewhat more likely to leave after one year, but that may be because these schools are under greater scrutiny by their districts, the state, and the public. Rapid turnover appears to stem from school, district, or CMO choices based on performance rather than individual choices on the part of the principals—in particular, a desire to "trade up" to a "better" school.

The secret to success for new principals cannot be distilled into a simple recipe that should be applied in the same way across all settings. We found no evidence that if principals would simply do more of a certain thing or allocate their time in a particular way, school performance would improve. To the contrary, the quality of their actions seems more relevant to outcomes than the amount of time spent.

Overall, schools that lose a first-year principal do not do well in the subsequent year, indicating that a poor match between a principal and a school can have lingering consequences. This suggests that improving the principal placement process to ensure that individuals are truly ready for and supported in their new roles could have important implications for student achievement—particularly in low-performing schools.

Principals who report higher levels of collaboration and cohesiveness are significantly more likely to remain in their school, and they are also more likely to experience achievement gains. Our case study research indicates that new principals can have a rapid effect on teacher capacity and staff cohesiveness. Those who succeed start working on these issues immediately.

Our findings on the importance of teacher capacity, staff cohesion, and buy-in for key strategies lend additional support to other research pointing to the critical role of principals in human capital management. Further research on first-year principals to explore these issues in greater detail is likely to be useful to the education field.

Acknowledgments

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Abbreviations

AYP	Adequate Yearly Progress
BCPS	Baltimore City Public Schools
CMO	charter management organization
CPS	Chicago Public Schools
DCPS	Washington, DC, Public Schools
ESL	English as a second language
ISLLC	Interstate School Leaders Licensure Consortium
MCS	Memphis City Schools
NYC	New York City
OUSD	Oakland Unified School District
SY	school year
TAKS	Texas Assessment of Knowledge and Skills
VAM	Value Added Measure

CHAPTER ONE

Background

When principals enter new positions, they face a range of settings or working conditions. Principals entering high-poverty schools in large, urban districts, for instance, are likely to encounter different challenges than those faced by principals leading more affluent schools in suburban districts. Once in place, principals make choices about what to focus on, which results in specific actions that they take to address the school's challenges and goals. The ultimate student outcomes that a principal is able to achieve reflect not only the principal's level of proficiency on various dimensions of leadership but also whether the principal chooses to focus on the right elements for his or her school and has the support to do what is needed to improve student achievement.

This study provides a unique look at the actions and perceived working conditions of first-year principals, relating information on those factors to subsequent school achievement and principal retention. In so doing, it addresses three limitations of the existing literature. First, many studies identify principals who have been successful at improving student achievement and then provide a descriptive analysis of what they did. While such retrospective case studies provide some useful insights, they are potentially biased because they do not include information on the experiences of principals whose schools did not experience achievement gains. To the extent that the principals at high-achieving schools are doing what all principals do, such retrospective studies may be misidentifying the secrets of success. Second, many studies that relate principal actions or working conditions to outcomes fail to explore the interaction between these two dimensions. Perhaps principals in certain types of situations need to focus on certain actions or strategies, while principals in other situations do not. Finally, most studies examining the relationship between principal experience and outcomes consider the principal's total years of experience as a principal rather than whether the principal is new to a particular school. In this study, we examine schools that receive a new principal.

Throughout this report, we define "first-year principals" as principals in their first year at a given school. This group may include novice principals (those with no prior principal experience) as well as those with prior principal experience who are new to their current school. Much of the prior research literature on school principals focuses on total experience as a principal in a particular district rather than on tenure in a particular school. These studies tend to define new principals as novice principals—those with no prior experience as a principal in their current district.[1]

[1] We realize that there is a difference between novice principals and first-year principals with prior principal experience elsewhere. However, our data do not permit us to make this distinction in a satisfactory way. For all districts except Baltimore, we can observe principal movement in the district prior to the 2007–2008 school year by observing district-specific principal identification numbers or principal names linked to school codes. We can therefore determine if a principal has

What We Know About New Principals

Principals who are in their first years in a given school face a different set of challenges from their colleagues with in-school experience. In particular, first-year principals often experience stress stemming from the need to carry out a large number of tasks in a new environment, and they face pressure to assimilate quickly to a new culture (Lashway, 2003; Weinstein et al., 2009). In addition, first-year principals are responsible for all of the duties that an experienced principal must attend to, including student academic performance. Research on principal experience and its effects on student achievement paints a nuanced picture.

Béteille and colleagues (Béteille, Kalogrides, and Loeb, 2011), using a regression model controlling for school and student fixed effects, found that, in Miami, schools with first-year principals have lower achievement gains in math than those with principals who are not in their first year at their school, and that schools with novice principals have lower gains than schools with first-year principals who have prior principal experience in the district. Similarly, Miller (2009), using a regression model that predicts student test scores while controlling for school and year fixed effects, found that student achievement in North Carolina public schools was lower in the first two years of a principal's tenure at a given school relative to prior student achievement at the school when led by the previous principal and subsequent student achievement with the current ("new") principal. A study of New York City (NYC) public schools found that principal experience as a teacher or assistant principal had a small significant effect on math and reading test scores, but that math and reading test scores were positively and more significantly associated with a principal's tenure at his or her current school (Clark, Martorell, and Rockoff, 2009). Using a model that controlled for school-level fixed effects, Clark, Martorell, and Rockoff (2009) found that, in NYC, using student achievement data spanning the 1998–1999 to 2006–2007 school years (SYs), in schools where the principal had experience, math scores were higher than those in schools with principals in their first year, but also that principal experience beyond four years had only a small impact on math achievement. Fuller, Baker, and Young (2007) examined the relationship between experience and education through an ordinary least squares regression using the percentage of students passing all subjects on the Texas Assessment of Knowledge and Skills (TAKS) exam in 2006. After controlling for school characteristics, aggregate teacher characteristics at the school level, and other principal attributes, they found a positive and significant coefficient on years as principal, 1995 through 2003, when using a lagged TAKS 2003 score variable and without this control.

By contrast, Dhuey and Smith (2011) studied principals in British Columbia and found no difference in the impact of principal tenure at a given school on student performance until the principal had been in place for five or more years. After controlling for school fixed effects, they found no relationship between the principal's school experience and student achievement (Dhuey and Smith, 2011). An earlier study by Brewer (1993) obtained similar results using nationally representative data from *High School and Beyond* and the *Administrative and Teacher*

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prior principal experience in the same district before the 2007–2008 school year. We have, however, no way of knowing whether a principal has had experience as a principal outside of this district. Most studies of principals suffer from this limitation. We are unable to say anything about the principal experience of the Baltimore principals prior to the 2007–2008 school year. The rate of prior principal experience (in the district) for first-year principals varies by district. The average for the five districts we could examine was about 10 percent. Memphis has the highest (27.7 percent) and Washington, DC, has the lowest (6.9 percent).

Survey. He used multivariate regression to model educational production functions and found that principal tenure at a given school had no significant relationship with student test scores.

Although the literature is somewhat mixed on the effect on student achievement of a principal's years of experience in a school, there is evidence that suggests that those years of experience do affect student achievement, warranting further research on the issue.

Principal Retention and Student Outcomes

One of the reasons it is important to understand the experiences of first-year principals is that principal turnover tends to be high, particularly in urban school districts, leading to a constant influx of inexperienced school leaders. Studies in various states and districts have indicated that annual principal turnover rates are in the range of 15 to 30 percent (Dhuey and Smith, 2011; Béteille, Kalogrides, and Loeb, 2011; Gates et al., 2004; Ringel et al., 2004). In 76 small and/or rural school districts in Washington State, 56 percent of principals left their schools within five years after their initial placement (Elfers and Plecki, 2006). In Illinois, 63 percent of principals and, in North Carolina, 79 percent of principals left their schools within six years (Gates et al., 2006). Looking at three different cohorts of principals in Texas schools, Fuller, Young, and Orr (2007) found that 50 percent of principals leave their school within the first three years. Weinstein et al., 2009, using data from 1993 to 2002, found that for start-up high schools in NYC, turnover was very high in the first ten years, with 48 percent of schools experiencing one principal change and 36 percent experiencing two or more.

A common theme across studies of principal retention is that schools with a high percentage of poor students, minority students, and/or low-performing students experience more principal turnover than their counterparts (Loeb, Kalogrides, and Lai Horng, 2010; Miller, 2009; Partlow, 2007; Papa, 2007; Young and Fuller, 2009; Gates et al., 2006; Clotfelter et al., 2007; Béteille, Kalogrides, and Loeb, 2011; Fuller, Young, and Orr, 2007). For example, Clotfelter and colleagues (2007) found that the highest-poverty schools in North Carolina typically experienced the highest turnover, and that about 70 percent of new principals at high-poverty schools were first-time principals. They also found that principals who changed schools, on average, moved to a school with a significantly lower poverty rate (Clotfelter et al., 2007). Along similar lines, Loeb, Kalogrides, and Lai Horng (2010) examined data from the Miami–Dade County public schools for SYs 2004–2009 and found that the average experience level of principals at schools with larger proportions of poor, minority, and low-achieving students was significantly lower than at schools with smaller proportions of these students.

Principal retention has been shown to be related to both principal experience and student achievement. Papa (2007) used data from the State of New York to look at principal retention for principals hired by public schools between 1991 and 1999. He found that principals hired within the district with less than five years of district experience were about 70 percent less likely to be retained than principals with at least five years of district experience. Gates et al. (2006) found that experience is a significant predictor of changing schools in both Illinois and North Carolina, with more experienced principals less likely to leave their schools. Similarly, using data from Missouri schools from 1999–2006, Baker, Punswick, and Belt (2010) found that more experienced principals are less likely to leave their positions or the school systems.

Miller (2009) found that there is more turnover at schools experiencing downturns in performance rather than those suffering from chronically low performance. Looking at data

from Colorado, Akiba and Reichardt (2004) found that the percentage of students achieving at or above proficiency was significantly associated with attrition, but for female principals only. Young and Fuller (2009) used 13 years of administrative data from Texas and found that principals in schools with the lowest achievement scores during their first year of tenure have the shortest tenure and lowest retention rates. In addition Fuller, Young, and Orr (2007) found that, for a cohort of principals in Texas who were newly employed at schools in 1995, those principals in high-performing schools were 20 percent more likely to be at the same school three years later than principals in low-performing schools. Béteille, Kalogrides, and Loeb (2011), however, found that poor school performance on test scores in a given year is not a predictor of principal turnover in that same year but also that the negative relationship between principal turnover and achievement is exacerbated for failing schools and high poverty schools.

MacBeath et al. (2009), using a national sample of 1,137 principals in Scotland, found that principals' expectations of remaining principals were driven by the principals' experience with decisionmaking autonomy—the support they received through their local authorities and from leadership teams. In addition, opportunities for professional development, the principals' self-confidence, the demands faced when working in difficult locations, and the advice they receive contribute to retention.

Some studies indicate that higher principal turnover can lead to increases in teacher turnover resulting in even more instability within a school (Béteille, Kalogrides, and Loeb, 2011; Fuller, Baker, and Young, 2007; Miller, 2009; Papa, 2007). Teacher turnover may be an avenue through which principal turnover affects student achievement. However, the research relating turnover to achievement or teacher turnover is correlational rather than causal. As such, it does not indicate whether principal turnover is leading to or being caused by these outcomes. In addition Fuller, Baker, and Young (2007) found that, in Texas schools' experience, a principal's tenure is significantly related to the percentage of novice teachers in the school and the percentage of teachers who are not fully certified. The more experience a principal has, the lower the share of novice teachers and teachers who are not fully certified.

Overall higher principal turnover has been associated with schools that are low performing, schools that have a higher percentage of students from low-income families, and schools that have a higher percentage of minority students. It has also been linked to lower student achievement gains and even to teacher turnover. Although no causal conclusions can be drawn, it is clear that principal turnover is an important phenomenon that merits further investigation.

Principals' Practices and Student Outcomes

Assuming principals remain in their schools for some length of time, their actions are likely to affect student outcomes. Research (Purkey and Smith, 1983) reveals that effective schools tend to have "dynamic" principals who formulate and vocalize clear school goals and build support for those goals. Other research has suggested the importance of ensuring that schools run smoothly on a day-to-day basis and of creating an environment that is conducive to learning. "Clear and consistent school rules and policies tend to improve the general disciplinary climate in the school and contribute to improved staff and student morale" (Hallinger and Heck, 1996, p. 45). Eberts and Stone (1988) found that a principal's skill in conflict resolution influences student achievement, and Horng, Klasik, and Loeb (2010) found a significant and positive relationship between time spent on organization management tasks—such as hiring staff and

allocating budgets—and student outcomes. Similarly, Grissom and Loeb (2009) found that principal organization and management skills consistently predict successful student outcomes.

Indeed, the Interstate School Leaders Licensure Consortium Educational Leadership Policy Standards (ISLLC), 2008, lists six standards that define "strong school leadership." ISLLC (2008) includes among these standards:

- setting a vision and achieving buy-in for this vision across key players
- building a school culture that promotes student learning and encourages staff professional development
- providing effective management of the school to ensure that the school environment is conducive to student learning.

Strong instructional leadership has been identified as critical to principal effectiveness (Robinson, Lloyd, and Rowe, 2008). Instructional leadership includes the design of instructional strategies, supervision and evaluation of programs, and the development of curriculum and graduation requirements (see Murphy, 1988, for a review of research in this area). Principals also affect students through their control of the curriculum and by selecting good teachers and motivating them (Branch, Hanushek, and Rivkin, 2011; Eberts and Stone, 1988; Brewer, 1993; Fuller, Young, and Baker, 2010).

Research also indicates that the broader district context can influence student achievement. Such characteristics as district-wide focus on (1) student achievement and the quality of instruction, (2) adoption and commitment to performance standards, and (3) teamwork and professional community are associated with high-achieving school systems (Leithwood et al., 2004). In addition, researchers have argued that autonomy to allocate time and other resources, access to data that support decisionmaking, flexibility and support in human capital management, and clarity in responsibility can support principals in reaching their goals (Portin et al., 2003; Vitaska, 2008). The specific mechanisms through which context influences outcomes have not been examined in detail.

The brief literature review above suggests a complicated interplay among context, principal actions, retention, and student outcomes. The direction of influence among these factors is unclear. Theoretical arguments could be made supporting an influence of school context on principal retention, principals' actions, and student outcomes (or vice versa for each of these outcomes). In this report, we focus attention on principals who are new to their schools and examine retention, student achievement, principal actions, and school and district context during a short window of time after these principals assume their new roles. By focusing attention on new principals, we hope to generate new insights into the relationships described above. We are not testing any specific hypotheses but hope to lay the groundwork for future studies that could test such hypotheses.

Research Questions

This study focuses attention on principals who are new to their schools. We explore the characteristics of the schools into which they are placed, the actions the principals take, how long the principals remain in place, and how those three factors relate to subsequent gains in student

achievement. In so doing, we build on the literature reviewed above, addressing the following research questions:

- How is the retention of first-year principals in the same schools associated with achievement in the schools where they work?
- What happens to achievement in schools that lose their first-year principals? How does this vary as a function of school performance under the principal who left?
- To what extent is principals' allocation of time associated with achievement or school-level retention?
- To what extent are principals' perceptions of teacher capacity and school and district environment associated with achievement and school-level retention?[2]
- To what extent are principals' self-reports of their future plans associated with school-level retention?

In the next chapter, we describe the data sources that we used to address each of these questions. Chapter Three describes our methodology for analyzing these sources and presents results. The presentation of results is organized around the five research questions described above. Chapter Four offers conclusions and next steps.

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[2] Our use of the term "teacher capacity" in this study refers to measures derived from principal reports of how many teachers in their school shared a particular attribute or take particular actions with five options ranging from "None" to "Nearly All" teachers. Examples include "have the skills to help others improve practice," "are able to balance student social and academic needs," and "are able to promote learning among all students." Factor analysis suggested that all of these items could be included within a single factor that we label *teacher capacity*.

CHAPTER TWO

Data Sources

This report draws on data that have been collected for a formative and summative evaluation of New Leaders being conducted by RAND.[1] We rely on three primary data sources: data from six major urban school districts on principal placements and student-level achievement that allow us to calculate school-level achievement gains, a web-based survey administered to principals in the spring of 2008, and a set of school case studies conducted during the 2008–2009 SY. In this chapter, we describe the data sources and methods for collecting and assembling these data.

Each data source includes both principals who completed the New Leaders principal preparation program and principals who did not. The percentages of non–New Leaders principals vary across the three data sources: Non–New Leaders principals constituted 82 percent of first-year principals in the administrative data files; 14 percent of survey respondents who were in their first year; and 20 percent of case study participants. This variation is due in part to the fact that each data source was designed to serve other objectives in addition to the aims of this study. The low proportion of survey respondents who were non–New Leaders principals was also due to limitations of the district tenure and principal placement data used to create the survey sample. This issue was remedied prior to our fielding of a similar survey in 2011, and analysis of those data will be based on a more balanced representation. Because of this variation, insights drawn from the analysis of survey and case study data are less representative of first-year principals in the districts studied. Findings based on these data should be interpreted with this limitation in mind.

School-Level Data

This analysis focuses on all first-year principals placed in districts that had partnered with New Leaders in the 2007–2008 SY: Memphis City Schools (MCS); Chicago Public Schools (CPS); NYC Public Schools; Washington, DC, Public Schools (DCPS); Baltimore City Public Schools (BCPS); and the Oakland [California] Unified School District (OUSD). We obtained student- and school-level data from each of these districts. In Washington, DC, we also obtained data from charter schools administered by the DC Public Charter School Board. In Oakland, we requested data from the two charter schools that had New Leaders principals.

[1] New Leaders is dedicated to promoting student achievement by developing outstanding school leaders to serve in urban schools. New Leaders is also committed to improving the knowledge base on school leadership through evaluation efforts. See Martorell et al., 2010.

Our study uses standardized mathematics and reading test scores to measure student achievement. In four districts (MCS, OUSD, BCPS, and DCPS), the test that we use to analyze achievement in K–8 is also the statewide test used to meet the accountability and reporting requirements of No Child Left Behind. Percentile ranks were computed for the unadjusted scale scores by grade and SY (separately for each district) using normal curve equivalents.[2] In addition to the achievement data, we obtained student-level demographic characteristics (e.g., race) and information on participation in school services such as free/reduced-price lunch.

In considering the experience of first-year principals, we recognized that a principal entering a school that has been chronically low performing may face a different set of challenges compared with a school that has already achieved Adequate Yearly Progress (AYP) targets.[3] We used the student achievement data described above to categorize schools based on the prior trajectory of achievement as reflected by test score levels. We created four categories: (1) start-up; (2) above AYP; (3) below AYP, and improving; and (4) below AYP, not improving. These categories are summarized in Table 2.1. Using the AYP math and reading targets for each district in the 2006–2007 SY (the year before the first-year principal entered the school), we defined schools as *below AYP* if either the math or reading percentage proficient was below the AYP target. Conversely, we defined schools as *above AYP* if the school achieved the AYP target in both math and reading. In addition to counting schools as above or below AYP, we sought to differentiate when a principal was appointed to a chronically low-performing school versus a low-performing school on an improvement trajectory. For schools defined as *below AYP*, we defined them as *improving* if their combined total improvement from the 2005–2006 to 2006–2007 SYs was at least 15 percent in reading and math. For schools that did not meet this 15-percent mark, we looked back a bit further. If the schools were start-ups in the 2004–2005 SY, we considered their scores from 2004–2005 to 2006–2007. If their combined increase in scores was 20 percent or greater, we defined them as *improving*. If the schools opened before the 2004–2005 SY, we considered their combined change from 2003–2004 to 2006–2007 and

Table 2.1
School Environments Faced by First-Year Principals Upon Entry into Their New Schools

Category	Description	Observations
Start-up	School opened in the 2007–2008 SY	71
Above AYP	School achieved its AYP target in both math and reading proficiency in the 2006–2007 SY	211
Below AYP, and improving	School did not achieve its AYP target in both math and reading proficiency in the 2006–2007 SY, but school is on an improvement trajectory	57
Below AYP, not improving	School did not achieve its AYP target in both math and reading proficiency in the 2006–2007 SY, and school is not on an improvement trajectory	122

[2] These standardizations and the estimation of treatment effects are done separately by city (see below for a description of the statistical models).

[3] Under the No Child Left Behind Act, each state determines an AYP definition and subsequent target to use each year as a rubric for assessing the academic achievement of schools and school districts (Paige, 2002).

defined a change of 30 percent or more as *improving*. Any school that was a new school in the 2007–2008 SY is defined as a *start-up school*.[4]

In addition, we created average gain scores for each school and each SY for math and reading scores based on student-level district standardized z-scores for statewide exams in reading and math. For each subject and student, we calculated the gain score as follows: We subtracted the student's previous year z-score (regardless of which school the student attended in this previous year) from the current year z-score to create the gain scores for that year. We then averaged the student scores at each school by year to create the mean gain for students at each school.[5] We do not have information on every school in the data because not all schools contain a tested grade.

In our analysis, we made use of the raw gain scores. We also used these gain scores to create a categorical variable for those schools for which we have two years of gain score data in each subject (math and reading). This categorical variable with four categories was developed on the basis of gain scores in math and reading in 2008 and 2009. These categories are summarized in Table 2.2. The categorization sought to call out schools that were clearly improving, those that may be on the road to improving, and those that were clearly declining. Principals were described as having gain scores *gains in 2008 and 2009* if at least three of the four scores

Table 2.2
Gain Score Classifications for Principals Who Remained at Their School for at Least Two Years

Gain Score Classification	Description	Observations
Gains in 2008 and 2009	School is clearly improving. At least three of four gain scores were in the top third	30
No gain in 2008 and gains in 2009	School may be on the road to improvement. The 2008 gain scores are not in the top third, but the 2009 gain scores are	30
Declines in 2008 and 2009	School is clearly declining. At least three of four gain scores were in the bottom third	22
Unclassified	School did not meet criteria for the other three classifications but had data for all four scores	278

[4] We were able to construct these measures only where the publicly available data were posted on the Web.

[5] The gain scores we used in this study are transparent school-level measures of value added. More sophisticated value added measures are estimated from models that may control for student characteristics, school characteristics, and prior trajectories of student achievement. There is substantial debate in the literature over the pros and cons of simple and transparent measures versus estimated measures that include controls for other factors (see National Research Council and National Academy of Education, 2010, for a summary of the issues and challenges related to value added measures and their use in education research and practice). A key limitation of the simple measures is that they may be proxying for student characteristics and reflect some bias due to the fact that students are not randomly assigned to schools. Such bias would limit our ability to interpret the measure as an effect of the school or principal. In the data used for this study, the only consistent and statistically significant correlation between student demographic characteristics and gain scores is for the school-level average percentage of special education students, which is positively correlated with 2008 and 2009 reading and math gain scores. The percentage of English as a second language (ESL) students is positively correlated with 2008 reading gain scores, and the percentage of students who are black is negatively correlated with 2008 reading gain scores. We also observed a negative correlation between 2009 reading and math gain scores and student enrollment. An advantage of the simple measures is that they are more likely to be aligned with information that district officials use in assessing school progress given that all schools are expected to improve student achievement.

were in the top third (tercile) of all scores.[6] They were classified as having *no gain in 2008 and gains in 2009* if their 2009 gain scores were in the top third but the 2008 scores were not. Schools were classified as having *declines in 2008 and 2009* if three of the four gain scores were in the bottom third. Schools that did not meet the criteria of one of the three groups just described were included in a fourth category termed *unclassified*.

In addition to the achievement data, we made use of data on principal tenure for the analyses in this report. We collected information from each district on principal tenure and principal assignments. RAND undertook an audit of the district tenure data, examining consistency across years and across data elements provided by districts within years. This audit revealed several issues with principal tenure data files. Problems included errors with the data that were sent to us by the district in one or more years, miscommunication regarding the content of the principal tenure data field, and lags in updating principal tenure data when principal turnover occurs (exceeding one year). We corrected errors in the tenure data to the extent feasible and began collecting information from New Leaders partner districts on new principal placements each year so that we can validate and update principal tenure files as the research continues. The information on principal assignment and principal tenure indicates when a school changes its principal. We used this information to identify the sample of schools that had a first-year principal in the 2007–2008 SY and to examine the school-level retention for the sample.

Development of the Principal Survey

In the spring of 2008, RAND surveyed all New Leaders principals and a matched comparison group of non–New Leaders principals in the New Leaders partner districts: New York; Chicago; Washington, DC; Oakland; Baltimore; and Memphis. The survey provided to comparison principals differed from the survey provided to New Leaders principals only in that it omitted questions pertaining specifically to the training and support provided by New Leaders. The analysis reported here uses questions common to both surveys only.

The survey gathered information from principals on how they spend their time, how they felt about how they spent their time (whether it was adequate or excessive), school and district conditions that might influence school leaders, sources of support, and future career plans. In developing the survey instrument, we reviewed materials provided by New Leaders that describe the organization's framework for understanding leadership competencies. We also conducted an extensive literature review on associations between aspects of school leadership and student learning and created a crosswalk between the New Leaders principal competencies and the literature. This analysis revealed that the New Leaders competency framework was well-aligned with the research literature on school leadership and its link to student achievement. This literature review informed our selection of constructs to be used in the principal surveys.[7]

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[6] The gain scores we used in this study are school-level averages calculated on the basis of gain scores for a single year. As discussed in National Research Council and National Academy of Education, 2010, one-year gain scores can be unstable and imprecise. A few students who experience very large or very small gains in a given year can have a significant influence on the average. This is a serious concern for teacher-level gain scores, it but may also be a concern for school-level gain scores—particularly in smaller schools.

[7] The literature review we conducted in developing the 2008 survey drew on work published through 2007. This literature review provided support for principals' competencies related to New Leaders Personal Leadership Competencies (Model-

In developing items for the principal survey, we reviewed existing principal surveys found in the literature, those used in other RAND projects, and those administered in previous years by New Leaders. To measure some constructs, we adopted existing items verbatim, while in other cases we made modifications to fit our specific needs (either changing the wording slightly or including only some items from an established scale because of a concern for overall survey length). In addition, we developed new survey items to measure constructs that are specifically related to this study. We piloted the survey with five principals to ensure that the items were clearly written and interpreted as intended.

Survey Item and Scales

We conducted a series of exploratory factor analyses to identify sets of items that could be clustered together into scales. Using both the results of the factor analysis and substantive considerations, we generated scales by calculating the average item-level response across the items for each respondent. The sections that follow describe each block of items and the scales that were created from them. Table 2.3 lists the scales along with the survey items included in that scale and the estimates of internal consistency reliability (coefficient Alpha) for each scale. Higher levels of Alpha indicate higher intercorrelations among the items on a scale, and Alpha generally increases as the number of items on the scale increases. Although there is no widely agreed-upon rule regarding the minimum level of internal consistency required for use of a scale in subsequent analysis, an Alpha of 0.70 or above is generally interpreted as suggesting that a scale has an acceptable level of internal consistency; scales with lower levels may lack adequate reliability for some purposes. As shown in Table 2.3, some of the scales we generated did have internal consistency estimates falling below the 0.70 threshold, which means that high levels of measurement error in these scales could influence the findings reported later in this report (most likely by providing overly conservative estimates of relationships).

Importance, Time, and Effort

The first block of questions in the Principal Survey asked principals to rate various activities they engage in by importance, time, and effort, and how they feel about their effort (e.g., whether it is excessive). Three response options were offered for each activity: 1 (not important, no time/effort, insufficient time/effort), 2 (somewhat important, some time/effort, neither sufficient nor insufficient), and 3 (absolutely important, a lot of time and effort, excessive time and effort).[8] Averages were computed for each set of 24 questions in the block but are not used in this report. For this report, we used responses to this block of questions to create a single scale that indicates the number of items for which principals reported not having sufficient time.

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ing the Way, Inspiring a Shared Vision, Challenging the Process, Enabling Others to Act, and Encouraging the Heart) and Technical Leadership Competencies (Management and Local Context). In addition, the literature review flagged some personal characteristics and school and district context issues that are associated with achievement. These include the social skills of the principal, teacher capacity, degree of teacher buy-in to the activities of the principal and to district accountability, and support systems (Knapp, Copland, and Talbert, 2003; Leithwood and Reihl, 2003; Leithwood et al., 2004; Waters, Marzano, and McNulty, 2003; ISLLC, 1996; Task Force on the Principalship, 2000; Hallinger and Heck, 1996; Bryk and Schneider, 2002; Portin et al., 2003; Zacarro, 1996; Marks and Printy, 2003; O'Donnell and White, 2005).

[8] It is possible that the inclusion of only three response categories for each of these items limited variability of responses, but early pilot testing suggested it was necessary to avoid complexity because of the need for principals to rate both time/effort and importance for each item.

Table 2.3
Survey Scales, Corresponding Items, and Internal Consistency Reliability Estimates

Scale/Items
Number of activities for which time is insufficient
Total number of items in the "Importance, Time, and Effort" section for which the principal marked having insufficient time
Time allocation: external/management (Alpha = 0.63)
Carrying out administrative duties (e.g., budget, personnel management, paperwork)
Addressing legal issues
Interacting with district or CMO staff (e.g., meetings, communications, training)
Building school community, including planning and attending school events
Time allocation: instructional leadership (Alpha = 0.74)
Developing or leading professional development for staff
Providing feedback to teachers about their instruction
Working with teachers and other staff to review and make use of student achievement data
Observing classroom instruction
Meeting with school leadership teams
Attending to your own professional development as a school leader
Time allocation: student/parent (non-academic) interactions (Alpha = 0.69)
Addressing student discipline issues
Monitoring students in hallways, playgrounds, cafeteria, etc.
Interacting with parents and parent groups
Perceived teacher capacity (Alpha = 0.96)
Take responsibility for improving the school
Able to use data to inform instruction
Have high expectations for students
Feel responsible to help each other do their best
Engage in regular, productive conversations with their colleagues about how to improve their skills
Have the skills to effectively help others improve their practice
Share their beliefs and values about what the central mission of the school should be
Are eager to try new ideas
Are able to balance supporting students' social/emotional needs with promoting academic achievement
Are willing to spend extra time to make the school better
Have a good grasp of the subject matter they teach
Have the skills needed to produce meaningful student learning
Are able to promote learning among all students, even those who are difficult to teach
Really believe every child can learn
School conditions: standardized tests
The pressure to raise standardized test scores prevents me from focusing on priorities that I view as more important
School conditions: collaboration/cohesiveness (Alpha = 0.84)
Teachers and administrators work collaboratively to achieve goals
Standards for student behavior are clear and consistently upheld by all teachers

Table 2.3—Continued

Scale/Items
Student misbehavior in this school does not interfere with the teaching process
Teachers, administrators, and parents assume joint responsibility for student discipline
Teachers, administrators, and parents assume joint responsibility for student success
Influence: instructional content (Alpha = 0.61)
Setting performance achievement goals for students
Establishing curriculum
Determining the content of in-service professional development programs for teachers
Principal influence: personnel/management (Alpha = 0.74)
Determining how to evaluate teachers
Hiring new full-time teachers
Hiring new full-time school administrators (e.g., assistant principals)
Removing and disciplining teachers
Principal influence: schedule and budget
Deciding how your school budget will be spent
Determining the daily schedule
Hindering conditions: policy issues (Alpha = 0.74)
The district does not provide high-quality professional development opportunities for teachers
District policy and priorities change frequently
Many of the district's policies and programs are inappropriate for my school
I lack autonomy to make critical operational decisions in areas such as personnel, budget, and programs
Hindering Conditions: resources (Alpha=0.75)
There is insufficient funding to meet our school's needs
I lack the necessary resources, such as time and staff support, to accomplish all that is required to lead this school effectively
Other members of the leadership team lack the opportunities and/or supports to help the school improve its instruction
Day-to-day issues require so much of my time and attention that there is very little time left to focus on long-term planning
Teachers lack sufficient resources, such as time and supports, to individualize instruction for all of their students
Our operational needs in such areas as facilities and transportation are not being adequately met
Hindering conditions: students and parents
There is excessive student absenteeism or tardiness
Parental support is lacking

NOTES: Alphas are calculated only where the scale contains three or more items. CMO = charter management organization.

This scale serves as a measure of principals' perceptions that factors beyond their control may be preventing them from engaging in the activities they think they should be carrying out.

Time Allocation in a Typical Workweek

Although related to the first block of time-use questions, this block of questions asked principals to indicate approximately how much time they spent on an activity in a typical week (options included "not done weekly," "1–4 hours," "5–10 hours," "11–15 hours," and "more than 15 hours"). Thus, this section permits a more precise summary of actual time allocated subject to the accuracy of principal responses. The exploratory factor analysis suggested three scales: time spent on management and external activities, time spent on instructional leadership, and time spent interacting with students or parents on non-academic issues.

Perceived Teacher Capacity

The survey included 14 questions related to teacher capacity, teacher behaviors, and attitudes.[9] Principals were asked to report how many teachers in their school shared a particular attribute or take particular actions with five options ranging from "none" to "nearly all" teachers. Examples include "have the skills to help others improve practice," "are able to balance student social and academic needs," and "are able to promote learning among all students." The exploratory factor analysis suggested that all of these items could be included on a single factor that measures teacher capacity.

School Conditions

The survey included questions related to school-level working conditions not directly related to teacher capacity, such as the degree of collaboration among staff, the level of disciplinary issues in the school, the degree of parent support, access to resources, and whether day-to-day issues consume a lot of a principal's time.

For each condition, the principals were asked to what degree they agree or disagree (using a four-point scale) that the condition exists in their schools, as well as whether this condition hinders their ability to effectively lead (yes or no). The factor analysis suggested that several items could be clustered together in a scale that appears to measure the extent to which an environment of cohesiveness and collaboration characterizes the school. In this report, we examine that scale and an individual item that did not correlate highly with other items: the extent to which the principal believes pressure from standardized tests prevents him or her from focusing on more important priorities.

Principal Influence

The survey asked principals to assess their influence on school practices and processes, such as setting achievement goals, determining content for teacher professional development, hiring teachers, determining the daily schedule, establishing the curriculum, determining how to evaluate teachers, removing or disciplining teachers, and deciding how the budget is allocated. There were four response options for these questions: "no influence," "some influence," "moderate influence," and "strong influence." An exploratory factor analysis suggested three scales:

[9] Because the survey was administered in the spring, we were able to ask principals to rate the capacity of their teachers for the current school year.

one focusing on instructional content, one on management and personnel issues, and one on schedules and budget.

Hindering Conditions

Another set of items asked principals to rate the extent to which several conditions that might hinder their effectiveness characterized their schools or districts. We generated three scales that measured principals' perceptions of hindrances stemming from district policies, resources (including money, time, and staffing), and factors related to parents and students (parental support, student absenteeism). It is also worth noting that our surveys examined other factors that have been shown to be related to school achievement or principal retention—e.g., support principals receive from the district or CMO and principals' self-confidence in their leadership ability (MacBeath et al., 2009)—but we do not discuss these in this report because earlier analyses suggested that they were unrelated to the outcomes measured in our data.

Future Plans

Finally, we asked principals to respond to a set of questions regarding their career plans, including a question that asked how long they anticipated staying at their current school and another that asked what kinds of positions they would consider seeking in the future. Principals were permitted to select multiple responses for this item.

School Selection for Survey Participation

We designed the principal survey to collect information from all schools led by New Leaders principals in the 2007–2008 SY and from a roughly equal number of comparable schools that were not led by New Leaders principals.

We selected a set of matched comparison schools on the basis of school characteristics and principal tenure,[10] although subsequent analysis of survey data on principal tenure revealed inaccuracies in the district-provided tenure data. As a result, the group of matched survey respondents was more experienced than the group of New Leaders principals. The matching was intended to support comparisons between New Leaders and non–New Leaders principals, but it is not used in this report.

Matching Procedure

The first step in the selection of comparison schools was to stratify schools into bins based on key dimensions that are likely to be associated with how the school functions and the degree of autonomy a principal has. In all districts, schools were sorted by grade levels served by the school (elementary, middle, high school, elementary/middle, middle/high school, elementary/high school). Schools were also stratified on the basis of "type," where type categories included regular district, charter, start-up, and empowerment zone (in NYC).[11] We tried to conduct

[10] At the time we conducted the matching, we did not have data on tenure for charter school principals.

[11] In many of the New Leaders partner districts, New Leaders principals were targeted for placement at alternative school types rather than traditional district schools. To the extent possible, we wanted to be sure that the "matched" principals were working in school settings similar to those of the New Leaders principals.

exact matches on these variables, although it was not possible for all grade-level and school type pairs.

After stratifying schools, we then matched schools using a "nearest neighbor" statistical procedure. The school-level variables used for this procedure varied by district, but they included achievement score indicators, the percentage of students eligible for free or reduced-price lunches, the percentage of students who have limited English proficiency, school enrollment, and race/ethnicity indicators of the students. We also used principal tenure in this matching process. First, we standardized all variables so they had a mean of zero and a standard deviation of one, so different measures were on the same scale. Then, to find a match for the *i*th program school, we computed a measure of the statistical "distance" between this school and all non-program schools in the bin. The distance between New Leaders school *i* and comparison school *j*, d_{ij}, was defined by

$$d_{ij} = \sum_{c} |X_{ic} - X_{jc}|,$$

where X_{ic} and X_{jc} are the standardized values of covariate *c*. In other words, the distance is simply the sum of the absolute deviations between the standardized covariate values of the program and comparison schools. The best match was that which minimized the distance.

In some cases, a single non-program school was the best match for more than one program school. When this occurred, we used this comparison school as the match for one of these program schools and found the next best matches for the remaining program schools. As described in the next subsection, this was not always possible.

Challenges and Limitations of Survey Sample Matching

We encountered a number of challenges when carrying out this matching procedure. Mainly, they stem from the fact that New Leaders are placed in atypical schools, making it difficult to find suitable matches.

The databases we used to identify matches did not contain any data for brand-new start-up schools (i.e., schools that opened in 2007–2008). For these schools, we were not able to select comparison schools, although the program schools themselves were part of the survey collection effort.

In a handful of cases, there were no suitable matches in a particular bin. In this situation, we searched for a school with similar student demographics and the same grade range, but not necessarily with matching charter or start-up status. Matches were then done by "visual inspection" (meaning we pulled the data for the schools at the same grade level in the district and selected the data set that looked most similar) rather than by the statistical matching routine described above.

Finally, when we began conducting the surveys, a number of schools refused to participate. When the refusals came from comparison schools, we selected a "backup" comparison school using the matching procedure (or visual inspection method) described above.

Our matching process prioritized district and general school type over other school characteristics. Although our process attempted to match on the basis of principal tenure, the data were problematic, and as a result, the surveyed comparison school principals were more experienced on average than the New Leaders principals. In this study, we limit our analysis to survey responses of principals who reported being in their first year at their schools (these

reports were verified through our updated tenure data). A survey conducted in 2011 used updated school-level tenure data to select the matches. Future studies could also incorporate information on prior principal turnover as well as teacher turnover.

Survey Implementation

After we finalized the survey instrument and obtained necessary district approvals, the principal surveys were fielded in a staggered fashion during April 2008 across the six cities in order to avoid testing periods and spring breaks. The survey remained open into July 2008.

We notified all sampled principals about the upcoming surveys prior to the launch date through an advance notification letter. These letters described the nature and purpose of the surveys, incentives for survey completion, and information regarding confidentiality.

A few weeks after the surveys were launched, we e-mailed each principal who had not yet responded and called them to encourage survey participation. In addition to the more personalized e-mail and phone follow-up, the survey system administered by New Leaders sent automated e-mail reminders on a weekly basis.

Survey Overview and Response Rates

Table 2.4 provides a summary of principal response rates for the whole sample and by district. The final *intended*, or contacted, sample includes 350 principals divided into 190 New Leaders and 160 *matched* principals. Overall, approximately 65 percent of the principals responded to

Table 2.4
Principal Survey Response Rates

	All Principals	New Leaders Principals	Matched Principals
Whole sample	64.9 (227)	77.9 (148)	49.4 (79)
By district			
Baltimore	68.8 (33)	92.6 (25)	38.1 (8)
Chicago	58.2 (57)	72.2 (39)	40.9 (18)
Memphis	78.1 (32)	94.7 (18)	63.6 (14)
New York City	68.1 (47)	79.5 (31)	53.3 (16)
Bay Area	56.0 (14)	62.5 (10)	44.4 (4)
Washington, DC	65.7 (44)	73.5 (25)	57.6 (19)

NOTES: The first number in each row by column is a percentage between 0 and 100; the total number of principal respondents is in parentheses. Response rate calculations for principals are based only on those principals who were contacted and did not decline.

the online survey, with substantially higher rates among New Leaders principals (78 percent versus 49 percent for matched principals).

The higher response rates for New Leaders principals is not surprising, since they are more likely to feel motivated to respond to a New Leaders–sponsored survey. The district summaries in Table 2.4 present response rates and the total numbers of principals who provided survey data (in parentheses).

One concern when relying on voluntary participation in surveys is that the respondents may be systematically different from the non-respondents. The predicted probability of participating can be estimated using measurable characteristics of the principal and school. This method cannot account for unmeasured factors that may affect participation (such as differences in principal motivation that are not associated with the measured characteristics).

To analyze the difference between respondents and non-respondents, we focus the analysis on the New Leaders sample, where we have substantially more reliable data on principal tenure. Table 2.5 presents school demographic and test score variables from the 2006–2007 SY for all of the districts grouped together. For each variable, the averages (means) are computed for both New Leaders respondent and New Leaders non-respondent schools. The last column in Table 2.5 presents the p-value for the statistical test ("t-test") for the difference of means. P-values less than or equal to 0.05 are considered to be statistically significant.

The result that stands out in Table 2.5 is that there are no significant differences between New Leaders respondents and non-respondents, at least based on these observable characteris-

Table 2.5
Background Variable Comparisons of Means Between New Leaders Respondents and Non-Respondents

Background Variable	New Leaders Respondents	New Leaders Non-Respondents	p-value
Principal tenure	3.0	2.1	0.31
School percentage of			
White	4.9	3.0	0.35
Black	63.5	65.3	0.79
Hispanic	24.1	22.7	0.81
Asian	1.4	1.4	0.99
Total number of students	457	445	0.90
School percentage of ESL students	11.9	9.2	0.48
School average attendance	90.0	88.6	0.52
School percentage of math scores above top half	45.7	45.4	0.91
School percentage of reading scores above top half	45.0	45.6	0.84

NOTES: All variables are measured in percentages from 0 to 100, with the exceptions of principal tenure (in years) and the number of students in the school. P-values refer to two-tailed tests of significance between means, with values below 0.05 considered to be significantly different means between the two groups.

tics.[12] For some variables, such as the percentages of black and Hispanic students, the number of students in the school, and student test scores, the differences between the two categories of principals are negligible. This analysis suggests that New Leaders respondents and non-respondents are similar.

Case Studies of Schools Led by First-Year Principals

To supplement the survey analysis, we conducted case studies at 20 schools led by first-year principals, including 16 New Leaders principals and four non–New Leaders principals in the 2008–2009 SY. We conducted follow-up interviews at these schools in the 2009–2010 SY. The purpose of these case studies was twofold: first, to closely examine, in real time, the practices that new principals employ in their first year and to document challenges and promising practices; and second, to understand how the first-year principals' experience is shaped by school context, district and charter policy conditions, and the training and support the principals received. We conducted the case studies in four of the six partner districts.

Sampling

We sampled first-year principals in schools that varied in grade-level configuration and governance (district versus charter) (see Table 2.6).[13] The actual number of schools representing these groups in our sample is displayed in Table 2.4. Within one partner district, we sampled an additional four non–New Leaders first-year principals to provide some insights into differences between New Leaders and non–New Leaders principals.[14] We focused on elementary schools in this district to improve our ability to compare the experiences of New Leaders and non–New Leaders principals. We selected non–New Leaders elementary schools that were similar to the New Leaders schools in terms of charter status. When we had a choice, we selected the non–New Leaders schools that served student populations that were similar to those served by the New Leaders schools. We conducted follow-up data collection at these case study schools in 2010. As discussed below, there was attrition in the original sample, and we replaced schools that experienced attrition with other schools led by first-year principals in the 2009–2010 SY.[15]

The school sample varied greatly in terms of size, student population, and academic achievement (see Table 2.7). Table 2.7 reports the range and average for four variables that we collected from school accountability reports.[16] While schools' proficiency rates were fairly evenly distributed across the ranges noted in Table 2.7, most schools were grouped at the high

[12] It bears repeating that our reliance on observable characteristics is an obvious limitation, since differences in participation rates may be attributable to non-observable factors. Furthermore, differences in unobservable dimensions—such as the individual's commitment to participate in surveys—may in turn suggest differences in other dimensions that are hard to measure, such as the principals' commitment to making their schools better.

[13] Because we were focused on first-year principals, the sampling was not random. In some districts, there were only four first-year New Leaders, and therefore all were included in our sample. In districts where we had some choice, we selected principals in such a way so as to ensure variation across grade levels and charter/non-charter status for the sample overall.

[14] Four schools in one district is not sufficient to qualify as a bona fide comparison group, and we do not emphasize differences between New Leaders and non–New Leaders principals in our discussion of case study findings.

[15] We replaced the school that left our original sample with a school in the same district at the same grade level and with the same charter status led by a first-year principal in the 2009–2010 school year.

[16] These statistics are based on 18 schools because school accountability reports were not available for two schools.

Table 2.6
Types of Participating Schools in the Case Study Sample

Type of School	Number of New Leaders Principals (n = 16)	Number of non–New Leaders Principals (n = 4)
District	11	3
Charter	5	1
Elementary	8 (5)	4 (3)
K–8	4 (5)	0 (1)
Secondary	4 (6)	0

NOTE: Numbers in parentheses reflect the second year of the case study work when they are different from the first year.

Table 2.7
Characteristics of Participating Schools (Initial Sample)

Variable	Minimum	Maximum	Average
Enrollment number	182	1,252	398
Percentage of economically disadvantaged	29	97	67
Percentage proficient in math	3	89	52
Percentage proficient in reading	11	88	54

end of the distribution with regard to the percentage of economically disadvantaged (with only three schools having less than 60 percent economically disadvantaged), and at the low end of the distribution with regard to enrollment (with only four schools having more than 500 students).

The intention of the original research design was to follow all 20 principals into their second year. However, five of the original 20 principals left the principalship by the spring of year two—either because they were terminated or because they resigned. In addition, two of the principals in our first round of case studies were reassigned to new schools.

Data Collection and Analysis

For each of the 20 schools, we carried out the following data collection activities between December 2008 and May 2009:

- Ninety-minute phone principal interview
- Two 60-minute in-person, artifact-based principal interviews[17]
- Four to six one-on-one interviews of school leaders, such as assistant principals and school-based coaches
- Four to six one-on-one interviews of classroom teachers

[17] In the artifact-based interview, the semi-structured interview was oriented around an artifact such as a rubric for evaluating teachers at the school.

- Collection of artifacts pertaining to key strategies, such as data use or classroom observations.

We visited each school twice to collect data. Two researchers conducted the first visit, during which one researcher took notes while the other conducted semi-structured interviews of school leaders. One researcher conducted the second visit, during which the researcher took notes while conducting structured interviews of teachers. All three principal interviews were transcribed. Researchers wrote 50- to 70-page summaries for each principal that triangulated and summarized findings across data sources (principals, school leaders, teachers, observation, and artifacts) for each of the following domains: principal background, school context, placement, diagnosis, key strategies, support, policy conditions, perceptions of principal, and progress/impact. Researchers then examined data across principals to identify themes and patterns related to each of these domains.

In one district, one researcher also shadowed each of the eight principals (four New Leaders and four non–New Leaders principals) for three days. In our preliminary phone interviews, we asked all principals to identify key strategies for improving their schools, and we requested to visit on a day when they planned to spend at least part of the day working on one of these key strategies. A researcher followed the principal from the beginning to the end of the school day and took running notes throughout the day. We used these notes as an additional data source in writing the principal summaries.

In year two, the data collection processes were similar but more limited in nature. For each of the 20 principals, we conducted a 90-minute phone interview with the principal and conducted six to nine one-on-one interviews of classroom teachers and school leaders (e.g., assistant principals and school-based coaches). We also collected publicly available school report cards from district and state web sites. Data were collected between December 2009 and May 2010. In one district, one researcher also shadowed each of the eight principals (four New Leaders and four non–New Leaders principals) for one day. We requested to visit on a day when principals planned to be visiting classrooms or interacting with teachers. A researcher followed the principal from the beginning to the end of the school day and took running notes throughout the day.

We recorded key strategies for each principal and assessed each principal's progress in implementing his or her key strategies by comparing stated goals with principal and staff reports about actual implementation and with artifacts that documented implementation.

We defined principals as having *high levels* of implementation and buy-in when the principals reported success in implementing strategies; staff members confirmed implementation and reported impact on interim outcomes targeted by the principal (such as improvements in student attendance, teacher attendance, collegiality, and use of data to inform instruction); staff perceptions of the principal were high; and staff we interviewed had consistent and/or strong positive perceptions of the principal (with the possible exception of a couple of teachers whom the principal had placed on a performance plan). For example, one principal defined as *high level* decided to move instruction forward by conducting observations and providing teachers with feedback, and teachers reported this was happening on a regular basis and tended to find the feedback useful.

We defined principals as having *moderate levels* of implementation and buy-in when principals reported some success in implementing strategies, though less than expected; staff confirmed implementation of strategies, but the impact on interim outcomes was not clear or staff

varied in their reports about impact; and/or staff had lukewarm to positive perceptions of the principal (with the possible exception of a few teachers whom the principal had placed on a performance plan). For example, one principal defined as *moderate level* reported he had placed considerable emphasis on using data by providing professional development and rearranging the schedule so that teachers could collaboratively review interim assessment data. The teachers in this school confirmed that their professional development had focused on data and that they had reviewed data with their colleagues during collaborative planning time, but they also said that the data had not influenced their instruction.

We defined principals as having *moderate levels with concerns* when they had reported some success but also faced identifiable challenges that threatened to derail their plans. For example, in one school, staff reported that there were a handful of teachers who did not buy in to the principal's approach and were significantly hindering the principal's efforts to build professional community. However, some staff predicted that this problem would be resolved if the principal could successfully convince the naysayers to transfer out of the school. These sorts of issues were absent from the schools of principals in the previous category of *moderate levels*.

We defined principals as having *low levels* when they reported significant problems implementing strategies and the majority of staff we interviewed had negative views of the principal. In many cases, our assessment that these principals were floundering was supported by the fact that the district and/or CMO had decided to remove the principal.

Six principals in our original case study sample were coded as having achieved *high* levels of buy-in in their first year, five were coded as *moderate*, four were coded as *moderate with concerns*, and the remaining five were coded as *low*. Each category included both New Leaders and non–New Leaders principals.

Limitations

Our study provides unique and multifaceted information drawn from multiple sources on principals who are new to their schools. Unlike studies that identify principals who have experienced achievement gains in their schools and then retrospectively examine their characteristics and actions, our study begins with sets of first-year principals and examines their experiences and the achievement outcomes of their schools. As such, it provides a different lens through which to consider the experience of first-year principals. That said, it is important to keep in mind the limitations of our research design. Like much of the prior research on school leadership, our research design cannot support causal inferences. Our student achievement gain scores are based on state tests that measure achievement in a limited number of subjects and might be influenced by test preparation because of the high stakes attached to scores. In addition, our survey and case study samples are relatively small and are not representative of schools in the partner districts. The survey findings cannot be generalized to all principals in the study districts, in the same states, or in the United States. The small sample sizes limit the statistical power of our analyses. It is also important to acknowledge that we were not able to collect information on every factor that might influence achievement or retention, such as the quality of professional development that the principals received or the availability of assistant principals and other support staff to whom the principals might delegate responsibilities. Finally, our data on principal practices and conditions stem largely from principal self-reports on the survey. Corroborating evidence gathered from surveys of teachers, assistant principals,

or principals' supervisors would be informative and would help us to evaluate the accuracy of principals' self-reports, but it was not feasible to include teacher or supervisor surveys in this study. While the additional case study data, which include reports from other school staff as well as researcher observation, allow some verification (or not) of principals' claims, they are necessarily incomplete because we spoke to only a sample of teachers at each school. Nonetheless, the case study data do shed a more nuanced light on issues emerging from the survey analyses.

CHAPTER THREE

Experiences and Outcomes of First-Year Principals

In this chapter, we present findings from analyses addressing each research question. Where the analyses are more than just descriptive tabulations, we describe the analytical methods used.

Retention and Survival of New Principals

The first set of analyses addresses the hypothesis that principal retention and survival is related to student achievement. To examine this question, we summarized the data for all first-year principals in the six districts. The patterns reported here are similar to retention patterns for the group of first-year principals who responded to the survey (which are not reported here).

Over One-Fifth of First-Year Principals Leave Their Schools After One or Two Years

Our analysis indicates that many new principals leave their schools after one or two years on the job. As indicated in Table 3.1, of the 519 first-year principals in the study districts in the 2007–2008 SY, 61 (11.8 percent) left their school within the first year,[1] and an additional 56 (10.7 percent) left their school within the second year. We observe substantial differences across districts in terms of retention, with retention rates being higher in New York and Chicago and lower in Baltimore and Washington, DC.[2]

[1] Of the 61 principals who left their schools after the 2007–2008 school year, we can confirm that eight (13.1 percent) assumed a different principalship in their district in the 2008–2009 school year. Two of these principals were in Baltimore, one was in Chicago, three were in NYC, and two were in OUSD. We have gain score data on seven of these eight schools, and we provide the breakdown by gain scores in Tables 3.5 and 3.6, which follow.

[2] Although it is not the purpose of this study to explore differences across districts, it is worth noting some of the similarities and differences in terms of principal management. All districts have struggled with budget cuts since this 2007–2008 school year. Washington, DC, closed 23 schools in 2008. School closures have also occurred in Oakland, NYC, and Chicago since 2007–2008. Each of the six districts has a principals' union with varying levels of power, with the Oakland principals' union being on the strong end of the spectrum and the Memphis union on the weaker end. Performance-based contracts and merit incentives, which were used in 2011–2012 in NYC, Chicago, Washington, DC, and Baltimore, were only beginning to emerge in the 2007–2008 SY. In that year, NYC began allowing principals much more autonomy in SY 2007–2008 in return for increased accountability for performance. In the spring of 2008 in Washington, DC, the new chancellor, Michelle Rhee, fired a number of principals. In all six districts, local school staff and community members were involved in the process of hiring principals. In Chicago, the local school councils made the selection. In other districts, a district official made the final decision with input from members of the local community. The actual influence of the local community in these five districts varied over time and across districts.

Table 3.1
First-Year Principals in the 2007–2008 SY and Those Still in Place at the Start of Subsequent School Years, by District

	2007–2008 SY		2008–2009 SY		2009–2010 SY		2010–2011 SY	
District	Count	%	Count	%	Count	%	Count	%
Baltimore	39	100	27	69.2	20	51.3	16	41
Chicago	159	100	147	92.5	135	84.9	116	73
Memphis	47	100	39	83	32	68.1	17	36.2
NYC	222	100	205	92.3	189	85.1	170	76.6
OUSD	25	100	22	88	14	56	9	36
Washington	27	100	18	66.7	12	44.4	8	29.6
Total	519	100	458	88.2	402	77.5	336	64.7

NOTES: There are four principals with missing tenure information who are not included in this table. Principals for whom the last year reported is 2010–2011 were still in their positions as of the latest available data.

New Principals Placed in Schools That Are Below AYP Targets Are More Likely to Leave

We explored whether survival of first-year principals is associated with prior achievement in the schools where they are placed. Table 3.2 summarizes the data by school type, with type defined by the achievement trajectories prior to the 2007–2008 SY. Consistent with findings from prior research, we observe that first-year principals placed in schools that had achieved AYP targets or placed in start-up schools were less likely to leave after one or two years compared with first-year principals placed in schools that were below AYP targets.

New Principals Are More Likely to Leave When Test Scores Decline in Their First Year

Principal turnover can reflect decisions made by the individual principal as well as by the school or district. Although observers often discuss principal turnover as if it were a bad thing,

Table 3.2
First-Year Principals in the 2007–2008 SY and Those Still in Place at the Start of Subsequent SYs, by School Type

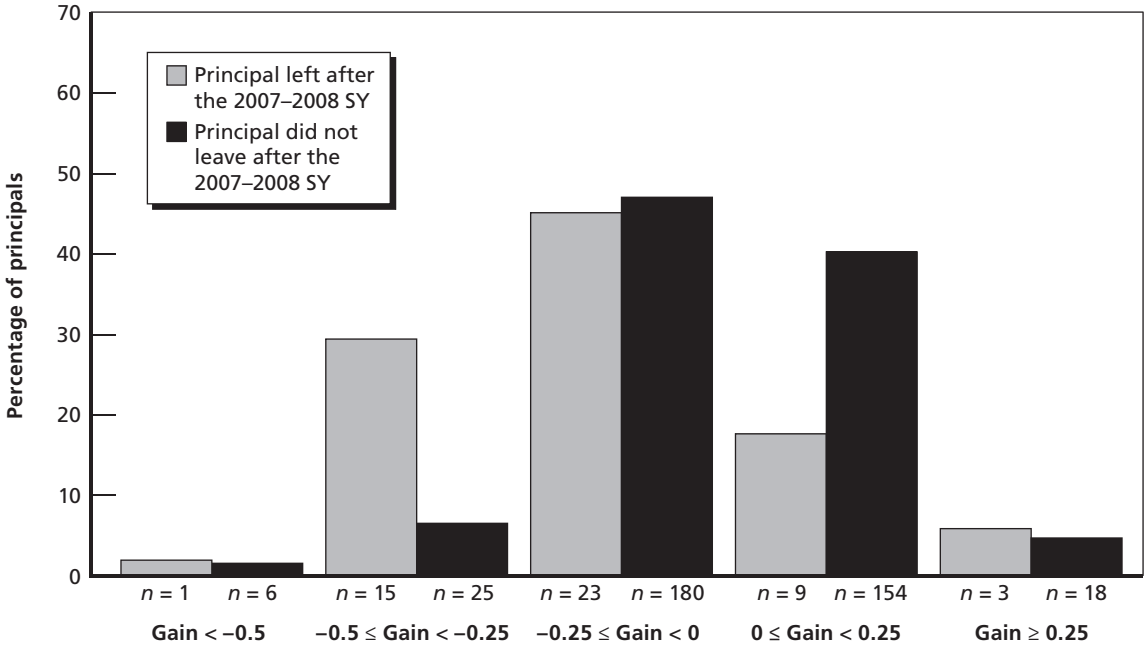
	2007–2008 SY		2008–2009 SY		2009–2010 SY		2010–2011 SY	
School Type	Count	%	Count	%	Count	%	Count	%
Below AYP, not improving	122	100	97	79.5	86	70.5	67	54.9
Below AYP, improving	57	100	47	82.5	39	68.4	31	54.4
Above AYP	211	100	202	95.7	179	84.8	165	78.2
Start-up	71	100	68	95.8	60	84.5	44	62
Total	461	100	414	89.8	364	79	307	66.6

NOTES: There are four principals with missing tenure information, and 58 additional principals with missing performance data who are not included in this table. Principals for whom the last year reported is 2010–2011 were still in their positions as of the latest available data.

the quick removal of an ineffective principal may be beneficial for a school. We examined whether the survival of first-year principals is associated with gain scores for the school in that first year. Distributions of 2007–2008 gain scores are shown in Figures 3.1 and 3.2. Of the 61 schools that lost their principals after one year, we were able to calculate gain scores for 51 of the schools.[3] Of these, 40 had experienced clear declines (meaning that the gain score was in the lowest third in at least one subject), and 11 did not have clear declines.[4] The fact that 78 percent of the principals who left after one year and for whom we had gain score data had experienced clear declines in gain scores suggests that at least some of the early career turnover that is observed may be driven by concerns about performance.[5]

To explore first-year principal attrition further, we estimated simple logit models to examine the relationship between the probability that a principal would not survive into the second and third years and achievement prior to and after assuming the principalship at the school. The first three models consider all first-year principals in the 2007–2008 SY. For each model,

Figure 3.1
Distribution of 2008 Gain Scores in Mathematics



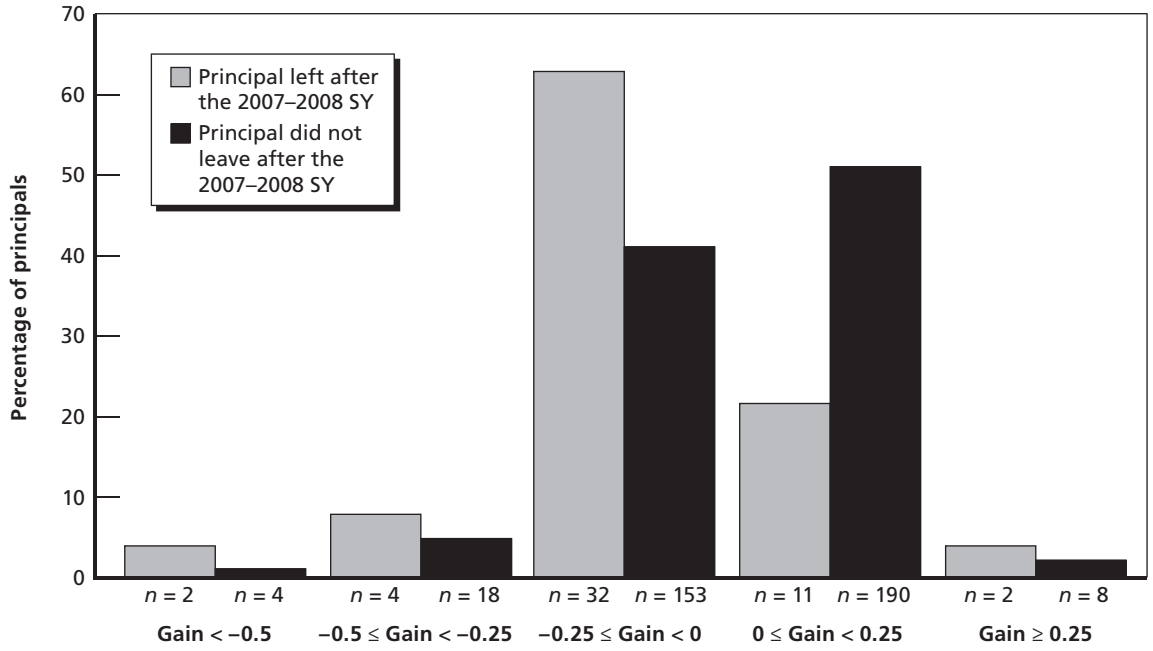
RAND *TR1191-3.1*

[3] We were unable to calculate gain scores for ten schools because of missing data. As described in Chapter Two, missing data on gain scores stem from the fact that a school did not include a tested grade in that year.

[4] Schools with a math gain score of less than –0.667263 were in the lowest third for math, and schools with a reading gain score of less than –0.0460617 were in the bottom third for reading. There are 23 schools that fall into the bottom third for both math and reading, ten schools that fall into the bottom third for math only, and seven schools that fall into the bottom third for reading only. This totals 40 schools with clear declines.

[5] For the 2007–2008 school year, none of the districts were using value added achievement measures in evaluation of principals. By the 2011–2012 school year, only Washington, DC, had incorporated value added achievement measures into the principal evaluation process. The NYC evaluation process considers year-to-year changes in achievement. Baltimore and Memphis are using achievement information, but not value added measures.

Figure 3.2
Distribution of 2008 Gain Scores in Reading



RAND *TR1191-3.2*

the dependent variable is retention into the second year. For model A, independent variables included a categorical variable describing the prior achievement trajectory of the school ("above AYP" is the omitted category), a categorical variable for district ("NYC" is the omitted category), a continuous variable reflecting the 2007–2008 math gain score, and a continuous variable reflecting the 2007–2008 reading gain score. Model B includes the same independent variables except the 2007–2008 reading gain score, and model C includes the 2007–2008 reading gain score but not the 2007–2008 math gain score. Results of these models are presented in Table 3.3. We found that in both model A and model B, math gain scores are strongly and negatively related to the probability of departure after one year. Schools with new principals that experience declines in math achievement are much more likely to replace their principals after one year. In model A, we see an insignificant positive coefficient on the reading gain score, but when we look at model C, we see a marginally significant negative coefficient. We think this may be caused by the colinearity between math and reading gain scores, but it suggests that reading gain scores are also negatively related to the probability of departure after one year. All three hazard models confirm some of the relationships suggested by the descriptive data. Holding all else equal, principals placed in schools that are below AYP are more likely to depart after one year than principals placed in schools that are above AYP. First-year principals in Washington, DC, and Baltimore are more likely to depart after one year than first-year principals in NYC.[6]

[6] We also ran these three models excluding principals with prior district experience (49 observations). The findings were similar: The coefficient on the math score is still negative and significant and the coefficient on the reading score is similar but no longer significant.

Table 3.3
Logit Model Estimating the Probability That a First-Year Principal in School Year 2008–09 Leaves After One Year

	Model A		Model B		Model C	
Variable	**Coef.**	**Odds Ratio**	**Coef.**	**Odds Ratio**	**Coef.**	**Odds Ratio**
Math gain score, 2007–2008 SY	–3.562***	0.0284***	–3.068***	0.0465***	—	—
	(1.299)	(0.0369)	(0.982)	(0.0457)	—	—
Reading gain score, 2007–2008 SY	0.278	1.320	—	—	–1.778*	0.169*
	(1.249)	(1.649)	—	—	(0.949)	(0.160)
Baltimore	1.935***	6.923***	2.137***	8.478***	1.708***	5.518***
	(0.635)	(4.398)	(0.635)	(5.380)	(0.622)	(3.430)
Chicago	0.163	1.177	0.405	1.500	0.257	1.293
	(0.620)	(0.729)	(0.608)	(0.912)	(0.614)	(0.794)
Memphis	0.984	2.676	1.212*	3.361*	0.892	2.441
	(0.699)	(1.870)	(0.697)	(2.343)	(0.688)	(1.678)
OUSD	0.175	1.192	0.397	1.487	–0.0673	0.935
	(1.174)	(1.399)	(1.176)	(1.749)	(1.168)	(1.092)
Washington, DC	1.984***	7.269***	2.227***	9.268***	2.111***	8.255***
	(0.667)	(4.846)	(0.662)	(6.136)	(0.655)	(5.404)
Start–up	–0.510	0.601	–0.711	0.491	–0.335	0.716
	(1.126)	(0.676)	(1.147)	(0.564)	(1.111)	(0.795)
Below AYP	1.255***	3.507***	1.213***	3.364***	1.270***	3.562***
	(0.442)	(1.551)	(0.433)	(1.458)	(0.436)	(1.552)
Constant	–3.760***	0.0233***	–3.930***	0.0196***	–3.646***	0.0261***
	(0.529)	(0.0123)	(0.541)	(0.0106)	(0.517)	(0.0135)
N	395	395	406	406	397	397

NOTES: Standard errors are in parentheses. *** p < 0.01, ** p < 0.05, * p < 0.1. Omitted categories are "NYC" (district) and "above AYP" (school type).

An additional model considers the population of principals who remained in their schools through the first year and returned in year two, and it examines their chances of not surviving into their third year. The independent variables were a categorical variable describing the prior achievement trajectory of each school (above AYP, below AYP, and start-up ["above AYP" is the omitted category]); a categorical variable for district ("NYC" is the omitted category); and a categorical variable for achievement gains (gains in 2008 and 2009, no gains in 2008 and gains in 2009, and declines in 2008 and 2009 [the omitted category is schools that were uncategorized]).

The results of this analysis are presented in Table 3.4. First-year principals in Washington, DC; Baltimore; OUSD; and Memphis were more likely to depart after the second year com-

Table 3.4
Logit Model Estimating the Probability That a New Principal Who Survives His or Her First Year (SY 2007–2008) Leaves After the Second Year (SY 2008–2009)

Variables	Coefficient	Odds Ratio
Gains		
Gains 2008 and 2009	–1.310	0.270
	(0.800)	(0.216)
No gains 2008, gains 2009	0.389	1.475
	(0.522)	(0.770)
Declines 2008 and 2009	–1.227	0.293
	(1.077)	(0.315)
Baltimore	1.553***	4.728***
	(0.590)	(2.790)
Chicago	0.181	1.199
	(0.479)	(0.574)
Memphis	1.040*	2.828*
	(0.602)	(1.702)
OUSD	2.094***	8.121***
	(0.657)	(5.334)
Washington, D.C.	2.300***	9.977***
	(0.702)	(7.006)
Start-up	0.0651	1.067
	(0.622)	(0.664)
Below AYP	–0.238	0.788
	(0.381)	(0.300)
Constant	–2.352***	0.0952***
	(0.366)	(0.0348)
Observations	344	344

NOTES: Standard errors are in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Omitted categories are "NYC" (district), "above AYP" (school type), and "uncategorized" (gains).

pared with first-year principals in NYC, conditional on having survived the first year. Interestingly, survival past the second year among those who have already survived the first year does not appear to be related to the achievement trajectory prior to the principal taking over.

While the analytical results and broad trends are illuminating, it is also important to emphasize that while it appears that principals who experience declines are more likely to leave their schools, the vast majority of principals who experience clear declines remained in their schools, as illustrated in Tables 3.5, 3.6, and 3.7. Tables 3.5 and 3.6 reveal that while a major-

Table 3.5
Mathematics Gain Scores, 2008 Tercile, by Principal's Last Year at School

	High		Medium		Low		Total	
Last Year	Count	%	Count	%	Count	%	Count	%
2007–2008 SY	10	19.60	8	15.7	33	64.7	51	100.0
2007–2008 SY*	2	28.6	1	14.3	4	57.1	7	100.0
All other	109	28.5	143	37.3	131	34.2	383	100.0
Total	119	27.4	151	34.8	164	37.8	434	100.0

NOTE: The row "2007–2008 SY*" shows the results for the seven principals who assumed a different principalship in the same district in the 2008–2009 SY.

Table 3.6
Reading Gain Scores, 2008 Tercile, by Principal's Last Year at School

	High		Medium		Low		Total	
Last Year	Count	%	Count	%	Count	%	Count	%
2007–2008 SY	9	17.6	12	23.5	30	58.8	51	100.0
2007–2008 SY*	3	42.9	2	28.6	2	28.6	7	100.0
All other	121	32.4	128	34.3	124	33.2	373	100.0
Total	130	30.7	140	33.0	154	36.3	424	100.0

NOTE: The row "2007–2008 SY*" shows the results for the seven principals who assumed a different principalship in the same district in the 2008–2009 SY.

Table 3.7
Principal's Last Year at School, by Combined 2008–2009 Gain Scores Classification

	Gains 2008 and 2009		No Gains 2008, Gains 2009		Declines 2008 and 2009		Other		Total	
Last SY	Count	%	Count	%	Count	%	Count	%	Count	%
2008–2009	2	4.1	8	16.3	1	2.0	38	77.6	49	100.0
2009–2010	6	12.0	3	6.0	2	4.0	39	78.0	50	100.0
2010–2011	22	8.4	19	7.3	19	7.3	201	77.0	261	100.0
Total	30	8.3	30	8.3	22	6.1	278	77.2	360	100.0

NOTES: The table includes only schools for which two years of gain score data are available. Principals for whom the last year is reported as 2011 were still in their positions as of the latest available data.

ity of principals who leave after the first year had gain scores in the lowest tercile, a majority of principals with scores in the lowest tercile remained in their schools for a second year. Table 3.7 indicates that of those principals whose schools experienced declines in the first year and who survived into the second, most of those experiencing subsequent declines remained in place through the 2010–2011 SY.

As reflected in Table 3.7 and Figures 3.3–3.4, a vast majority of first-year principals who remain in their schools for more than one year (77 percent) do not experience clear patterns of gains or declines over two years. Eight percent experience clear gains in the second year but not in the first; 8 percent experience gains in both years; and 6 percent experience clear declines in both years.

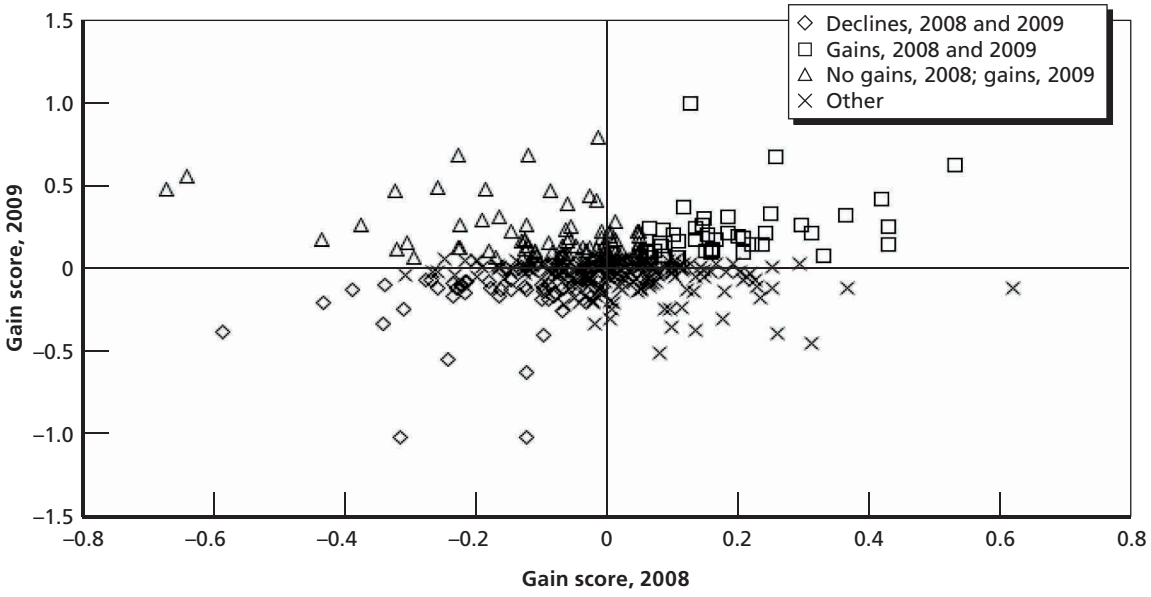
Achievement Outcomes of Schools That Lose a New Principal

Given the prevalence of turnover among first-year principals, an immediate question is: What are the implications of this turnover for schools (and students)? What happens to achievement in schools that lose their first-year principals? How does this vary as a function of school performance under the principal who left? To explore these questions, we examined the gain scores of schools that lost a principal in the subsequent year (reflecting achievement under the next principal).

Of those 40 schools that experienced clear declines in SY 2007–2008 under a first-year principal and got another principal in SY 2008–2009, we observed nine cases where the school clearly improved in the next year (meaning that the gain score was in the top third), and 20 cases where the clear declines were observed in the following year. Nine cases had missing data, and two did not experience clear gains or declines.

Among the 11 schools that did not experience declines in SY 2007–2008 but lost their principal and got another principal in SY 2008–2009, the patterns were similar to those observed among schools that had experienced declines in SY 2007–2008. We observed one

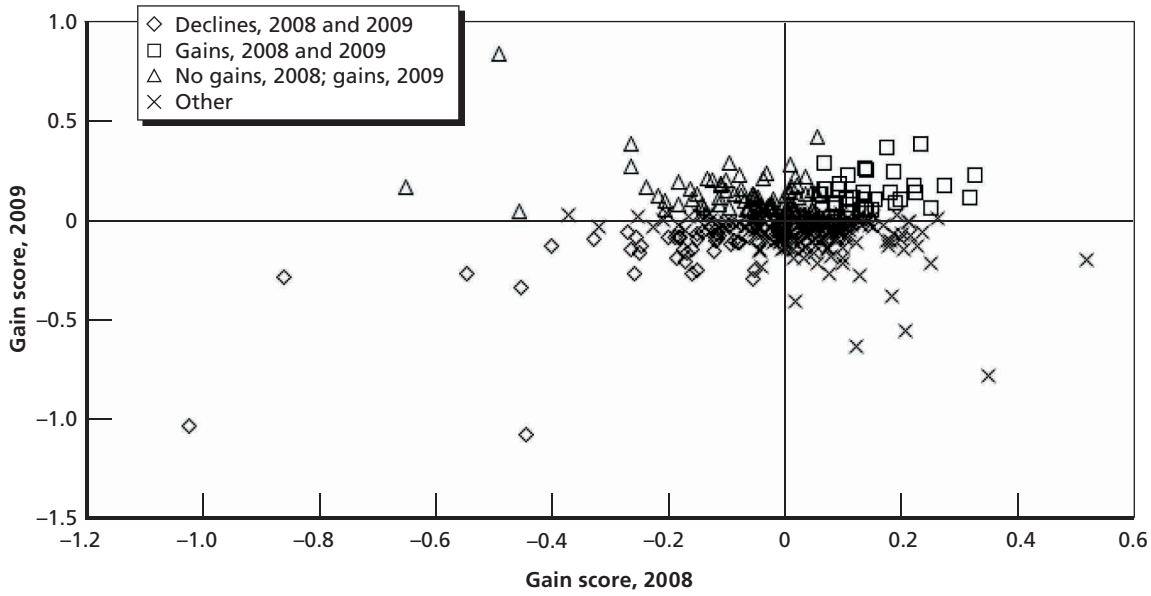
Figure 3.3
Distribution of 2008 and 2009 Gain Scores in Mathematics



NOTES: The figure includes only schools for which two years of gain score data are available. The figure includes only schools in which the principal was still in place in the 2008–2009 SY. Categorizations are based on mathematics scores only.

RAND *TR1191-3.3*

Figure 3.4
Distribution of 2008 and 2009 Gain Scores in Reading



NOTES: The figure includes only schools for which two years of gain score data are available. The figure includes only schools in which the principal was still in place in the 2008–2009 SY. Categorizations are based on reading scores only.

RAND *TR1191-3.4*

case where the school achievement clearly improved in the next year, and seven cases where the school experienced clear declines.

This analysis is suggestive of the challenges that frequent principal turnover poses for schools. In the next sections, we draw on the principal survey data to understand the factors that are associated with retention and with student achievement.

Relationships of Principals' Time Allocation with Student Achievement and Retention

No Strong Relationship Between Principals' Time Allocation and Achievement

The survey and case study data can shed some light on the factors that may be associated with improved student achievement in a principal's school and with the principal's likelihood of remaining in his or her school after the first year. In this section, we explore relationships between the two outcomes of interest—school achievement growth and principal retention—and survey scales measuring various aspects of principals' practices. When appropriate, we supplement these results with findings from the case studies.

Because of the relatively small and unrepresentative nature of the principal survey sample, these analyses should be viewed as exploratory. The low level of statistical power in these analyses may limit our ability to detect important relationships. Because we are interested in identifying promising areas for future study rather than in making strong conclusions, we use a type I error rate of 0.10 and make no adjustments for multiple comparisons (which raise the probability that a relationship or difference will be incorrectly identified as statistically signifi-

cant). This approach may lead us to describe significant relationships that turn out to be a result of sampling or measurement error, but this is less problematic for our purposes than missing potentially important relationships.

We examined principals' responses to items that asked them to report a range of hours spent on various tasks, which, as noted earlier, were grouped into three composite measures: management and external activities, instructional leadership, and non-academic interactions with students and parents (see Table 3.8). The strongest relationship was observed between principals' reports of time spent on non-academic student and parent interactions and gain scores, though the correlation of –0.22 was not statistically significant. The reasons for this slight negative relationship are unclear. It is possible that principals who spend significant time in these kinds of interactions are not spending enough time on other activities that are more directly relevant to student achievement, but the findings for the other scales on this set of items do not support this conclusion. It may also be the case that the schools where principals spend more time this way face challenges that negatively affect school performance. In any case, the findings overall suggest no strong relationships between achievement and principals' time allocation as measured by our surveys. One limitation that should be kept in mind is the lack of information on the presence of other school leaders, such as assistant principals, and on how they allocated their time. It is possible that in some cases, these other leaders are taking on responsibilities that are not captured in the information we collected from principals.

We also examined correlations between principals' practices and 2009 gain scores, as shown in Table 3.9. The correlations were all small and non-significant.

The extent to which a principal's actions are accompanied by consistency or change in the school's performance from one year to the next is also of interest, especially because many of these principals entered schools that had been performing poorly. Table 3.10 shows the mean scores on each of the survey scales for three groups of schools: (1) those that experienced gains in their mathematics gain scores in both 2008 and 2009; (2) those that experienced no gains in 2008 but gains in 2009; and (3) those that experienced declines in both 2008 and 2009. Table 3.11 provides similar information for reading gain scores. For the most part, there were no discernible patterns in reported practices across school types. It is possible that the reason we do not see any differentiation in instructional leadership across the gain score groups is because there is an inverse relationship between teacher capacity and time spent on this factor. It may be that in some schools with effective teachers (high gain scores), the principal is able to spend less time on instructional leadership, and in some schools where principals spend less time on instructional leadership, this leads to less effective teachers and thus lower gain scores. This would result in the appearance of no effect of instructional leadership.

Table 3.8
Correlations Between Time Spent on Principal Practices and School Gain Scores, 2008

	Math		Reading	
Factor	**Corr.**	**Sig.**	**Corr.**	**Sig.**
External/management	0.030	0.824	–0.161	0.241
Instructional leadership	0.174	0.199	0.006	0.964
Student/parent (non-academic) interactions	–0.218	0.107	–0.160	0.245

NOTES: The choices were (1) not done weekly; (2) 1–4 hours; (3) 5–10 hours; (4) > 15 hours. There are 56 observations for math and 55 for reading.

Table 3.9
Correlations Between Time Spent on Principal Practices and School Gain Scores, 2009

	Math		Reading	
Factor	**Corr.**	**Sig.**	**Corr.**	**Sig.**
External/management	0.102	0.496	0.149	0.319
Instructional leadership	0.221	0.136	0.144	0.335
Student/parent (non-academic) interactions	–0.149	0.317	0.008	0.957

NOTES: The choices were (1) not done weekly; (2) 1–4 hours; (3) 5–10 hours; (4) > 15 hours. There are 47 observations for math and 47 for reading.

Principal Reports of Lack of Time Were Associated with Lower Achievement

One aspect of time management that did seem to be associated with the two-year gain score trends was the number of activities for which principals reported not having sufficient time.[7] The penultimate row in Tables 3.10 and 3.11 shows the average number of activities about which the principal responded that he or she thought the time spent on them was insufficient. Principals in schools with two years of gain score declines in mathematics reported greater numbers of areas for which they believed they were spending insufficient time than did principals in other schools. This pattern was not observed when we categorized schools based on gain scores in reading.

Table 3.10
Mean Scores on Principal Practice Scales, Based on 2008 and 2009 School Gain Scores for Mathematics

	Math					
	[1]	[2]	[3]	Significance (p-value)		
Factor	**Gains 2008 and 2009**	**No Gains 2008, Gains 2009**	**Declines 2008 and 2009**	**H0: [1] = [2]**	**H0: [1] = [3]**	**H0: [2] = [3]**
External/management	2.3	2.6	2.4	0.336	0.516	0.591
Instructional leadership	2.0	2.0	1.8	0.963	0.572	0.561
Student/parent (non-academic) interactions	2.4	3.1	2.7	0.101	0.380	0.237
Not sufficient time	10.9	9.8	16.7	0.698	0.098	0.058
Observations	9	11	4			

NOTES: The choices were (1) not done weekly; (2) 1–4 hours; (3) 5–10 hours; (4) > 15 hours. "H0" refers to the null hypothesis tested in each instance. For example, the column "H0: [1] = [2]" provides the result of a test to determine whether the mean score for the "gains 2008 and 2009" group is equal to the mean score for the "no gains 2008, gains 2009" group for each factor.

[7] It is important to note that if we were able to disaggregate across grade levels, we might have seen some important variations on how principals spend their time. In addition, having information on the number of assistant principals available to each principal might have allowed us to see a more significant result.

Table 3.11
Mean Scores on Principal Practice Scales, Based on 2008 and 2009 School Gain Scores for Reading

	Reading					
	[1]	[2]	[3]	Significance (p-value)		
Factor	Gains 2008 and 2009	No Gains 2008, Gains 2009	Declines 2008 and 2009	H0: [1] = [2]	H0: [1] = [3]	H0: [2] = [3]
External/management	2.2	2.9	2.4	0.037	0.458	0.110
Instructional leadership	2.0	2.0	2.1	0.937	0.808	0.883
Student/parent (non-academic) interactions	2.3	3.4	2.8	0.001	0.081	0.052
Not sufficient time	11.5	10.5	12.2	0.728	0.827	0.613
Observations	8	12	6			

NOTES: The choices were (1) not done weekly; (2) 1–4 hours; (3) 5–10 hours; (4) > 15 hours. "H0" refers to the null hypothesis tested in each instance.

Reported Time Allocation Was Not Associated with Retention

We also examined differences in principals' reported time use as a function of retention in the school. We calculated means on the survey scales for four groups of principals: those whose last year in the school was 2008, 2009, and 2010, and those who were still present in their schools in 2011. No differences were observed in reported time use across these four groups, suggesting that allocation of time is not strongly associated with whether principals remain in their schools.

Case Study Data Shed Light on Findings Regarding Time Allocation

The case study data illuminate some possible reasons for the limited relationships between a principal's use of time and subsequent achievement outcomes and between a principal's use of time and retention. We asked case study principals to describe the key levers or primary strategies they were pursuing to improve student achievement in their schools. We found that all principals tended to name two to four strategies that they were focusing on and that these strategies could be grouped into five core strategies to improve student achievement: promoting data use; conducting classroom observations; building culture/relationships among students, staff, parents, and the community; forming leadership teams; and promoting teacher professional development.

All seven principals who experienced gains in gain scores (gain score measures were in the top third) in their first year placed a major emphasis on promoting data use. But so did many of the other principals. A key difference was in the principals' success at implementing that strategy. Six of the seven principals who ultimately experienced gains were characterized as having "some success" or "a great deal of success" in implementing their key strategies. With respect to data use, these seven principals each articulated and successfully conveyed to staff a clear purpose for the use of data. That purpose varied depending on the school context, but in five out of seven of these schools, the purpose was to target or differentiate instruction to address student needs. Other objectives supported through data use in these seven schools were to create a sense of urgency among staff (used in schools where the staff was somewhat complacent about the school's performance) and accountability (used in schools where the

principal felt that some teachers needed to be removed). Two case study principals had little or no focus on data use, and both of those schools had gain scores in the bottom third. In other schools, principals reported a major or moderate focus on data use but had not been successful in implementing this strategy.

With respect to data use, we found that using data to inform instruction was particularly beneficial in schools where teachers believed in such use and wanted to improve their instruction and in contexts where individual interim assessment data were available in a timely fashion. This use of data was less successful in contexts where teachers were not convinced that their instruction needed to improve or where teachers did not have access to individual student results in interim assessment data. In these types of conditions, principals who used data to first convince teachers that improvement was necessary were more successful in implementing their data-use strategies.

Whereas the case study data suggest that focusing on data use is critical to success, the link between other strategic areas and performance was less clear. For example, one of the seven gaining principals devoted little attention to culture. This was because the school already had a strong culture. Other principals devoted moderate attention to this area while others had a substantial focus on culture. This variation suggests that spending time on an issue or area in and of itself does not lead to success. A principal must choose to spend time on the right things and spend that time effectively.

Implementation and Buy-In Are Associated with Principal Retention

Implementation and buy-in were strongly associated with the probability that a principal did not continue with the school for a second year. Only one principal who achieved a "great deal of success" did not return to the principalship in year two. That principal was serving in a district that was closing schools and the departure may not have been related to performance. The four other principals who did not return for the second year had experienced "limited or no success" or "some success with concerns" in implementing their key strategies. The same was true of the two principals who were (involuntarily) transferred between year one and year two. Of course, we are unable to determine whether the conditions in the school, district, or CMO would have made it unlikely that any principal could have been successful in that context.

Across principals, the most common challenge was gaining teacher buy-in for the direction and strategies that the principal wanted to implement to improve the school. This was particularly difficult for principals placed in schools with large numbers of veteran teachers and/or in schools where there was not an existing sense of urgency. First-year principals often struggled to build this sense of urgency and with getting teachers to buy into their proposed changes. Staff members often described these principals as "unable to bring teachers along," being ineffective in managing adults, or having difficulty accepting feedback. First-year principals who did not have success in achieving buy-in often blamed the teaching staff for this outcome. For example, one such principal reported that "[y]ou just need a small critical mass of teachers who are passionate enough to try things out and look for success and aim for continuous improvement. I don't have that at my school. So no amount of coaching of me personally will make up for that." At the same time, other new principals who walked into challenging environments were able to achieve such buy-in. We discuss the strategies they used later in this chapter.

In the next section, we turn from time allocation to principals' perceptions regarding conditions in their schools and districts.

Relationships Between Student Achievement Outcomes and Retention and School and District Conditions

As noted earlier in this report, there is a need to understand how principals' working conditions influence their success and their likelihood of remaining in the principalship. Both school-level and district-level conditions can influence the environments in which principals work and the challenges they face. It is particularly important to understand how the qualities of the teaching force in a school are associated with the outcomes the school ultimately achieves. Once a principal has been leading a school for a few years, it is reasonable to attribute at least some aspects of teaching quality to the principal, since he or she can influence teaching quality through such actions as providing high-quality professional development or, in some cases, dismissing teachers. Principals' perceptions regarding their teachers' capacity and collegiality during principals' first years can help us understand the challenges principals are likely to experience as they try to bring about improvements in student learning.

Capacity and Cohesiveness of School Staff Are Related to Student Achievement and Retention

Tables 3.12 and 3.13 show the relationships between our survey-based measures of conditions and gain scores for years 2008 and 2009, respectively. We examine four sets of variables: perceptions regarding factors that hinder principals' leadership, principals' level of influence over key decisions, school conditions, and teacher capacity.

The analyses revealed mostly non-significant relationships, but the measures of teacher capacity and cohesiveness stand out as showing some association with student outcomes. Teacher capacity shows a marginally significant correlation with 2008 gain scores in both subjects, but not with 2009 gain scores. However, there are statistically significant differences in mean scores on this measure across the three types of schools categorized according to mathematics gain scores (those with two years of gains, those with no gains in 2008 but gains in 2009, and those with two years of declines), as shown in Table 3.14, with schools that show gains in both years having higher principal ratings of teacher capacity. These schools with two years of gains also have higher principal ratings of staff collaboration and cohesiveness.

Analysis of retention provides further support for the importance of a collegial environment and high-capacity teachers. Table 3.15 shows the survey measures for which at least one pairwise comparison had a statistically significant difference when principals were categorized based on their final year in their schools. Principals who left their schools after the first or second year reported significantly lower levels of teacher capacity than those who remained until at least into their third year. A similar pattern was observed for cohesiveness and collaboration, though in that case only the differences between 2008 and 2010 and between 2009 and 2010 were significant.

The other measures for which significant differences were observed across retention groups were the measures of perceived influence over decisionmaking. Although the differences were not as large as those for teacher capacity, all three areas—instructional content, personnel/management, and schedule and budget—tended to be associated with higher levels of perceived influence for principals who remained in their schools until at least 2009 than for those whose last year was 2008.

The survey findings suggest that teacher capacity and the degree of collaboration are important, but we do not know whether survey responses from the end of the principal's first

Table 3.12
Correlations of Principal Attitude and Perception Measures with 2008 Gain Scores (56 observations for math and 55 for reading)

	Math		Reading	
Factor	**Corr.**	**Sig.**	**Corr.**	**Sig.**
Hindering Condition Factors Correlated with 2008 Gain Scores				
Policy issues	–0.015	0.914	–0.054	0.695
Resources	–0.068	0.620	–0.023	0.868
Students and parents	0.003	0.982	0.100	0.467
NOTE: The choices were (1) no, (2) yes.				
Principal Influence Factors Correlated with 2008 Gain Scores				
Instructional content	–0.081	0.554	0.131	0.340
Personnel/management	–0.114	0.405	0.048	0.730
Schedule and budget	–0.033	0.811	0.107	0.439
NOTE: The choices were (1) no influence, (2) minor influence, (3) moderate influence, (4) major influence.				
School Condition Factors Correlated with 2008 Gain Scores				
Standardized tests	0.020	0.882	–0.118	0.392
Collaboration/cohesiveness	0.180	0.186	0.155	0.258
NOTE: The choices were (1) strongly disagree, (2) disagree, (3) agree, (4) strongly agree.				
Teacher Factors Correlated with 2008 Gain Scores				
Teachers in your school	0.219	0.106	0.228	0.093
NOTE: The choices were (1) none, (2) a few, (3) about half, (4) most, (5) nearly all.				
Principal Time Factors Correlated with 2008 Gain Scores				
External/management	0.030	0.824	–0.161	0.241
Instructional leadership	0.174	0.199	0.006	0.964
Student/parent (non-academic) interactions	–0.218	0.107	–0.160	0.245
NOTE: The choices were (1) not done weekly, (2) 1–4 hours, (3) 5–10 hours, (4) > 15 hours.				

year are reflecting the prior conditions at the school or something the principal did. Our case study data provide information that can help in interpreting these survey findings.

Principals in our case study sample went into schools that varied tremendously in terms of teacher background and teacher capacity. Some were staffed entirely with novice teachers. Others had mainly veteran teachers. Some schools had experienced substantial turnover in the past few years, others had a substantial number of teachers who had been at the schools for

Table 3.13
Correlations of Principal Attitude and Perception Measures with 2009 Gain Scores (47 observations for math and 47 for reading)

	Math		Reading	
Factor	**Corr.**	**Sig.**	**Corr.**	**Sig.**
Hindering Condition Factors Correlated with 2009 Gain Scores				
Policy issues	–0.020	0.894	0.121	0.417
Resources	–0.193	0.193	0.041	0.786
Students and parents	–0.041	0.785	0.308	0.035
NOTE: The choices were (1) no, (2) yes.				
Principal Influence Factors Correlated with 2009 Gain Scores				
Instructional content	–0.207	0.163	–0.291	0.047
Personnel/management	0.035	0.817	–0.168	0.260
Schedule and budget	–0.045	0.762	–0.044	0.769
NOTE: The choices were (1) no influence, (2) minor influence, (3) moderate influence, (4) major influence.				
School Condition Factors Correlated with 2009 Gain Scores				
Standardized tests	–0.068	0.650	–0.068	0.648
Collaboration/cohesiveness	0.076	0.612	–0.182	0.222
NOTE: The choices were (1) strongly disagree, (2) disagree, (3) agree, (4) strongly agree.				
Teacher Factors Correlated with 2009 Gain Scores				
Teachers in your school	0.070	0.641	0.011	0.942
NOTE: The choices were (1) none, (2) a few; (3) about half; (4) most; (5) nearly all.				
Principal Time Factors Correlated with 2009 Gain Scores				
External/management	0.102	0.496	0.149	0.319
Instructional leadership	0.221	0.136	0.144	0.335
Student/parent (non-academic) interactions	–0.149	0.317	0.008	0.957
NOTE: The choices were (1) not done weekly, (2) 1–4 hours, (3) 5–10 hours, (4) > 15 hours.				

years. Many principals found that teaching experience was not strongly related with teacher capacity. One school was described by the principal as a "dumping ground" for all the ineffective teachers in the district and had a number of veteran teachers. Another school had teachers with "frightening gaps" in knowledge, according to the principal. By contrast, other schools reportedly had "excellent," "dedicated," and "hardworking teachers," again with a range of

Table 3.14
Mean Scores on Principal Perceptions Regarding Teachers' Capacity and Cohesiveness, Based on 2008 and 2009 School Gain Scores for Math

	[1]	[2]	[3]	Significance (p-value)		
Factor	Gains 2008 and 2009	No Gains 2008, Gains 2009	Declines 2008 and 2009	H0: [1]=[2]	H0: [1]=[3]	H0: [2]=[3]
Math						
Teachers in your school	3.8	3.1	2.9	0.054	0.052	0.647
Collaboration/cohesiveness	3.0	2.5	2.2	0.058	0.000	0.050
Observations	9	11	4			
Reading						
Teachers in your school	3.8	3.1	3.2	0.133	0.257	0.813
Collaboration/cohesiveness	2.7	2.4	2.7	0.147	0.711	0.406
Observations	8	12	6			

NOTES: The choices for teacher capacity were (1) none, (2) a few, (3) about half, (4) most, (5) nearly all, and the choices for cohesiveness were (1) strongly disagree, (2) disagree, (3) agree, (4) strongly agree. "H0" refers to the null hypothesis tested in each instance.

Table 3.15
Factor Scores by Principal's Last Year in the School

Factor	2007–2008 SY	2008–2009 SY	2009–2010 SY	2010–2011 SY
Teachers in your school	2.8	3.0	3.7	3.6
Collaboration/cohesiveness	2.4	2.5	2.9	2.7
Instructional content	3.1	3.4	3.6	3.4
Personnel/management	2.8	3.8	3.2	3.4
Schedule and budget	3.4	3.7	3.5	3.6
Observations	10	8	12	35

NOTES: At least one pairwise difference was significant for each table row. Choices for teacher capacity were (1) none, (2) a few, (3) about half, (4) most, (5) nearly all; choices for collaboration/cohesiveness were (1) strongly disagree, (2) disagree, (3) agree, (4) strongly agree; and choices for influence factors were (1) no influence, (2) minor influence, (3) moderate influence, (4) major influence. Principals for whom the last year is reported as 2010–2011 were still in their positions as of the latest available data.

teaching experience. Most commonly, principals walked into schools where teachers varied in their level of experience, skill, and belief that all children can learn. We found that principals were able to achieve high levels of buy-in from a range of starting points, though of course we were unable to measure all of the contextual factors that may have contributed to the varying levels of success in achieving buy-in. The degree of buy-in did not appear to be dictated by readily observable characteristics of the teaching staff.

Case Studies Suggest That School Context Can Pose Important Barriers to Achieving Buy-In

Every school in our case study sample faced a unique set of challenges, such as unexpected vacancies or a large turnover in staff. Furthermore, it was also the case that almost every principal reported having to deal with some unanticipated crises from time to time, such as an oven fire or a student who brought a weapon to school. Some principals, however, faced what we would call "show stopping" challenges that hindered them from focusing on their strategies or making traction over the course of the SY. For example, in a couple of charter schools, principals found themselves spending large amounts of time addressing midyear budget reductions caused by the economic downturn. The budget was so time consuming, they had to abandon key strategies (such as observing teachers and providing feedback) that they had planned for the year. In another case, a principal was placed in a school that was slated for closure the following year. The decision to close the school was made prior to the principal's appointment. This situation created a culture of resentment and mistrust among teachers that was so toxic, the principal could not gain any traction on strategies she pursued. Our sense was that some schools faced such extraordinary challenges that it would be difficult for almost any principal to succeed in improving student achievement under the same conditions.

It is worth noting that among the principals in our case study sample, we observed no clear relationship between a principal's prior experience (i.e., number of years of teaching experience, whether they had other administrative positions in the district, years of experience in the district, or prior work experience outside of education) and either their retention or their success in achieving buy-in.

Case Studies Suggest Promising Practices for Improving Conditions and Outcomes

The findings discussed above suggest that the actions that the principal takes to ensure buy-in are key ingredients to successful implementation of reforms. We collected several promising examples of how to get started in the first year, including the following: recruiting strong staff immediately, conducting one-on-one meetings with all staff, respecting prior practices and culture, being visible in classrooms, and communicating clear and fair expectations. We coded these practices as promising because principals reported and staff confirmed that these practices were instrumental in helping the principal to implement improvement strategies efficiently and effectively. In several cases, we also noticed that these practices seemed to be positively associated with levels of implementation and buy-in.

- **Recruiting Strong Staff Immediately.** Some principals took advantage of position openings in their school to immediately hire for important positions such as assistant principal or literacy coach. Another principal reviewed her budget and created a new position to recruit such a person. This was helpful because it meant these positions were filled by individuals sharing the principals' vision and sense of urgency; it also meant that they could then distribute their leadership tasks and be more productive.
- **Conducting One-on-One Meetings or Interviews with All Staff.** Some principals met with all staff to understand their concerns and their views on what was working well prior to making any decisions—ideally before the start of school. This seemed to improve buy-in and provided data for diagnosing needs. During our research interviews, we found that asking teachers to characterize student achievement in their own words provided useful data for diagnosing teachers' sense of urgency. Principals might want to consider

asking a similar question of their teachers since the prior findings suggest that sense of urgency is an important factor in deciding what strategies to pursue.

- **Respecting Prior Practices and Culture.** A common complaint among staff was that first year or new principals change too many things at once. Often, principals changed policies or procedures that were successful in the past or implemented something nearly identical to a past initiative that was not successful. Rather than changing everything or making independent decisions, principals and teachers reported that principals were more successful in garnering teacher buy-in when they consulted with staff to gain information on perceived strengths and weaknesses at the school. Beyond the initial diagnosis, these principals honored school philosophies by incorporating them into their school improvement strategies. For example, one principal acknowledged the school's prior focus on Montessori by allocating one collaborative planning session per week to Montessori education and by offering professional development throughout the year to improve the quality of Montessori instruction. Despite the principal's personal preference to part from Montessori, she maintained the philosophy as a key tool for lifting student achievement at the school out of respect for the staff's commitment to the current curriculum.
- **Being Visible in Classrooms.** Several principals said they hesitated to visit classrooms because they felt obliged to follow the useful but time-consuming observation process they learned from the New Leaders training (which involved observing an entire lesson, scripting, and providing teachers with feedback). However, when principals conducted regular walkthroughs that got them into classrooms for at least a few minutes at least a couple of times per week, they reported that these visits provided another important source of data for diagnosing school needs. This activity also helped to provide legitimacy for principals (because they were more aware of what was going on in individual classrooms) and to build relationships with staff and students.
- **Communicating Clear and Fair Expectations.** In comparison to other principals, those who demonstrated high levels of implementation and buy-in often created a culture of accountability by communicating clear, consistent, and fair expectations. For example, while shadowing a principal, we observed the principal, who had intended to observe a teacher's classroom, approach the teacher to say that she would return to conduct the observation another day. The principal said that she did not provide the teacher with enough time to implement the requested change. As such, the principal was acknowledging that it was not fair for her to conduct an observation but, instead, would return at a later time. Similarly, principals with higher levels of implementation and buy-in offered targeted professional development and coaching for teachers prior to holding them accountable for changes in practice.

Relationships Between Principals' Future Plans and Retention

The final set of survey measures we discuss are principals' reports regarding their future plans. Principals were asked to indicate how much longer they planned to stay at their current schools, and Table 3.16 shows how these responses are related to principal retention. The columns indicate the most recent year in which the principal was assigned to the original school through the spring of 2011. The table shows that future plans and actual retention are somewhat related, but the relationship is far from perfect. In particular, of the eight principals who left their

Table 3.16
Principal's Career Plans and Relationships with Retention

	2007–2008 SY		2008–2009 SY		2009–2010 SY		2010–2011 SY	
Response	**Count**	**%**	**Count**	**%**	**Count**	**%**	**Count**	**%**
This is my last year as principal of this school	3	37.5	1	14.3	0	0.0	0	0.0
I plan on staying 1–3 more years in this role	3	37.5	2	28.6	5	62.5	7	23.3
I plan on staying 4–6 more years in this role	1	12.5	3	42.9	0	0.0	11	36.7
I plan on staying in this role indefinitely	1	12.5	1	14.3	1	12.5	7	23.3
I'm unsure	0	0.0	0	0.0	2	25.0	5	16.7

schools at the end of 2008, shortly after the survey was administered, only three indicated on the survey that 2008 would be their last year at their schools.

We also asked principals to indicate what kinds of positions they would consider seeking in the future. Table 3.17 shows the responses provided by the eight principals who left their schools at the end of the survey year. Despite widespread concerns that principals often seek positions in their districts in schools with higher-achieving or more affluent student populations, only one of the eight principals indicated a desire for another principalship within the same district or CMO. Of course, as noted above, more than half of the principals who left that year had indicated that they planned to stay, so it is possible that some of those principals left because positions in the district became available and were perceived to offer better working conditions.

Among case study principals, the five who did not continue into a second year gave no indication that they intended to leave. Most discussed their plans for the following year, including changes they planned to make and things they hoped to do differently. There was no

Table 3.17
Future Positions That Principals Reported They Would Consider, for All First-Year Principals Whose Last Year in Their Schools Was 2007–2008

Response	Count	%
Seek a different principalship within my current district/CMO	1	12.5
Seek a principalship in a different district/CMO	4	50.0
Seek a leadership position at a district/CMO	2	25.0
Seek a school leadership role but not in the role of principal	4	50.0
Return to the classroom as a teacher or coach	0	0.0
Explore consulting/training in the field of education	3	37.5
Explore working for a not-for-profit educational group	0	0.0
Leave the field of education	0	0.0
Other	0	0.0

NOTES: Eight principals are included. Principals were able to select multiple responses, so the sum of responses is greater than 8.

indication that the departures were voluntary, although we do know that one was technically a resignation.

Of the two principals who were transferred, these transfers were not voluntary. One transfer stemmed from the planned closure of the school by the district (which was unrelated to the new principal), and another transfer stemmed from struggles within the governing board of the CMO to which the school belonged.

CHAPTER FOUR

Conclusion

There is mounting research evidence showing that principals not new to their school perform more effectively than first-year principals. At the same time, evidence suggests that schools serving low-income children have a harder time retaining their principals and thus tend to have principals with less in-school experience. Effective policy solutions to this retention problem require a deeper understanding of its causes and the effects of principal turnover on schools. In this report, we examine several sources of qualitative and quantitative data to explore the experiences of newly placed principals. Our examination identifies some potential contributors to the retention challenges facing urban schools.

The focus of our study is somewhat different from that of prior research, which tends to look at principals in general, rather than newly placed principals. A school experiences significant changes with the placement of a first-year principal. In schools where student achievement is low, the hope is that a newly placed principal can turn things around. In schools that are doing well, the expectation is that newly placed principals can maintain that success. Understanding what happens in schools that experience a principal transition, and how outcomes are influenced by the actions taken by principals during the early years of this transition, is critical to an improved understanding of the role that a principal plays in a school's success.

Turnover Is Common (and Complicated) in Urban Schools

We found that separation rates for first-year urban school principals are over 10 percent per year. Furthermore, principals placed in schools that are below AYP experience higher rates of separation than those placed in start-up schools or in schools that are above AYP standards. Our analysis suggests that these high rates of separation are often due to decisions made by the employer (i.e., district or CMO) rather than the principal. While some argue that it is a good idea for districts to act quickly and replace principals who do not do well, principal turnover can have negative effects on students and teachers. Our research reveals that the replacement principals often fare no better than those who were removed. Overall, schools that lose a new principal after one year do not perform well in the subsequent year under (another) new principal. More research on schools that experience constant leadership turnover is needed to explore the role of that context in observed outcomes.

Separation rates for first-year principals varied significantly by district, suggesting that district human-capital-management practices played a role in turnover. First-year principals whose schools' gain scores are in the lowest third of the gain score distribution were more likely than other principals to be removed after one year. This suggests that first-year principals

placed in low-performing schools may be under greater scrutiny and thus may be more likely to be removed if they do not quickly improve performance compared with principals placed in high-performing schools.

Our survey and case study analysis lend support to the notion that rapid turnover stems from school, district, or CMO choices rather than from individual principal choices—in particular, a desire to "trade up" to a "better" school. In analyzing the survey responses of the principals who left after one year, we found that many—but by no means all—reported being aware that they would not continue in their positions in the next year. We found no evidence that turnover was being driven by the desire of principals to find positions in better-performing schools in their districts. The survey responses (most planned to seek a principalship in a different district or CMO, or to find a position other than a school principal; few were pursuing a principalship in another school in the same district) combined with our case study findings suggest that much of the early career turnover was in fact involuntary or driven by poor performance.

Among case study principals who did not continue as principals, most had experienced limited success in implementing their key strategies and had struggled with staff buy-in. Both of the principals who had experienced some success but did not continue to the next year had been placed in a district experiencing school closures and reduced demand for principals. The two case study principals who changed schools between year one and year two were transferred by their district or CMO and did not actively seek a move. These principals also experienced challenges related to implementation of their key strategies in the first year. We found no evidence that a new principal's prior experience was related to retention or success in achieving buy-in.

Sources of Principals' Success Are Varied

Our analysis suggests that there is no single recipe of actions that all first-year principals should take to ensure success for their schools. The extent to which a first-year principal is able determine the school's needs and develop strategies to address them cannot be neatly summarized in terms of how he or she allocated his or her time across different activities thought to be important in a general sense.

The study found little evidence that principal time allocation in the first year is related to outcomes. The case study data suggest that outcomes are related to the quality of the actions taken rather than the amount of time devoted to different actions per se.

Teacher Capacity and Cohesiveness Are Critical to a Principal's Success

Principals who reported higher teacher capacity and higher levels of collaboration and cohesiveness were significantly more likely to remain in their schools and were also more likely to experience achievement gains during their first year. Because our survey was administered at the end of the principal's first year, principal reports of teacher capacity and staff cohesiveness could reflect conditions that existed when the principal was put in place or, alternatively, conditions that were influenced by the principal. Our case study research lends support for the latter view in at least some cases; it indicates that first-year principals can have a rapid effect on teacher capacity and staff cohesiveness. The case study principals who experienced achievement gains in the first year were those who focused on improving teacher capacity and staff cohesiveness right away. These principals were able to achieve high levels of buy-in within their first year—even when they walked into challenging circumstances. The case study principals

who did not experience achievement gains were those who failed to build support for their key strategies.

Our study adds to the growing research suggesting that principal action related to the management of school-level human capital is an important lever through which a principal improves student achievement. More research devoted to understanding the ways in which principals can improve teacher capacity and achieve staff buy-in is warranted. Our case study work highlights some strategies used by principals who were able to get off to a good start in their schools. These strategies include recruiting strong staff immediately, conducting one-on-one meetings with all staff, respecting prior practices and culture, being visible in classrooms, and communicating clear and fair expectations.

References

Akiba, M., and Reichardt, R. (2004). What predicts the mobility of elementary school leaders? An analysis of longitudinal data in Colorado. *Education Policy Analysis Archives*, 12(8).

Baker, B. D., Punswick, E., and Belt, C. (2010). School leadership stability, principal moves, and departures: Evidence from Missouri. *Educational Administration Quarterly*, 46(4): 523–557.

Béteille, T., Kalogrides, D., and Loeb, S. (2011). *Stepping stones: Principal career paths and school outcomes*. Stanford, CA: Stanford University.

Branch, G., Hanushek, E., and Rivkin, S. (2011). *Estimating the effect of leaders on public sector productivity: The case of school principals*. As of December 20, 2011: http://www.econ.wisc.edu/workshop/principalssrehgb1111-2.pdf

Brewer, D. (1993). Principal and student outcomes: Evidence from U.S. high schools. *Economics of Education Review*, 12(4): 281–292.

Bryk, A. S., and Schneider, B. (2002). *Trust in schools: A core resource for improvement*. New York, NY: Russell Sage Foundation.

Clark, D., Martorell, P., and Rockoff, J. (2009). *School principals and school performance*. Unpublished manuscript.

Clotfelter, C., Ladd, H. F., Vigdor, J., and Wheeler, J. (2007). High-poverty schools and the distribution of teachers and principals. *North Carolina Law Review*, 85, 1345–1380.

Dhuey, E. and Smith, J. (2011). How important are school principals in the production of student achievement? *AEFP 36th Annual Conference Papers and Posters*.

Eberts, R. W., and Stone, J. A. (1988). Student achievement in public schools: Do principals make a difference? *Economics of Education Review*, 7(3): 291–299.

Elfers, A. M., and Plecki, M. L. (2006). *Examining teacher retention and mobility in small and rural districts in Washington State*. Seattle, WA: University of Washington.

Fuller, E., Baker, B., and Young, M. (2007). The relationship between principal characteristics, school-level teacher quality and turnover, and student achievement. *Working Paper Series (Federal Reserve Bank of Atlanta).*

Fuller, E., Young, M., and Baker, B. (2010). Do principal preparation programs influence student achievement through the building of teacher-team qualifications by the principal? An exploratory analysis. *Education Administration Quarterly*, 47(1): 173–216.

Fuller, E., Young, M., and Orr, M. (2007). Career pathways of principals in Texas. *Paper presented at the Annual Meeting of the American Educational Research Association.*

Gates, S. M., Guarino, C. M., Santibañez, L., and Ghosh-Dastidar, B., with Bugbee Brown, A., and Chung, C. H. (2004). *Career paths of school administrators in North Carolina: Insights from an analysis of state data*. Santa Monica, CA: RAND Corporation, TR-129-EDU. As of December 9, 2011: http://www.rand.org/pubs/technical_reports/TR129.html

Gates, S. M., Ringel, J. S., Santibañez, L., Guarino, C., Ghosh-Dastidar, B., and Brown, A. (2006). Mobility and turnover among school principals. *Economics of Education Review*, 25(3): 289–302.

Grissom, J., and Loeb, S. (2009). *Triangulating principal effectiveness: How the perspectives of parents, teachers and assistant principals identify the central importance of managerial skills*. Washington, DC: Urban Institute, CALDER Working Paper 35.

Hallinger, P., and Heck, R. (1996). Reassessing the principal's role in school effectiveness: A review of empirical research, 1980–95. *Education Administration Quarterly*, 32: 5–44.

Horng, E., Klasik, D., and Loeb, S. (2010). Principal's time use and school effectiveness. *American Journal of Education*, 116: 491–523.

Interstate School Leaders Licensure Consortium (ISLLC) (2008). *Educational leadership policy standards: 2008*. Washington, DC: Council of Chief State School Officers.

——— (1996). *Standards for school leaders*. Washington, DC: Council of Chief State School Officers.

ISLLC—*see* Interstate School Leaders Licensure Consortium.

Knapp, M. S., Copland, M. A., and Talbert, J. E. (2003). *Leading for learning; Reflective tools for school and district leaders*. Seattle, WA: Center for the Study of Teaching and Policy.

Lashway, L. (2003). Inducting school leaders. *ERIC Digest*, 170.

Leithwood, K., and Riehl, C. (2003). *What we know about successful school leadership*. Nottingham, UK: National College for School Leadership.

Leithwood, K., Louis, K., Anderson, S., and Wahlstrom, K. (2004). *How leadership influences student learning.* Minneapolis, MN: University of Minnesota, commissioned by the Wallace Foundation.

Loeb, S., Kalogrides, D., and Lai Horng, E. (2010). Principal preferences and the uneven distribution of principals across schools. *Educational Evaluation and Policy Analysis*, 32: 205–229.

MacBeath, J., Gronn, P., Opfer, D., Lowden, K., Forde, C., Cowie, M., and O'Brien, J. (2009). The recruitment and retention of headteachers in Scotland. *Report to the Scottish Government*.

Marks, H., and Printy, S. (2003). Principal leadership and school performance: An integration of transformational and instructional leadership. *Educational Administration Quarterly*, 39(3): 370–397.

Martorell, P., Heaton, P., Gates, S. M., and Hamilton, L. S. (2010). *Preliminary findings from the New Leaders for New Schools evaluation*. Santa Monica, CA: RAND Corporation, WR-739-NLNS. As of December 9, 2011:
http://www.rand.org/pubs/working_papers/WR739.html

Miller, A. (2009). *Principal turnover, student achievement and teacher retention*. Princeton, NJ: Princeton University.

Murphy, J. (1988). Methodological, measurement, and conceptual problems in the study of instructional leadership. *Educational Evaluation and Policy Analysis*, 10(2): 117–139.

National Research Council and National Academy of Education. (2010). *Getting value out of value-added: Report of a workshop. Committee on value-added methodology for instructional improvement, program evaluation, and educational accountability*. Henry Braun, Naomi Chudowsky, and Judith Koenig, Editors. Center for Education, Division of Behavioral and Social Sciences and Education. Washington, DC: The National Academies Press.

O'Donnell, R., and White, G. (2005). Within the accountability era: Principals' instructional leadership behaviors and student achievement. *NASSP Bulletin*, 89(645).

Paige, Rod (2002). *Stronger accountability: Key policy letters signed by the education secretary or deputy secretary*. Washington, DC: Department of Education. As of December 20, 2011:
http://www2.ed.gov/policy/elsec/guid/secletter/020724.html

Papa, F. Jr. (2007). Why do principals change schools? A multivariate analysis of principal retention. *Leadership and Policy in Schools*, 6(3): 267–290.

Partlow, M. (2007). Contextual factors related to elementary principal turnover. *Planning and Changing*, 38(1–2): 60–76.

Portin, B., Schneider, P., DeArmond, M., and Gundlach, L. (2003). *Making sense of leading schools: A study of the school principalship*. Seattle, WA: Center on Reinventing Public Education. As of December 20, 2011: http://crpe.edgateway.net/cs/crpe/download/csr_files/pub_crpe_maksense_sep03.pdf

Purkey, S. C., and Smith, M. S. (1983). Effective schools: A review. *The Elementary School Journal*, 83(4): 427–452.

Ringel, J. S., Gates, S. M., and Ghosh-Dastidar, B., with Bugbee Brown, A. and Chung, C. H. (2004). *Career paths of school administrators in Illinois: Insights from an analysis of state data.* Santa Monica, CA: RAND Corporation, TR-123-EDU. As of December 9, 2011: http://www.rand.org/pubs/technical_reports/TR123.html

Robinson, V., Lloyd, C., and Rowe, K. (2008). The impact of leadership on student outcomes: An analysis of the differential effects of leadership types. *Education Administration Quarterly*, 44(5): 635–674.

Task Force on the Principalship (2000). *Leadership for student learning: Reinventing the principalship*. Columbus, OH: Institute for Educational Leadership.

Vitaska, S. (2008). *Strong leaders strong schools: 2007 state laws*. Denver, CO: National Conference of State Legislatures. As of December 20, 2011: http://www.ncsl.org/print/educ/strongleaders.pdf

Waters, T., Marzano, R., and McNulty, B. (2003). *Balanced leadership: What 30 years of research tells us about the effect of leadership on student achievement.* Denver, CO: Mid-Continent Research for Education and Learning (McRel), working paper.

Weinstein, M., Jacobowitz, R., Ely, T., Landon, K., and Schwartz, A. E. (2009). *New schools, new leaders: A study of principal turnover and academic achievement at new high schools in New York City*. New York: Institute for Education and Social Policy: New York University.

Young, M., and Fuller, E. (2009). *Tenure and retention of newly hired principals in Texas.* Paper presented at the American Educational Research Association (AERA) conference, San Diego, CA.

Zacarro, S. J. (1996). *Models and theories of executive leadership: A conceptual/empirical review and integration*. Alexandria, VA: U.S. Army Research Institute for the Behavioral and Social Sciences.