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The Schools Teachers Leave

Teacher Mobility in Chicago Public Schools



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Executive Summary

In an ideal situation, high-quality teachers would remain connected to their schools from one year to the next. However, teachers frequently change schools, with significant implications for the quality of teaching and learning in that school. While some mobility is normal and expected, high turnover rates can produce a range of organizational problems at schools, such as discontinuity in professional development, shortages in key subjects, and loss of teacher leadership. For these and other reasons, teacher retention has become a priority issue, both in Chicago and nationally. In this report, we examine the degree to which teacher mobility is problematic in Chicago Public Schools (CPS) and look at the factors associated with high mobility rates, including teachers' background characteristics, school structure, students' characteristics, and workplace conditions.

On average, teacher stability rates in Chicago are not substantially different than the rates seen nationally; about 80 percent of CPS teachers remain teaching in their school from one year to the next. This is only slightly lower than the national average of 84 percent. However, these one-year stability rates hide a sobering statistic—within five years, the typical CPS school loses over half of its teachers. Many schools turn over half of their teaching staff every three years. A focus on one-year stability rates obscures the enormous challenge that exists for many schools as they implement school improvement initiatives and professional development programs, and as they try to sustain program continuity. In the typical school, there must be continuing and ongoing efforts to hire and develop new teachers or the efforts of any new initiative or program will die out after just a few years.

About 100 CPS schools suffer from chronically high rates of teacher turnover, losing a quarter or more of their teaching staff every year. In all of these schools, the majority of the student body is low-income; in most of

> Within five years, the typical CPS school loses over half of its teachers.

the schools, all students are low-income. In almost all of these schools, the composition of the student body is either predominantly African American or mixed African American and Latino. School leaders must dedicate extraordinary time to recruiting and mentoring teachers year after year if they are to provide their students with effective new teachers. The enormity of this task means that leaders at these schools will struggle to recruit and support new teachers successfully and that school leaders will likely be diverted from other central areas of school management and improvement. This is particularly troubling because the vast majority of schools with chronically low teacher stability struggle with very low levels of student achievement. These schools desperately need to show improvements in teaching and student learning, but year after year they struggle to hold on to teachers.

Much of the past research on teacher stability has identified the personal characteristics of teachers (e.g., age, education, race, gender) that are associated with higher rates of mobility. However, differences in the background characteristics of teachers across schools do not explain why there are large differences in stability rates across schools in the district. Some of the differences in teacher stability rates are due to structural factors, such as changes in student enrollment. One notable structural factor related to stability is school size—small schools have lower stability rates than medium-sized or large schools. As the school district continues to open new small schools, this suggests a special need to attend to issues of teacher retention in these smaller environments. Aside from structural differences, teacher stability rates are strongly defined by the composition of students served by the school. Schools that predominantly serve low-income African American students have lower stability rates, on average, than schools serving students of other races and ethnicities. Teachers of all backgrounds are less likely to stay in African American schools than in other CPS schools. Two working conditions account for most of the differences in stability rates by racial composition of the school—teachers' relationships with parents and teachers' perceptions of students' behavior.

In elementary schools, teachers' perceptions of parents as partners in students' education are strongly related to their decisions to remain in their school. Teacher-parent relationships account for much of the difference in stability rates between low-income African American schools and other schools, and all of the differences are explained when we consider parent relationships along with other workforce conditions, including student behavior. In high schools, teachers' decisions to remain in their school are very strongly tied to students' behaviors. Teachers tend to leave high schools with high rates of student misbehavior, where students frequently face disciplinary problems and where many students feel unsafe in school. Students' behaviors in school explain much of the difference in stability rates between African American schools and other high schools, although unexplained differences still exist.

In addition, the schools that retain their teachers at high rates are those with a strong sense of collaboration among teachers and the principal. Teachers are likely to stay in schools where they view their colleagues as partners with them in the work of improving the whole school. They are likely to leave schools where colleagues are resistant to school-wide initiatives and where teachers' efforts stop at their own classroom door. Teachers stay in schools with inclusive leadership, where they feel they have influence over their work environment and they trust their principal as an instructional leader.

Thus, teachers stay in schools where the conditions are well suited for them to have the potential to be effective—where their colleagues are collaborators, school administration is supportive, parents trust teachers to do their jobs, and the learning climate for students is safe and non-disruptive. These elements of school working conditions are among the key elements needed to improve student achievement, along with a school-wide focus on improving instruction. Efforts to increase stability and reduce teacher turnover locally and nationally might productively focus on ways to foster these conditions in schools.

Introduction

Efforts to introduce new instructional practices, establish teacher leadership, or provide professional development often assume that the teaching staff in a school is fairly stable from one year to the next. However, teachers frequently change schools, with significant implications for the quality of teaching and learning in that school. Some mobility is normal and expected. Mobility may even be good for schools, if it results in a reduction in conflict among staff or the loss of weaker teachers. But too much instability can be problematic, particularly if it is sustained over time. High turnover rates produce a range of organizational problems for schools, such as discontinuity in professional development, shortages in key subjects, and loss of teacher leadership. High turnover means that principals and school staff must devote extensive time annually to recruiting new teachers, which takes attention away from other vital school improvement activities. Teacher instability can also thwart efforts to develop a professional learning community among teachers and make it difficult to develop sustained partnerships with the local community. Moreover, previous research suggests that schools with high turnover are more likely to have inexperienced, less effective teachers.¹ Since teaching quality has been shown to be strongly associated with student learning, schools that cannot retain their best teachers are likely to see their future academic performance suffer.

For these and other reasons, teacher retention has become a priority both in Chicago and nationally. Locally, this has led to some preliminary analysis of the magnitude of the turnover problem. In November 2003, *Catalyst* found that 39 percent of teachers new to Chicago Public Schools (CPS) in 1998–99 left within five years, and 31 percent of those new to CPS in 2001–02 left within two years.² Two years later, the Chicago chapter of the Association of Community Organizations for Reform Now (ACORN)

> High turnover rates produce a range of organizational problems for schools.

released a report on teacher turnover in 64 CPS schools that stated that the rate of turnover in those schools was higher than the national average (ACORN, 2005). The federal requirement under the No Child Left Behind (NCLB) law that all schools are required to have “highly qualified” teachers has further intensified concerns about teacher retention. This report provides a rigorous analysis of teacher retention in CPS schools, showing how teacher, student, and school characteristics interact to affect the decisions of teachers to leave or remain in CPS schools.

Chapter 1 of this report provides an overview of teacher stability rates across CPS schools, addressing questions such as:

- What percentage of the teaching staff leaves each year at a typical CPS school?
- What percentage of the teachers who leave their school go to another CPS school? Do teachers tend to move to schools with better work environments or fewer disadvantaged students?
- Has teacher mobility in Chicago been declining in the last several years?
- Are there some schools in which teacher mobility is chronically high? If so, what are the characteristics of these schools?

The second chapter attempts to show why schools have different rates of teacher stability by analyzing the degree to which stability rates vary across different types of teachers and different types of schools. A large body of prior research has identified the personal characteristics of teachers that are associated with higher rates of mobility; we begin Chapter 2 by extending this work to look at the characteristics of CPS teachers associated with mobility. Further analyses identify those schools where stability is most problematic and show whether there are particular work conditions that lead to higher mobility rates. In Chapter 2, we address questions such as:

- Do teachers with certain types of background characteristics leave at higher rates than others? If so, are these patterns the same over time and across different types of schools?

- To what extent is teacher stability related to the structural characteristics of schools, such as school size, grade levels served, or principal turnover?
- Are teachers more likely to leave schools serving larger proportions of low-achieving, low-income, or minority students? If so, how can we explain these differences?
- In what ways are workplace conditions—principal leadership in the school, teacher collaboration, professional development, parent involvement, student behavior—associated with teacher mobility?

What We Know about Teacher Mobility from Prior Research

Numerous studies have examined factors associated with teacher retention and mobility. These studies have tended to focus on the characteristics of teachers who leave particular schools and districts, or who leave the profession entirely, with some attention to the reasons departing teachers give for their decisions. There has also been growing attention to the working conditions that shape turnover at schools, including characteristics of the students that teachers serve, principal leadership at the school, and levels of compensation.

Teachers' Personal Characteristics

In some regards, teachers who are less qualified and effective seem to be more likely to leave teaching than their more qualified peers. For example, prior research finds that younger teachers are more likely to leave schools, or leave teaching entirely, than older teachers—except those who are closest to retirement age. This means that inexperienced teachers—those with less than three years of teaching under their belts—are least likely to stay in their schools.³ Furthermore, teachers who have specific teaching credentials (e.g., an undergraduate major, certification) are more likely to stay in the profession and, in some cases, are more likely to stay in their schools.⁴ Goldhaber et al. (2007) found that teachers in North Carolina with National Board certification were nearly twice as likely to stay in their district as non-Board certified teachers, and also were less likely to transfer to another school.⁵ Regarding teachers with regular or standard certification, research

findings are mixed—some have found these teachers are the least likely to change schools,⁶ while others have found these teachers more likely to transfer.⁷

Most telling, the research finds that teachers whose students have higher test score gains tend to have lower rates of turnover than their peers.⁸ Hanushek and Rivkin (2004), for example, found that teachers in one urban Texas district who left teaching or transferred schools were less effective, on average, than teachers who did not move. Studies of turnover in New York City⁹ and the state of North Carolina¹⁰ have similarly shown that more effective teachers tend to stay in their schools the longest. Goldhaber et al. also found that the most effective teachers in their study were more likely than other teachers to stay in low-performing schools with more challenging teaching environments.¹¹

Studies showing that less effective teachers are more likely to leave teaching may ease some concerns about teacher mobility. However, the loss of ineffective teachers is beneficial only if their replacements are better teachers. Constant high turnover of ineffective teachers puts substantial burdens on school staff and administration, making it more difficult to provide sustained professional development for those teachers. Furthermore, not all indicators associated with teacher quality are associated with higher stability. Teachers with strong academic qualifications—as measured by their attendance at a highly selective college or by their undergraduate GPA—are more likely than other teachers to switch schools and districts or to leave teaching completely in the early phase of their career.¹² This is of particular concern because teachers' academic ability and qualifications have been linked to their students' achievement.¹³ Teachers with strong academic skills are also particularly likely to leave schools with low standardized test scores.¹⁴ This suggests concern about issues of equity, if the schools with students who most need academic improvement are least likely to retain teachers with strong academic skills.

School Characteristics: Students in the School

The literature generally shows that teachers who work in low-achieving schools, and in those with high concentrations of poor and/or minority students, are more likely to move than other teachers.¹⁵ One study of

teachers in Georgia found that preferences for teaching in schools accounted for nearly all of the differences in turnover among schools with few minority students.¹⁶ Studies in New York and Texas found that student achievement had a stronger effect on turnover than racial composition.¹⁷ In New York City, more than a quarter of first-year teachers in one of the district's lowest performing schools did not return to the same school the following year. A 2007 study by the Illinois Education Research Council (IERC) showed that, in Illinois, new teachers (those beginning teaching) were only slightly less likely to stay in schools with high percentages of low income or low minority students, but there were systematic differences by levels of student achievement. Even in the IERC study, differences by racial and economic composition appeared if teachers were followed for more than one or two years.¹⁸

School Characteristics: Work Environment

The IERC (2007) study also found that there were large differences in new teacher retention rates among schools serving very similar student bodies. This suggests that differences in work conditions, beyond student composition, strongly influence teacher mobility. In fact, a 2004–05 follow-up study to the Schools and Staffing Survey (SASS) found that teachers who had changed schools the prior year highlighted working conditions at their prior school and dissatisfaction with support from administrators at their prior school as two of the top three reasons for their decision to leave; the third factor was the opportunity for a better teaching assignment.¹⁹ While these responses do not rule out student characteristics as factors in retention decisions, they all point to important aspects of school environments in accounting for these decisions.

Researchers working in this vein have identified several dimensions of the school environment that are associated with teacher stability. Two recent studies found that strong principal leadership reduced turnover.²⁰ The rigorous methodology employed in these studies controlled for a range of teacher and school characteristics, providing substantial evidence that it was the quality of leadership that made a difference rather than the qualities of students or teachers at the schools. In addition, some working conditions

associated with school budgets and resources have been shown to be associated with turnover, including the adequacy of supplies and materials,²¹ the quality of facilities,²² and overall class size.²³ Accountability pressures may also affect teachers' likelihood of staying in their school; one study that used state data found that accountability pressures increased teacher mobility from their school, but other studies looking at data from a different state found no such effect.²⁴

Compensation also is likely a factor in teachers' decisions to move. Ingersoll (2003) found that 61 percent of teachers who left teaching reported dissatisfaction with their salary as a contributing factor in their decision. However, other research suggests that student characteristics and working conditions are more important factors in retention than compensation.²⁵ This suggests a potential interactive effect between compensation and working conditions—teachers who are satisfied in their working environment may be less tempted by higher salaries elsewhere.

This Study Adds to the Research on Teacher Stability

The prior literature offers valuable insights into the factors that shape teacher turnover. It shows that some teachers may leave their school because they are new or less effective and that other teachers may leave because they are unsatisfied with their principal or conditions within their school. It also suggests that the schools that are most in need of good teachers struggle the most in retaining teachers. The prior research has allowed us to begin to understand the factors that shape teacher stability, but there are still many questions left unanswered. While leadership has been identified as an important factor in teachers' decisions to leave their school, there are other conditions that affect teachers' work that may be just as important—for example, their relationships with fellow teachers and parents, or the extent to which they feel their school is serving its students well. The broad array of working conditions examined by this study include different elements of school leadership; teachers' relationships with their principal, parents, and other teachers; and the climate for student learning in their schools (see Table 1). We try to understand what is it about the work environment in disadvantaged schools that leads teachers to be

more likely to leave, and we examine the ways in which teacher characteristics interact with those of students and schools to impact teacher stability rates.

TABLE 1
Aspects of teachers, students, and schools examined in this study

<ul style="list-style-type: none"> Teacher Background Age, gender, race, undergraduate institution, college degrees, new to CPS
<ul style="list-style-type: none"> Characteristics of the Student Body Percent meeting state standards, percent low-income students, racial composition
<ul style="list-style-type: none"> School Structure and Social Context Elementary/high Size, change in number of students enrolled Neighborhood crime, neighborhood economic conditions Student mobility rates School probation status (on probation, entered probation, left probation) Change in principal
<ul style="list-style-type: none"> School Climate Parent involvement, parent support, teacher-parent trust Teacher influence, collective responsibility, socialization of new teachers, reflective dialogue, teacher-teacher trust Teacher-principal trust, principal instructional leadership, innovation, program coherence, professional development, access to new ideas Student perceptions of safety, peers, community, teacher-student trust, class engagement, discipline problems

Note: We have no data on compensation, certification, or out-of-field teaching. Data on reasons for leaving (e.g., retirement, transfer) are not complete and are not used here. See the sidebar "Data Used in this Study" for the sources of data. See Appendix B for descriptions of the measures of school climate used in this study.

Data Used in this Study

In this study, we bring together data on teachers, students, and schools. Teacher personnel records from 2002–03 to 2006–07 provide the basic information necessary for this work; we use these records to identify whether each teacher remained in their school from one year to the next.²⁶ Aggregated, these records indicate each school's stability rate in each year. We are limited to studying movement within CPS because we do not have information on where the teacher went once he or she left CPS. Therefore, we treat retirement, removal (for any reason), reductions in staff size, transfers to another CPS school, and moves to a non-CPS school or non-teaching career the same—as a departure from the teacher's current school. The teacher personnel files also provide information on gender, race/ethnicity, age, college degrees (bachelor's, master's, doctorate), college where the teacher obtained his or her bachelor's degree, and whether it is the teacher's first year in CPS.

We link the personnel records to teachers' schools, and then we bring in student and school administrative and exam records to characterize teachers' students and school conditions. Factors that we consider include the economic status of students in the school; the school's racial composition; the school's size; the average test scores of students in that school in prior years (based on students' performance on the Iowa Tests of Basic Skills, Illinois Standards Achievement Tests, and/or Prairie State Achievement Examinations); student mobility rates; the concentration of poverty in the neighborhood around the school; whether the school has a first-year principal; and whether the school entered probation, continued on probation, or left probation.²⁷ Data on school size and enrollment come from student-level administrative data files collected each semester. Data on crime come from the Chicago Police Department lists of crime by address, which are aggregated to the census block group of the school. Data on neighborhood conditions, which come from the 2000 U.S. census files at the levels of census block groups, include the

percentage of unemployed males over age 25, the percentage of families below the poverty line, the mean level of education, and the average income in the census block group. There are 2,388 block groups in the city of Chicago.

Overall these data include 72,940 records of 24,848 unique teachers in 538 elementary schools, and 27,643 observations of 9,882 teachers in 118 high schools.²⁸ Descriptive information on teachers in each of the years from 2002–03 to 2005–06 is provided in Appendix C. We do not have information about teachers in charter schools, so these schools and their teachers are not included in our analyses.

Administrative and test score records are supplemented with data from surveys of teachers and students conducted by CCSR in spring 2003 and 2005. The survey data include teacher and student reports about a range of issues, including professional capacity, learning climate, instructional leadership, and parent involvement in the schools. When we include survey data in our analysis, our dataset shrinks to 346 elementary schools and 53 high schools, since all schools do not participate in the survey each year. (See Appendix B for details.)

Limitations of Our Data

While we have access to a broad array of data, there are still a number of data elements we do not possess that would be useful to a comprehensive study of teacher retention. We do not have: measures of teaching quality; data about pre-service preparation (e.g., traditional versus alternative certification); data about teacher salary; or data about whether they are teaching out-of-field. A prior CCSR study examined new teacher induction;²⁹ thus, we do not investigate the effects of induction and mentoring here. Last, we have no data from neighboring districts. Therefore, we do not know whether teachers who leave CPS are retained in the profession generally. If teachers continue to teach outside of CPS, we do not know where they end up.



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Chapter 1

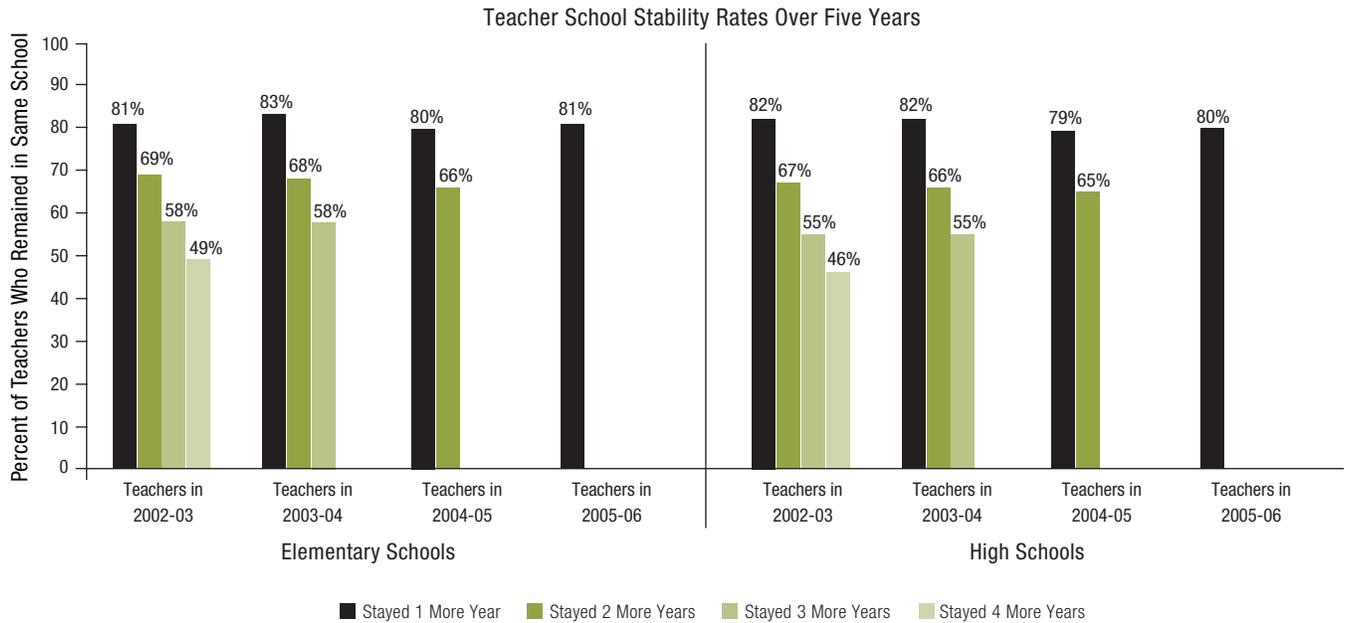
A Portrait of CPS Teacher Stability

About 80 percent of CPS teachers remain in their school from year to year, and this stability rate has changed little over the last four years (see Figure 1). This annual retention rate is similar to rates observed nationally and in other districts. In the 2003–04 follow-up to the Schools and Staffing Survey, roughly 84 percent of teachers nationally reported staying in their same school the following year; 8 percent moved to a different school and another 8 percent left the teaching profession.³⁰ If the teachers who leave each year tend to be new, it is possible for schools to have long-term stability rates that are similar to their short-term stability rates. If this were the case, a 20 percent mobility rate would not be problematic for long-term initiatives since most teachers in a school would remain at the school over a number of years. However, this is not the case at the typical CPS school. Only about two-thirds of CPS teachers remain in their school beyond two years (65 to 69 percent).³¹ Just over half of the teachers (55 to 58 percent) stay in their school beyond three years, which is similar to national rates.³² Less than half stay in their school for beyond four years, at both the elementary and high school levels. High school stability rates are only slightly lower than those at elementary schools, but there has been a slight downward trend in teacher stability among CPS high schools that has not occurred in elementary schools.

> At high schools with low levels of teacher commitment, only 24 percent remain for more than four years.

FIGURE 1

About 80 percent of teachers remain in their school each year; less than half remain four years later



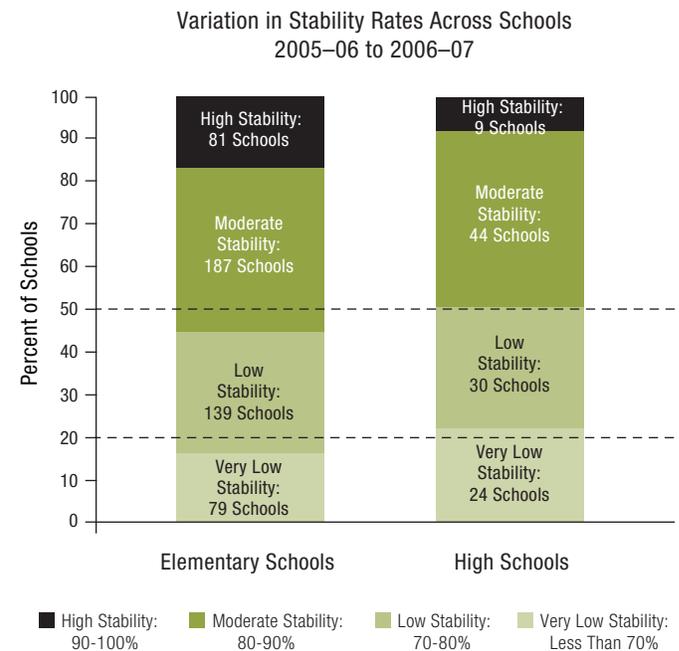
Thus, in a typical CPS school, half of the teaching staff turns over within five years. This has substantial implications for the introduction of new programs or initiatives; if they are to be sustained over a period of years, the typical school will need to continually train new staff. Otherwise, the initiative may die out as many of the initial participants move on. However, Chicago is not alone in this trend. The IERC report that looked at retention rates state-wide (2007) showed that only one-third of new teachers remain in their original school for five years. If we confine our analysis of CPS teachers to just first-year teachers, we see about the same rate of leaving among new CPS teachers—30 percent remain in their original school for five years. Chicago does not look different from the rest of the state or the country in terms of average stability rates across schools. But we need to recognize that when we look at teacher stability from the perspective of schools, rather than examining district- or state-wide stability, most face substantial turnover over a period of just a few years.

The IERC report found that similar schools in Illinois often had vastly different rates of teacher mobility. We also find very different teacher retention rates across CPS schools. For example, about half of CPS

schools retained 80 percent or more of their teachers from 2005–06 to 2006–07 (see Figure 2). Just over 10 percent of CPS schools had very high stability, with 90 percent or more of their teachers remaining,

FIGURE 2

About half of the schools lose more than one-fifth of their teachers each year



How Much Mobility Should Be Expected?

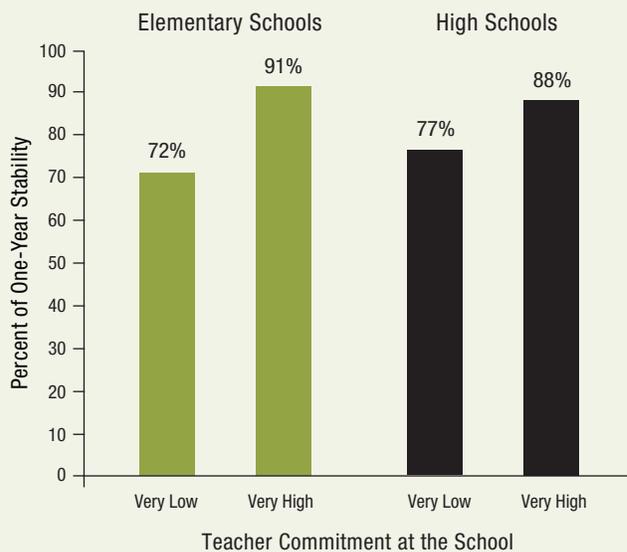
Some mobility is normal and expected—teachers retire, they move or stop teaching for personal reasons, and staffing needs change at the school. It would be unreasonable to expect schools to keep all of their teachers from year to year. But how much mobility is expected, even under the best circumstances?

To get some idea of how high we might reasonably expect teacher stability to be, we looked at stability rates in schools where teachers reported very high levels of commitment to their schools. These are schools where almost all teachers say they look forward to school each day, they would recommend their school to parents, they feel strongly loyal to their school, and they would not want to work in any other school. Even at these schools, where teachers are highly committed to teaching in that particular school, stability rates are not at 100 percent, but are at about 90 percent (91 percent in elementary schools, 88 percent in high schools), see Figure 3.³³ Thus, even under the best circumstances, it is typical for about 10 percent of teachers to leave their school each year.

Teachers' reports of commitment to their school also give us an idea of the degree to which workforce conditions influence teacher stability at a school. As shown in Figure 3, elementary schools that have extremely low levels of teacher commitment have stability rates that are almost 20 percentage points lower than schools with very high levels of teacher commitment. These schools with low commitment are places where few or no teachers say they would recommend their school to parents, that they look forward to teaching each day, or that they feel loyal to their school. Four-year stability rates at schools with low teacher commitment are abysmal—at elementary schools with low teacher commitment only 33 percent of teachers remain for more than four years, compared to 68 percent at elementary schools with high levels of teacher commitment, on

FIGURE 3

Even schools with very strong teacher commitment lose about 10 percent of their teaching staff



Note: Elementary schools with "very low" commitment are two standard deviations below the mean—at about the 2nd percentile—in terms of teachers' reports of commitment to their school. High schools with very low commitment are one standard deviation below the mean—at about the 16th percentile. (No high schools are two standard deviations below the mean on teacher commitment.) Schools with "very high" commitment are two standard deviations above the mean (at about the 98th percentile). These estimates were statistically adjusted to remove the effects of enrollment loss, but included no other control variables so that they represent a typical CPS school with very low or very high teacher commitment.

average. At high schools with low levels of teacher commitment only 24 percent remain for more than four years, compared to 64 percent among high schools with high levels of commitment. There may be many different reasons for the variation in teachers' commitment to their school—from teachers' perceptions of students and their parents, to satisfaction with their principal and other teachers in the school, to teachers' own feelings of efficacy and influence in shaping their work environment. Whatever the reasons, teachers' attitudes about the work environment show strong correspondence with the actual levels of teacher mobility in their school, suggesting workplace conditions strongly affect teacher stability rates.

which is about the maximum stability that could be expected (see sidebar, “How Much Mobility Should Be Expected?”) However, about half of the schools lost 20 percent or more of their teachers, and about one-fifth—over 100 schools—lost more than 30 percent of their teachers in that one year. To put this in perspective, in a typical elementary school with 30 teachers, a loss of 30 percent of the teaching staff would be about nine teachers that the school leadership needs to replace. In a typical high school with 100 teachers, it would be 30 teachers. For the principals of these schools, recruiting and mentoring is an enormous task. If the school has chronic instability, then the school leadership has that burden every school year.

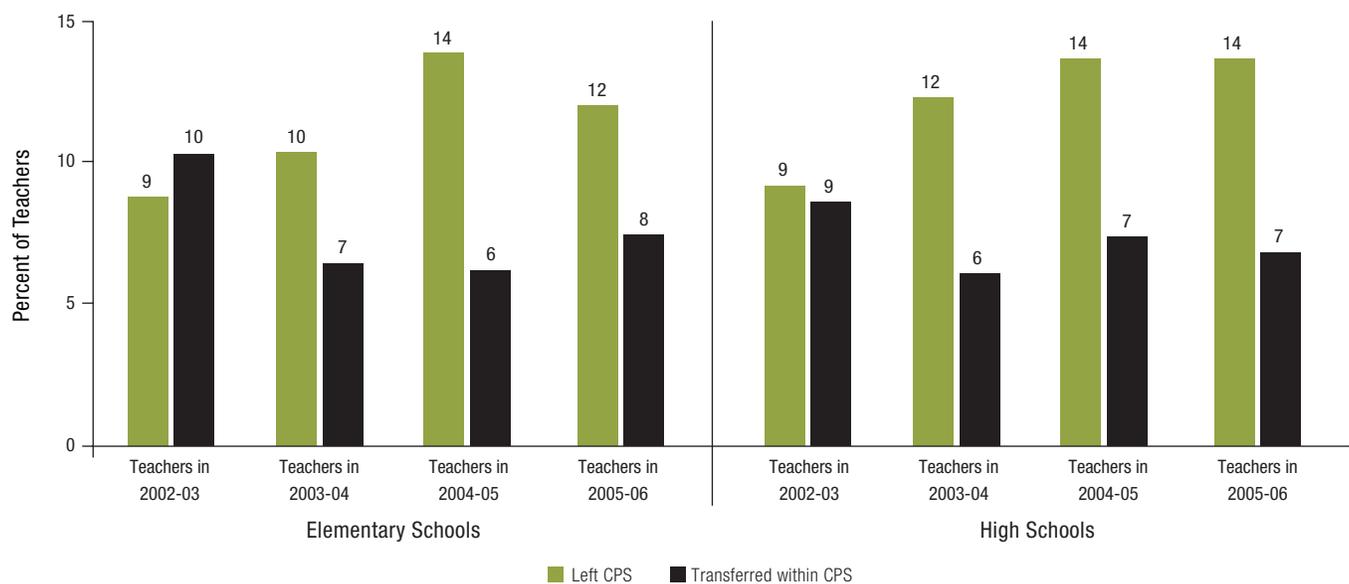
Much Mobility Occurs within CPS

Many of the teachers who leave their school each year go to other CPS schools. About one-third to one-half of the teachers who leave their school transfer to another CPS school (see Figure 4). In 2003–04, just over half (54 percent) of the teachers who left their elementary school went to another CPS school, while in 2006–07, just over one-third (38 percent) went to another CPS elementary school. A similar pattern can be seen in

high schools, although slightly fewer high school teachers who left their school remained in CPS: in 2003–04, just under half (48 percent) of teachers who left their CPS high school moved to another CPS high school; in 2006–07, about one-third (32 percent) went to another CPS school. While overall stability rates have remained fairly stable, the percentage of teachers remaining in CPS has declined over the last four years. Thus, a decline in between-school mobility within CPS has not reduced the overall teacher mobility rate; teachers are just more likely to leave the system instead of transferring to another CPS school.

We might suspect that teachers would transfer to schools that offered more favorable conditions, such as schools serving higher-achieving students, than the schools they left. However, elementary school teachers did not uniformly transfer to better-performing or more affluent schools. On average, the schools that elementary teachers transferred to were only slightly more advantaged than the schools they left, in terms of the types of students served by the school. From 2006 to 2007, about half (54 percent) of teachers who moved between CPS elementary schools transferred to a school with a higher level of achievement than the one they left (defined by the percentage of

FIGURE 4
In recent years, teachers have been more likely to leave CPS instead of transferring to another CPS school



Note: See Table 5 in Appendix D for the number of teachers in each category.

students meeting or exceeding standards on the ISAT). The other teachers moved to a school with similar or lower achievement than the one they left. On average, teachers' new schools had about 2 percentage points more students meeting standards than the schools they left. Just over half (56 percent) of elementary school teachers moved to schools with fewer low-income students than the schools they left. On average, teachers' new schools had about three percentage points fewer low-income students than the schools they left. Elementary teachers who transfer within CPS tend to move to schools that are fairly similar to the schools they left.

In the high schools, it is more common than in the elementary schools for teachers who transfer within CPS to move to a more advantaged context. From 2006 to 2007, about 61 percent of the high school teachers who transferred within the district went to schools with higher achievement than the schools they left; the difference in performance between the new schools and the former schools was about six percentage points meeting state testing standards. There were smaller differences by economic status; about half (54 percent) of high school teachers who moved went to schools with a lower percentage of low-income students. The difference in the percentage of low-income students between the new schools and the former schools was less than one percentage point.

Some CPS Schools Experience Chronic Instability

So far, we have focused on stability rates in schools each year. But teacher stability in any given school could vary substantially from year to year. A school may have an exceptionally large number of teachers leave one year, despite generally having high rates of stability. We were concerned that some schools faced extraordinary burdens around recruiting, mentoring, and retaining staff year after year. Therefore, we used all five years of data to identify schools that face such conditions. Because

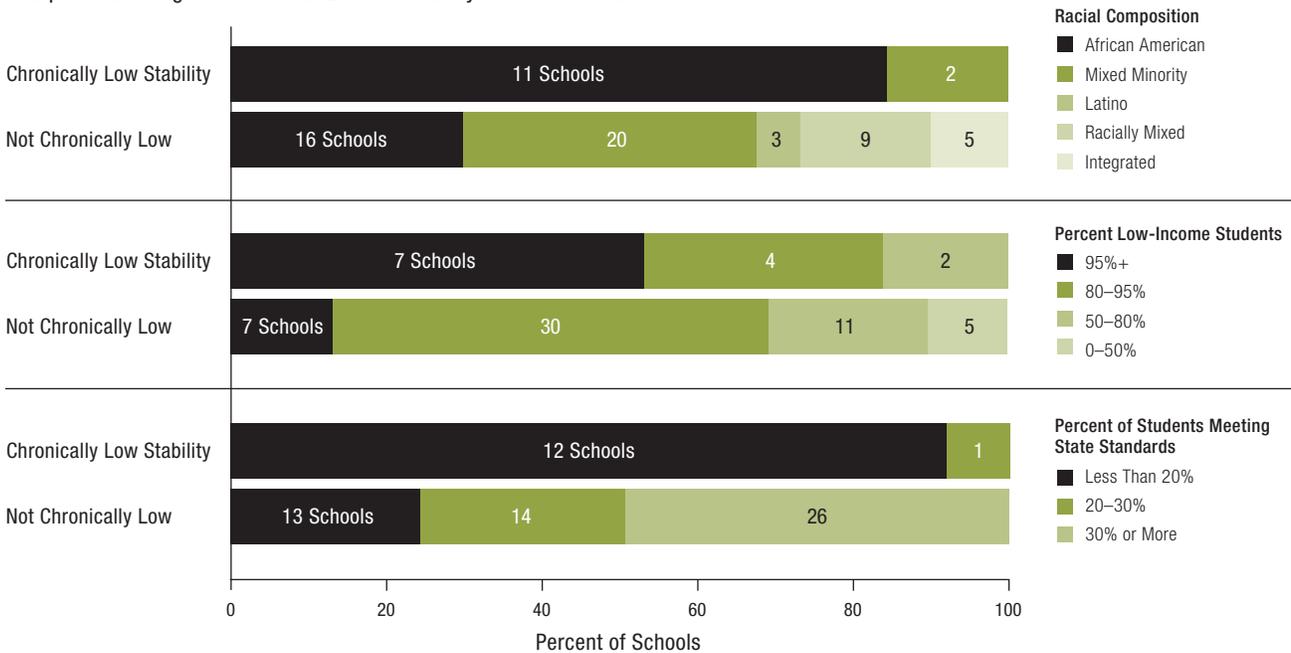
some schools may lose staff simply because of declining student enrollment, we adjusted yearly stability rates for the loss of teachers that would be expected due to enrollment change. We then identified those schools with the lowest levels of stability in the system over the five years being studied. All of these schools lost at least a quarter of their teachers each year over four years—a typical school with chronic low stability lost 31 percent of its teachers each year over four years. Thirteen high schools and 84 elementary schools fell into this category.

The schools with chronic instability were not a representative group of schools in the district. The vast majority had very low levels of student achievement and predominantly served African American students (see Figure 5).³⁴ Of the 13 high schools with chronically low stability, 11 predominantly served African American students and the remaining two served a combination of African American and Latino students. Schools where close to 100 percent of students were low-income were disproportionately likely to have chronic teacher turnover, and none of the high schools where less than half of the students were low-income had chronic problems with teacher loss. Twelve of the 13 schools had less than 20 percent of students meeting state standards; at the thirteenth school, less than 30 percent of students met state standards. Similar patterns are evident among the elementary schools (see Figure 6). Almost 80 percent of the elementary schools that had chronically low teacher stability served African American students and another 10 percent served a combination of African American and Latino students. None of the integrated schools (those where at least 30 percent of the student body are white) had chronically low stability. In about two-thirds of the schools with high levels of teacher loss, nearly all of the students were low-income. And in two-thirds of the elementary schools with chronic low stability, less than half of the students met state standards. Thus, CPS schools that serve the most disadvantaged students who are most in need of good teachers are also the schools most likely to struggle with high rates of teacher loss.

FIGURE 5

High schools with chronic low stability tend to be low-achieving African American schools

Composition of High Schools with Lowest Stability Rates Over Four Years

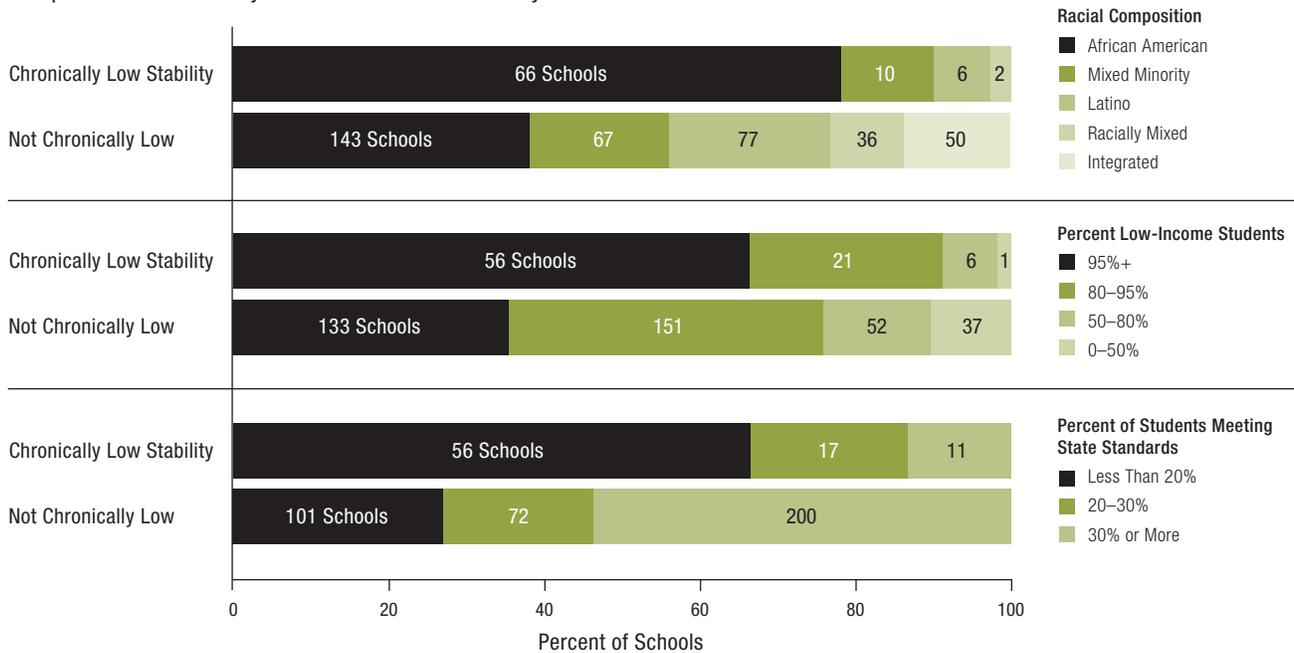


Note: African American schools are 85 percent or more African American; mixed minority schools are 85 percent or more African American and Latino, with neither group totally over 85 percent; Latino schools are 85 percent or more Latino; integrated schools are 30 percent or more white.

FIGURE 6

Elementary schools with chronic low stability tend to be low-achieving African American schools

Composition of Elementary Schools with Lowest Stability Rates Over Four Years



Note: African American schools are 85 percent or more African American; mixed minority schools are 85 percent or more African American and Latino, with neither group totally over 85 percent; Latino schools are 85 percent or more Latino; racially mixed schools are 15-30 percent white; integrated schools are 30 percent or more white.

Chapter 2

Why Do Teachers Leave Their Schools?

Teachers leave their positions for many different reasons, and some mobility is expected. Knowing who is more likely to leave, and under what conditions, can help us improve stability rates by suggesting the reasons behind school moves. Examining these patterns can also suggest areas of concern, particularly if there are high rates of instability among certain types of teachers in particular types of schools. We begin examining patterns in mobility by showing the degree to which teachers' personal background characteristics are associated with stability. We then show the ways in which structural characteristics of schools are related to teachers' likelihood of staying in their school.

For simplicity, we show the relationships of teacher stability with teacher and school characteristics in only one year—2006 to 2007. Unless noted in the text, similar relationships were observed in prior years. We also examined whether each relationship could be explained by other factors, that is, whether any of the teacher or school characteristics were related to stability only because of some third condition. To do this, we performed analyses that looked at the relationship of stability with each teacher and school characteristic after statistically taking out differences that could be explained by other factors (see Appendix A for details on the statistical models). The results of these models are discussed in the text if they provide different conclusions than the simple comparisons.

-
- > Students' behavior and feelings of safety account for differences in teacher stability between African American schools and others.

Teachers' Backgrounds

If certain types of teachers leave at higher rates than others, there could be implications for recruitment, or for mentoring within schools. In fact, there are some systematic differences in leave rates among teachers with certain characteristics. The personal characteristics that are most highly associated with teacher stability are those indicating different life and career stages—age and experience. Other background characteristics (e.g., gender, education, and race) show only modest relationships with mobility. However, racial differences are larger in some schools than others; they depend on the “match” of the teacher’s race with that of the student body.

Mobility Is Associated with Life and Career Stages

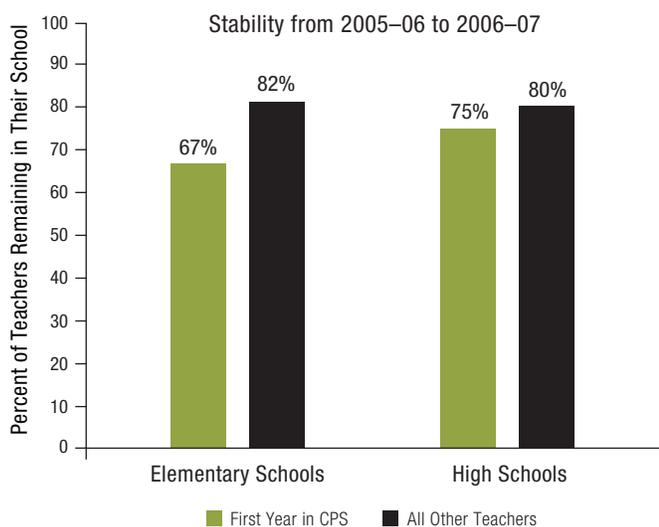
Experience. It is widely known that beginning teachers nation-wide are more likely to leave their position than teachers with more experience. The same pattern exists in CPS, particularly at the elementary school level. While 82 percent of veteran elementary school teachers beginning in 2005–06 returned to their schools in 2006–07, only about two-thirds (67 percent) of first-year elementary school teachers returned to their schools (see Figure 7). Among high school teachers, the difference between novice and veteran teachers was

smaller; three-fourths of new high school teachers returned to their schools in 2006–07, compared to about 80 percent of other teachers. Only about one-third of new teachers stayed in their original school for five years (see Figure 8). While this number seems low, it is consistent with the statewide retention rate reported by IERC (2007)—statewide, about two-thirds of new teachers leave their first school within five years. These within-school stability rates are substantially lower than the within-district stability rates reported by *Catalyst* in 2003 (a five-year stability rate of 61 percent), but this is because many new teachers change schools but remain in CPS.

We might expect that retention rates among new teachers would be improving, since there has been increasing attention to new CPS teacher induction programs. However, this was not the case during the time of this study. As shown in Figure 8, there was an improvement in one-year retention rates among teachers hired in the 2003–04 school year. But that improvement was not sustained in subsequent years. The difference in retention rates between new and veteran teachers did not change between the 2002–03 and 2006–07 school years.³⁵ In the 2006–07 school year, the Chicago New Teacher Center opened to support induction and leadership development in several neighborhoods. This may lead to improved teacher retention rates in the targeted areas in the coming years.

FIGURE 7

New teachers leave schools at higher rates than experienced teachers



Note: See Table 6 in Appendix D.

Age. New teachers are usually younger than veteran teachers, and we also see that teachers’ age is related to stability. Stability rates were lowest among very young teachers, highest among teachers in their late thirties to early fifties, and then declined among those who were 55 years and older. In both elementary and high schools, teachers under 30 and those 55 or older had stability rates of 70 to 75 percent (see Figure 9 and Figure 10). In contrast, teachers in their late thirties to early fifties have stability rates above 80 percent—even close to 90 percent in some age ranges. That the youngest and oldest teachers are most likely to leave their school is not surprising; the oldest teachers in the system are likely to retire, while the youngest teachers may be uncertain about their career path. However, over the past four years stability rates have declined

FIGURE 8

Less than half of the new teachers remain at their original school for more than three years

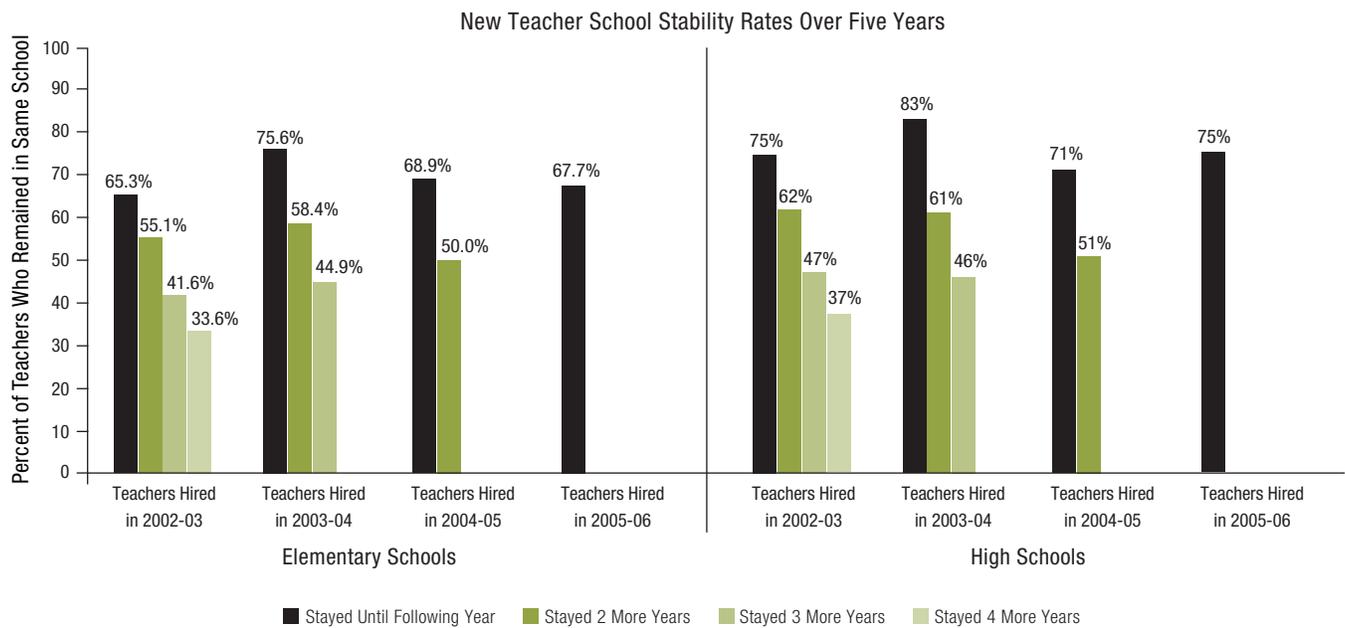
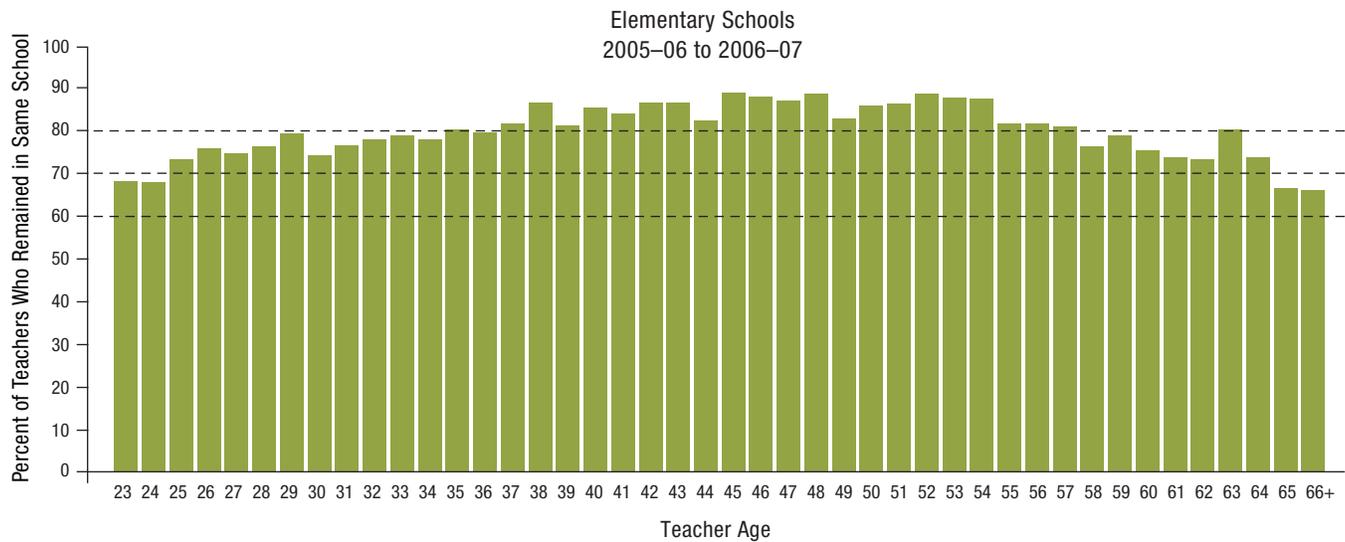


FIGURE 9

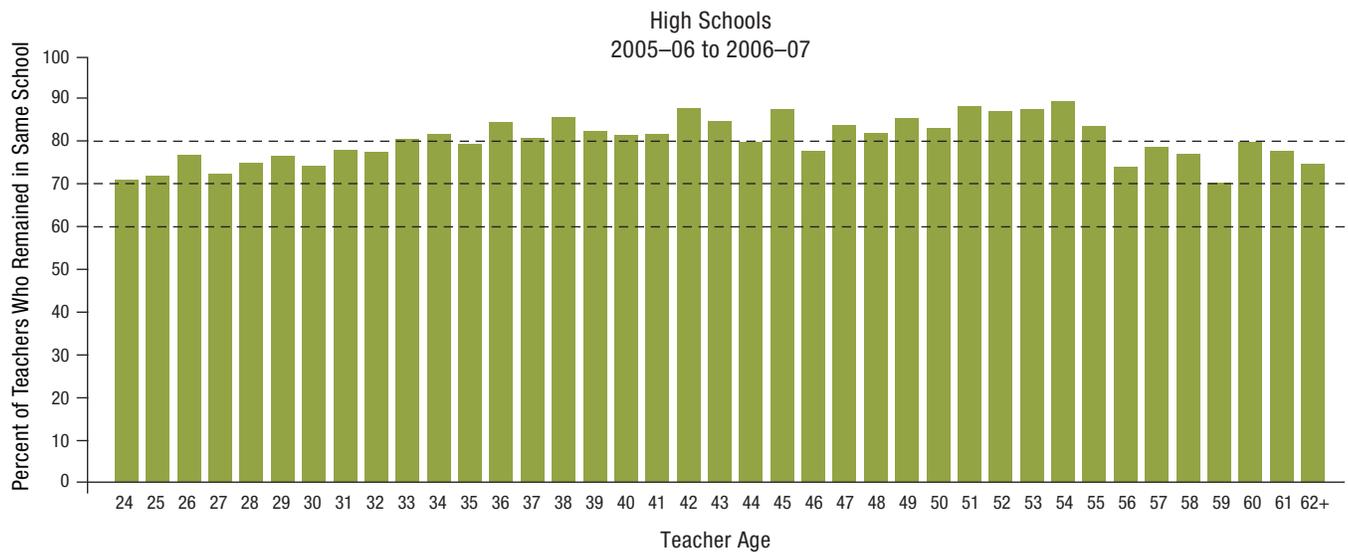
Youngest and oldest teachers are the most mobile in elementary schools



among teachers under 30, while remaining fairly steady among teachers in their 30s, 40s, and 50s. Holding constant school and teacher characteristics, stability rates have declined by about 10 percentage points for teachers under 30. Stability rates have also declined slightly over the past four years for teachers 60 years and older.

Other Teacher Characteristics Were Only Weakly Associated with Stability

College Background. The vast majority of CPS teachers received their bachelor’s degree from a university in Illinois, and most attended an institution in or near Chicago. Since many teachers receive their training for teaching in these institutions, we may wonder if

FIGURE 10**High school stability rates are strongest for teachers in their 40s**

teachers who attended one or another of these institutions showed more stability. There may also be concern that teachers from institutions far from Chicago may be more likely to leave, as they may have fewer connections to the city. However, there are only very modest differences in stability rates based on the university that teachers attended.³⁶ Teachers who attended a few local institutions—Northern Illinois, Northeastern, University of Illinois at Chicago, St. Xavier, Mundelein, and National Louis—had stability rates that were 3 to 4 percentage points higher than teachers who attended other local universities (Roosevelt, Loyola, DePaul), popular institutions not located in Chicago (Southern Illinois, University of Illinois at Urbana-Champaign, Illinois State University, Jackson State University), or less commonly attended colleges.

Gender. There were only very slight differences in teacher mobility by gender. At the elementary school level, about 81 percent of female teachers remained in their schools from 2005–06 to 2006–07, while 80 percent of male teachers stayed.³⁷ In CPS high schools, 80 percent of male teachers and 79 percent of female teachers remained in their schools. This may challenge some perceptions that female teachers leave more often than male teachers because of family obligations.

Race and Ethnicity. Differences by teachers’ race and ethnicity were not large, but stability rates have been declining for white teachers over the last several years. In general, Latino teachers have stability rates that are a few percentage points higher than other teachers, when we do not consider the characteristics of the schools in which they teach. However, Latino teachers are more likely than other teachers to be in schools with expanding enrollment. There are no significant differences in stability rates among Latino, African American, and Asian teachers when we take into account changes in the size of school enrollment. White teachers show slightly lower stability rates than other teachers with similar backgrounds at similar schools; they also show declining stability over time, relative to other teachers. In the first year of this study, white high school teachers had about the same stability rate as African American teachers with similar background characteristics in similar high schools (79 percent, compared to 81 percent). By the fourth year, white teachers had substantially lower stability rates than African American teachers in similar schools (69 percent, compared to 77 percent). White teachers in elementary schools started out with lower stability rates than African American teachers with similar in similar schools (81 percent, compared to 84 percent in the first year of this study), and the difference grew larger by the last year (78 percent, compared to 85 percent).³⁸

Differences in stability rates by teacher race also depend on the racial composition of the school. On average, across all of the years, white and Latino teachers were about five percentage points less likely to remain in predominantly African American elementary schools than were African American teachers. In the high schools, white and Latino teachers were more likely than African American teachers to remain if they were at integrated, predominantly Latino, or mixed minority high schools; however, Latino teachers were less likely than African American teachers to remain at predominantly African American schools.

School Structure

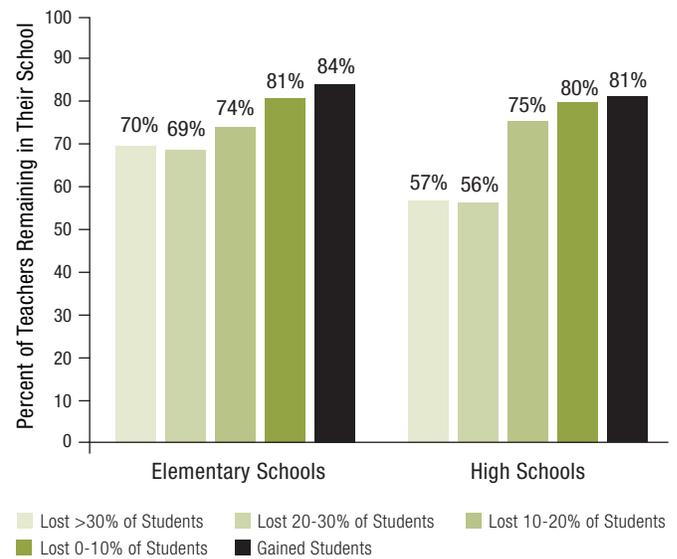
Some Teachers Leave Because of Declining Enrollment at Their School; Small Schools Also Have Higher Mobility Rates than Large Schools

We would expect that schools adjust the size of their teaching staff as their student body grows or declines. Thus, some teacher mobility is expected simply as an adjustment to school staffing needs. In fact, teachers were much more likely to leave schools that experienced declining enrollment in any given year. From 2005–06 to 2006–07, elementary schools that lost at least 30 percent of their students also lost about 30 percent of their teachers (see Figure 11). High schools that lost at least 30 percent of their students lost about 40 percent of their teachers. At the same time, schools with enrollments that remained constant, or increased, retained over 80 percent of their teachers, on average, at both the elementary and high school levels.

An important issue for a school district that has been experimenting with opening many new small schools is the relationship of school size with teacher mobility. Large elementary schools (those with more than 700 students enrolled) had higher stability rates, on average, than small or medium elementary schools. A typical large elementary school retained 83 percent of its teachers from 2005–06 to 2006–07, while small schools (enrolling fewer than 350 students) retained about 78 percent of their teachers (see Figure 12). Small high schools (with fewer than 1,200 students) had particularly low teacher stability rates. While large and medium-sized high schools retained over 80

FIGURE 11

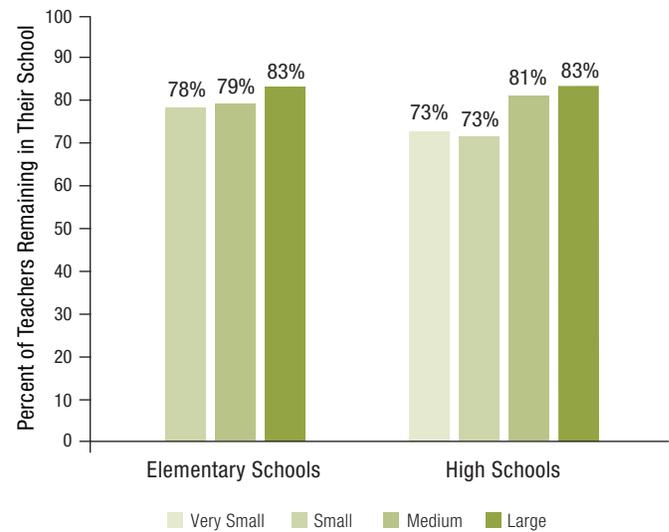
Schools lose teachers when student enrollment declines



Note: This figure shows average one-year teacher stability rates across all five years of data. See Appendix D for the number of teachers and schools in each category.

FIGURE 12

Small schools have higher rates of teacher mobility than large schools



Note: Small elementary schools have fewer than 350 students, medium schools have 350–700 students, and large elementary schools have more than 700 students. Very small high schools have fewer than 600 students, small high schools have 600–1,200 students, medium high schools have 1,200–1,800 students, and large high schools have more than 1,800 students. See Appendix D for the number of teachers and schools in each category.

percent of their teachers, on average, small high schools retained only about 73 percent. Higher rates of teacher mobility at small schools are not just an artifact of size (i.e., a few teachers representing a larger proportion of the teaching staff) or a result of declining enrollment making schools small—teachers are less likely to stay in small schools from one year to the next.³⁹

It may seem surprising that teacher stability rates are lower in small schools since small schools tend to be characterized by closer relationships among teachers and students. In fact, in CPS elementary schools, teachers in small schools express more commitment to their school than teachers in large or medium-sized schools.⁴⁰ In elementary schools, the slightly higher rates of mobility in small schools may occur because of less flexibility in staffing, which could lead teachers to be dismissed in response to uncertainty about enrollment from year to year. In high schools, however, teachers in small schools tend to report lower levels of commitment than teachers in medium or large high schools. Research by CCSR on the Chicago High School Redesign Initiative (CHSRI) has shown that small schools can often place extensive demands on teachers, and these increased expectations may affect teachers' decisions to remain at their small school.⁴¹ Conflict between staff members may also be more acute in a small environment. In addition, many of the small high schools are new, which creates specific challenges for teachers' work. As CPS continues to develop small high schools, particular attention needs to be paid to teacher retention issues.

Two additional structural factors related to teacher stability were principal turnover and school probation status. Teachers at elementary schools were somewhat less likely to stay in their schools if the school received a new principal that year. In elementary schools with established principals, 81 percent of teachers stayed; in schools with new principals, 78 percent of teachers remained. In high schools, principal turnover was not related to teacher stability. Elementary schools that went on or off probation showed slightly lower stability rates than schools not on probation (from 5 to 8 percent, depending on the year), while elementary schools that remained on probation showed even lower stability rates—from 9 to 14 percentage points lower

than schools not on probation, depending on the year. High schools on probation also generally showed lower stability rates than high schools not on probation by 2 to 12 percentage points, depending on the year.

Characteristics of Students

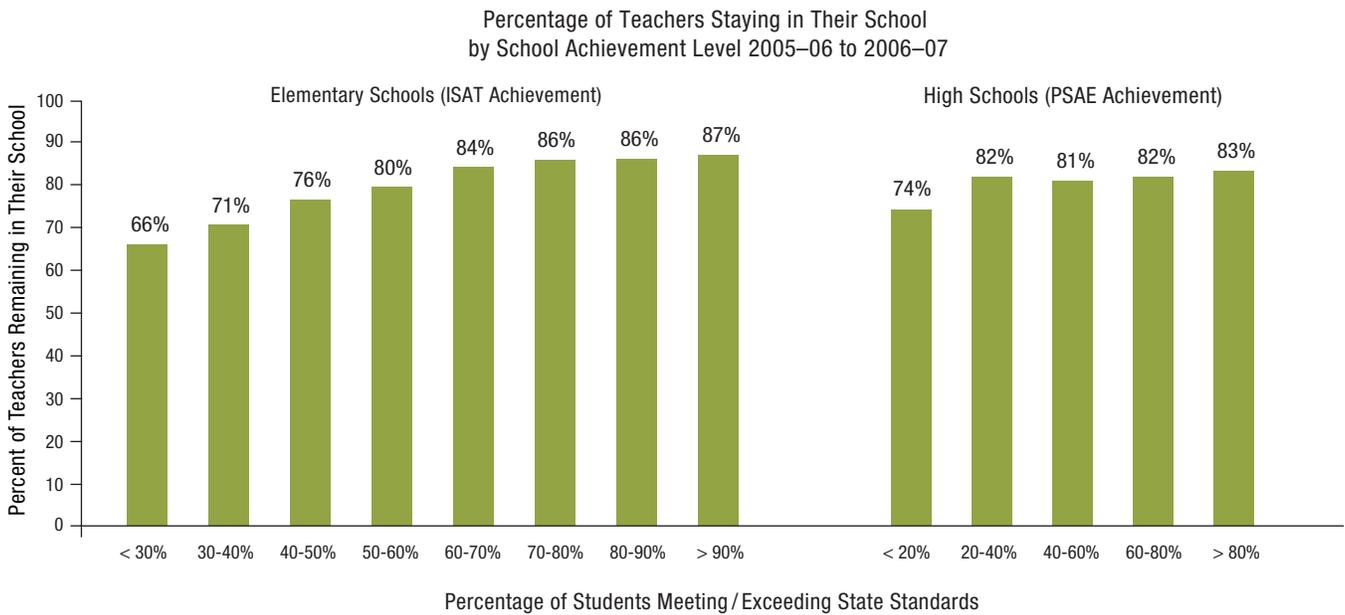
Teacher Mobility Rates Are Highest in Very Low-Performing, Predominantly Low-Income African American Schools

Teacher mobility rates are strongly associated with the characteristics of students served by their school. Mobility rates are particularly high in schools where the vast majority of students do not meet state standards. There are few differences in teacher mobility between elementary schools where most students meet state standards on the reading portion of the ISAT exam compared to those where almost all students meet standards, but stability rates are progressively worse among those with less than half of their students meeting state standards (see Figure 13). In 2005–06, elementary schools with 60 percent or more of their students meeting or exceeding state standards on the Illinois Standards Achievement Test (ISAT) retained about 84 to 87 percent of their teachers into the following year (2006–07). Those with 50 to 60 percent of students scoring at standards retained less than 80 percent of their teachers. Those with less than 30 percent of students meeting the standards only retained about 66 percent of their teachers. In CPS high schools, only schools with very few students meeting state standards on the PSAT reading exam (less than 20 percent) had especially low stability rates. While most high schools retained over 80 percent of their teachers, those with less than 20 percent of students meeting standards had one-year stability rates of 74 percent.

As discussed earlier, elementary school teachers who transfer within CPS are not necessarily going to higher-achieving schools. Teachers at low-performing schools are also not much more likely than other teachers to leave CPS altogether. As shown in Figure 14, within-district stability rates are between 83 to 88 percent at schools with less than 60 percent of students meet ISAT standards, compared to about 90 percent at schools where 60 percent or more meet standards. Instead, it seems that teachers at low-achieving elementary schools

FIGURE 13

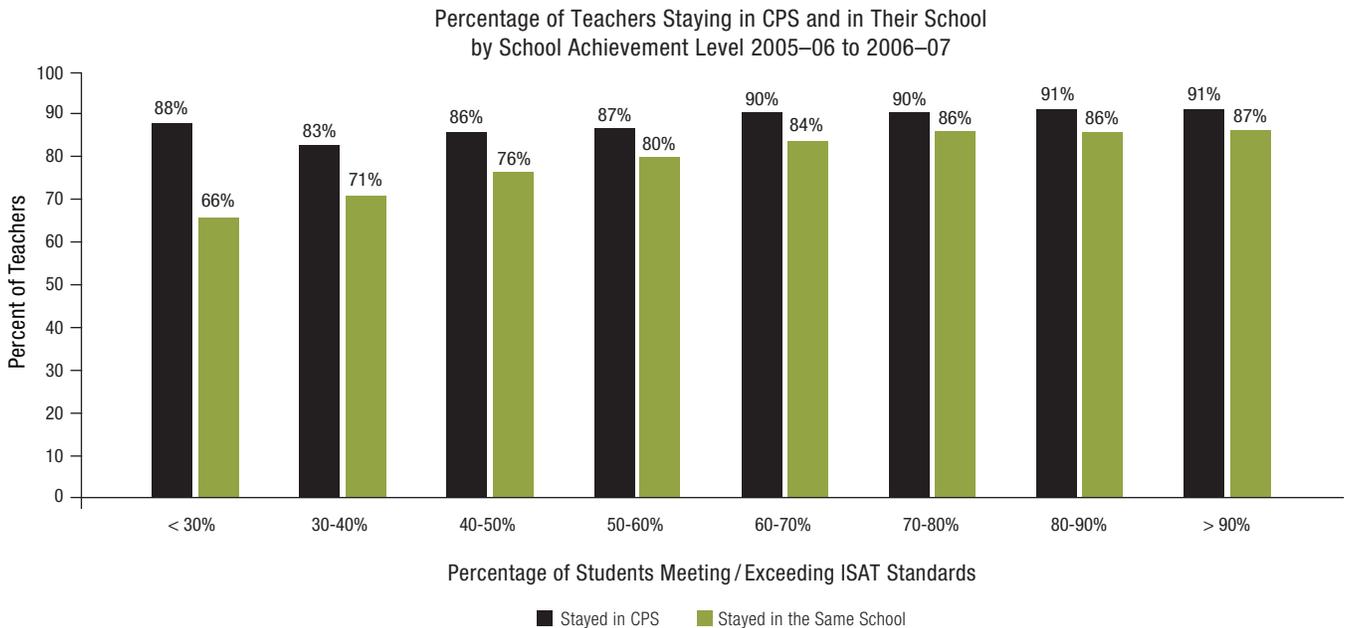
Teachers leave schools with very low levels of student achievement at higher rates than other schools



Note: See Appendix D for the number of teachers and schools in each category.

FIGURE 14

Teachers at low-achieving elementary schools are much more likely to transfer schools than teachers at high-achieving schools, but are only slightly more likely to leave CPS



Note: See Appendix D for the number of teachers and schools in each category.

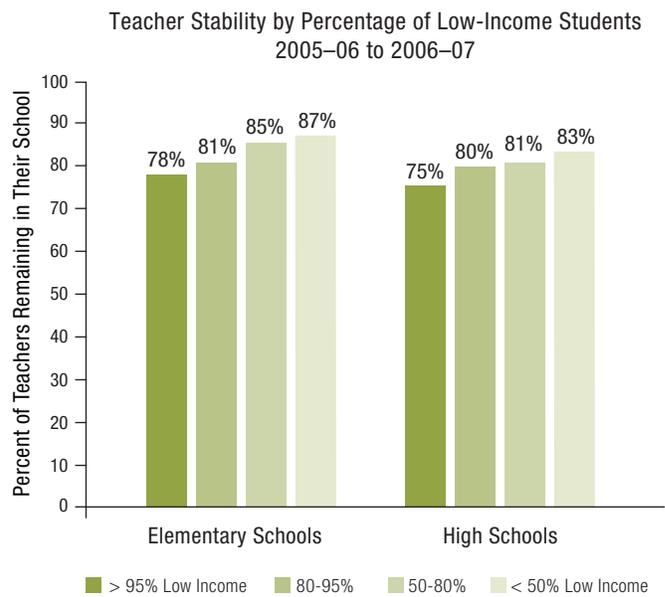
often transfer to other low-achieving CPS schools, with only a few teachers moving to higher-achieving schools or leaving the district. They may hope that the new school offers a better experience than their old school, even if the new school has similar levels of student achievement. However, there are also no systematic differences in the workplace conditions (e.g., teachers' reports of relationships with their principal, peers, parents, or students) between the schools teachers leave and the schools to which they transfer. On average, teachers transfer to schools that are similar to the schools they left.

There are also differences in teacher stability by the degree to which schools serve low-income students. Elementary schools with a smaller percentage of low-income students retain more of their teachers; in 2006–07 87 percent of teachers stayed in schools where less than half of the students qualified for free or reduced lunch, while only 78 percent of teachers remained in schools where almost all students (95 percent or more) qualified as low-income (see Figure 15). High schools where less than half of the students qualified as low-income retained 83 percent of their teachers, while schools where almost all students were low-income retained only about 75 percent of their teachers.

Stability rates are particularly low in schools that are predominantly African American, and higher than typical in integrated schools where at least 30 percent of the students are white.⁴² (See Figure 16.) In African American elementary schools, 76 percent of teachers remained from the 2005–06 school year until the 2006–07 school year, compared to 88 percent in integrated schools. In African American high schools, about 74 percent of teachers remained, compared to 87 percent in integrated high schools. A number of African American schools have experienced declining enrollment, and this affects their teacher stability rates. However, when we use statistical models to control for changing school enrollment, African American schools still show one-year stability rates that are significantly lower than integrated, Latino, mixed minority, or racially mixed schools. In addition, teachers' own race seems to make a difference for their likelihood of staying in African American schools (see Figure 17). As noted earlier, white and Latino

FIGURE 15

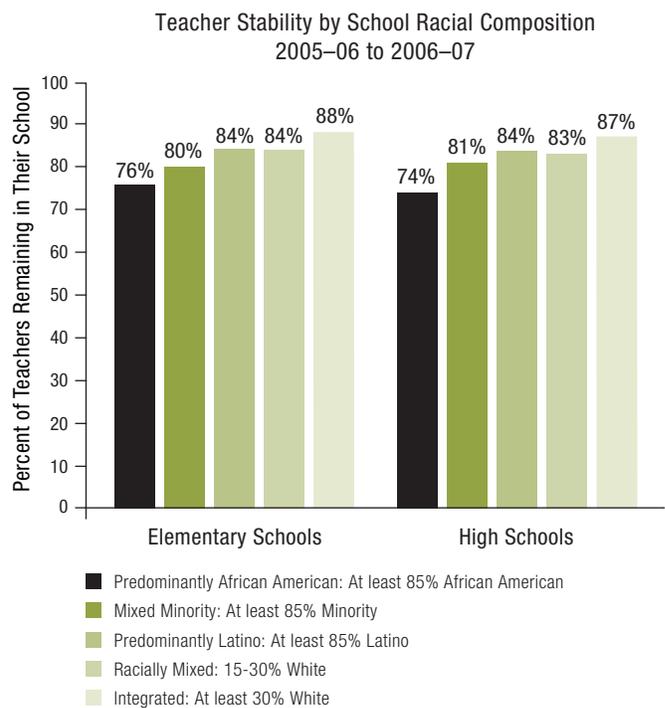
Stability is lowest at schools with high percentages of low-income students



Note: See Appendix D for the number of teachers and schools in each category.

FIGURE 16

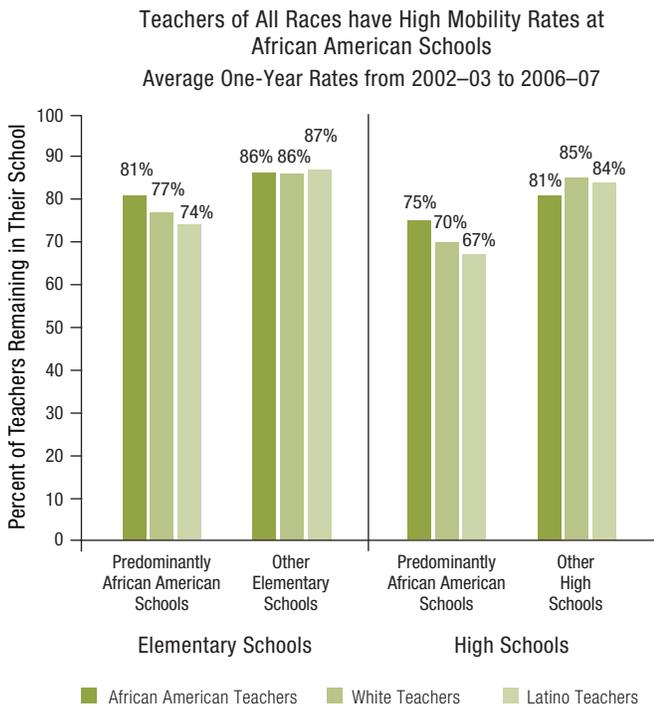
Teachers are less likely to stay in predominantly African American schools than schools with other racial/ethnic compositions



Note: See Appendix D for the number of teachers and schools in each category.

FIGURE 17

Teachers of all races have high mobility rates at African American schools



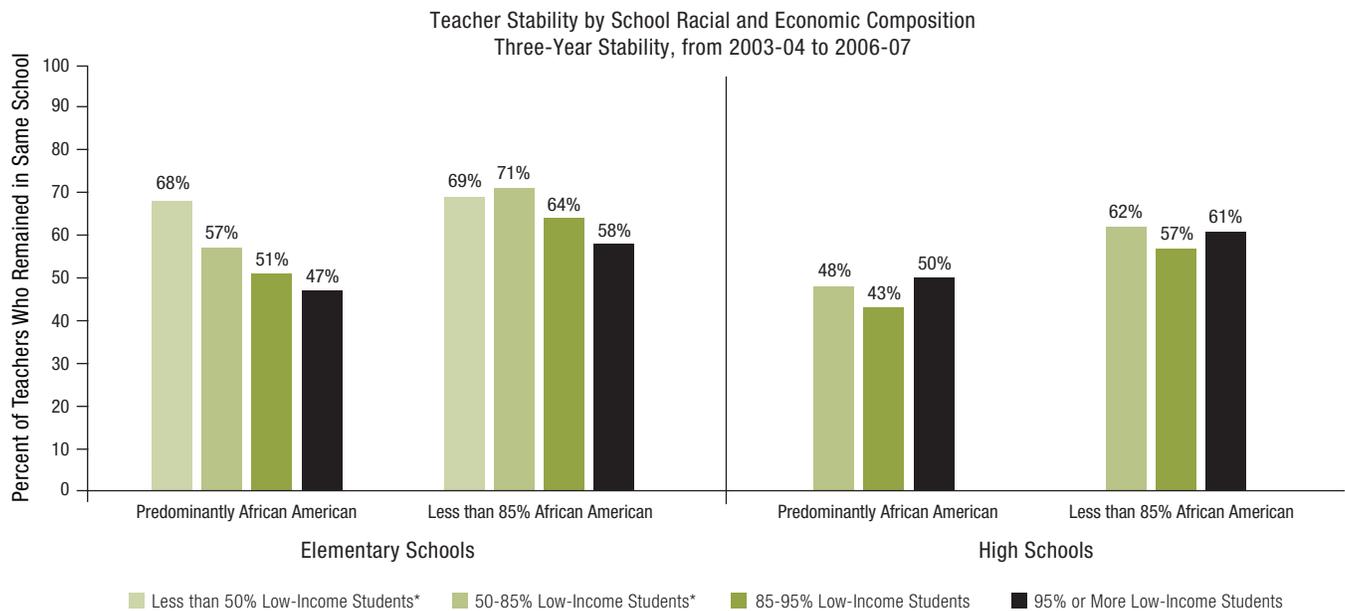
Note: These average stability rates come from statistical models that remove any differences from changes in student enrollment numbers or teacher’s background characteristics (e.g., educational background and age).

teachers are particularly unlikely to remain teaching if they are in predominantly African American schools. However, even African American teachers are more likely to remain teaching if they are at an integrated or predominantly Latino school than at an African American school. Teachers of all racial/ethnic backgrounds had significantly lower stability rates at African American schools than at schools that were not predominantly African American.

Differences in teacher stability rates by the characteristics of the student body become particularly disturbing when we look at more than one year of teaching, and when we simultaneously compare schools by their racial/ethnic and low-income composition. As shown in Figure 18, African American elementary schools show particularly low teacher stability rates when most of their students qualify as low-income—fewer than half of their teachers remain beyond three years. Among African American high schools, three-year stability rates are low regardless of the percentage of low-income students in the school. These high turnover rates have profound implications for the development of a professional community in CPS African American schools—how can professional development efforts be

FIGURE 18

Racial composition determines teacher mobility in high schools while economic composition is more important in elementary schools



Note: *These two categories are combined for high schools because only one predominantly African American high school has less than 50% students qualifying as low-income. See Appendix D for the number of teachers and schools in each category.

Teacher Stability by Social Conditions in the School and School Neighborhood

Teachers are more likely to remain if their school is located in an affluent area with low crime rates. As shown in Figure 19, teacher stability rates are over ten percentage points higher in elementary schools located in areas (census block groups) with low rates of crime, compared to elementary schools in areas with high rates of crime (87 percent, compared to 76 percent). There also is a significant relationship between crime in the neighborhood of the school and stability rates in high schools (83 percent in low crime areas, compared to 77 percent in high crime areas). Other work at CCSR has shown that it is very difficult to establish schools with strong organizational structures in areas with high crime rates (Sebring et al., 2006). High crime rates indicate a lack of social capital in the community—where residents lack the social structures needed to prevent crime and to support local institutions, such as schools. This is why schools located in areas with high crime rates have higher teacher mobility—schools in neighborhoods with less crime tend to have other working conditions that are associated with higher teacher stability, such as better relationships between teachers and parents, and fewer problems with student safety

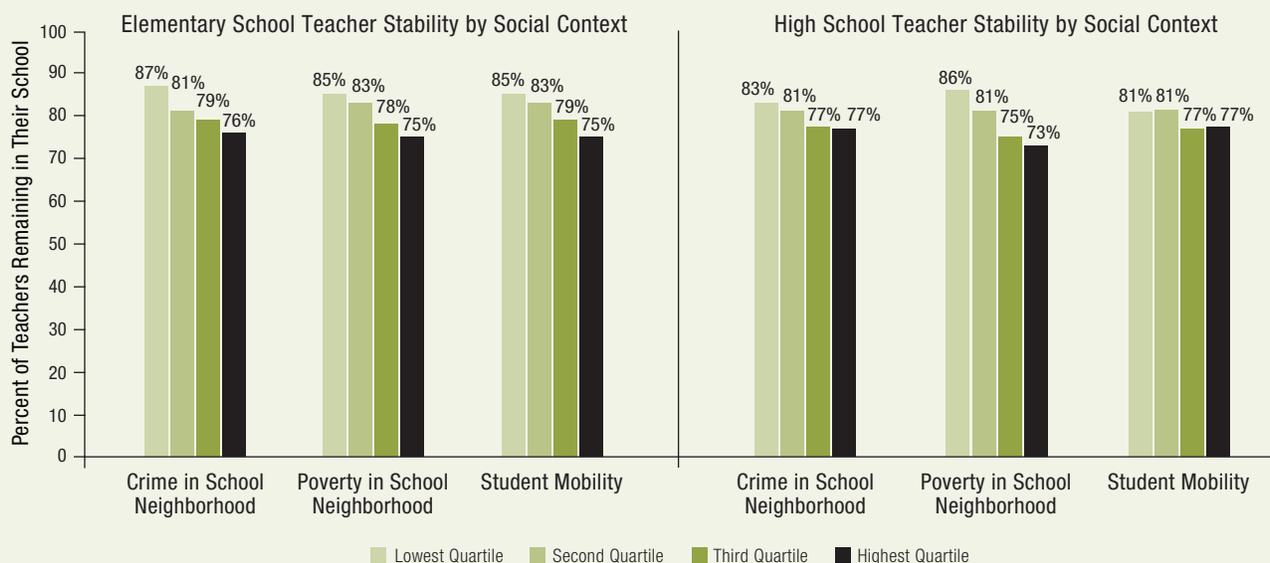
and disciplinary behavior. Crime is not significantly related to teacher stability after controlling for the workplace conditions in the school.

On the other hand, the economic context of the school neighborhood matters for teacher stability, and this relationship is not explained by the working conditions of the school. As shown in Figure 19, at both elementary and high schools, teacher stability rates are over ten percentage points higher in areas with very low rates of poverty compared to areas with high rates of poverty. The relationship with community poverty does not shrink substantially even after controlling for workplace conditions. Low-poverty neighborhoods may have amenities that are seen as desirable for teachers; they also may be closer to teachers' residences or more easily accessible.

Teacher mobility also is related to student mobility in elementary schools—teachers are more likely to leave elementary schools that have a mobile student body. This relationship is partially, but not fully, explained by weaker relationships between teachers and parents in elementary schools with high rates of student mobility. Among high schools, teacher and student mobility are not significantly related.

FIGURE 19

One-year teacher stability by social context



sustained over time when half or more of the teachers are no longer in the school just a few years later?

Differences in CPS teacher stability across schools are largely defined by differences in their student bodies, particularly among high schools. Almost all of the variability in stability rates among high schools—94 percent—can be predicted by the characteristics of students served by the school.⁴³ Thus, just by knowing what types of students attend a high school, one can make a fairly accurate estimate of the teacher stability rate at the school. Among elementary schools, there is more variation in teacher mobility rates among schools serving similar students. Just half of the variability in teacher stability rates can be predicted by knowing the characteristics of students served by the school.⁴⁴ These numbers suggest a substantial problem with equity in CPS schools—those students that are most disadvantaged in terms of their academic achievement and social/economic background are the least likely to go to a school that has a stable teacher workforce.

School Climate and Organization

While teacher stability is strongly tied to the composition of a school's student body, there are still some differences in stability rates that are unexplained simply by who is in the school. Many of the differences that remain can be explained by the ways that teachers work with their principal, with parents, and with other teachers. In fact, once we consider teachers' reports of the climate and organization of work at their school, only a quarter of the variation in teacher stability rates among elementary schools remains to be explained (24 percent), and almost no variation remains among high schools. Furthermore, differences in school climate explain many of the differences in teacher stability rates by student body composition. (Appendix B provides details on how we measured school climate.)

Teachers Are More Likely to Stay in Schools Where They Respect Their Colleagues and Feel that There Is a Climate of Collective Responsibility and Innovation in the School

Teachers are more likely to stay in schools where they have positive, trusting, working relationships with each other. As shown in Figure 20, one-year stability

rates are 4 to 5 percentage points higher in schools where teachers report a strong sense of collective responsibility among teachers—where there is a shared commitment among the faculty to improve the school so that all students can learn—compared to schools serving similar students but without a sense of collective responsibility. Likewise, teachers are more likely to remain teaching in schools where they feel that their colleagues are innovative, that is, where teachers have a “can do” attitude and work together on improving the school. It is notable that collective responsibility and perceptions of innovation among colleagues are particularly strongly related to teacher mobility at the high school level. This challenges the common belief that high school teachers tend to prefer autonomy to collaborative work. It may be harder to establish collective responsibility in high schools, where teachers are focused on teaching particular subjects and courses, than in elementary schools. However, it may be precisely because it is more difficult to establish a shared commitment to school improvement that it is particularly important in high school. In many high schools, teachers may feel alone in their teaching efforts and unsupported by their colleagues.⁴⁵ Teachers are also somewhat more likely to remain in schools where there is a strong sense of trust among teachers at the school and where there are positive efforts to include new teachers in the professional community of the school.

While it is important that teachers feel their colleagues are partners with them in the work of the school, their decisions to stay are not strongly related to the degree to which they work together on improving teaching in the school or receive professional development to improve their teaching. The degree to which teachers at a school discuss instruction and student learning (i.e., reflective dialogue) is only modestly related to teacher stability in elementary schools, and it is not related to teacher stability at the high school level. Neither teachers' perceptions of the quality of professional development at their school nor the amount of teacher involvement in learning outside of the school (access to new ideas) is related to teacher stability.

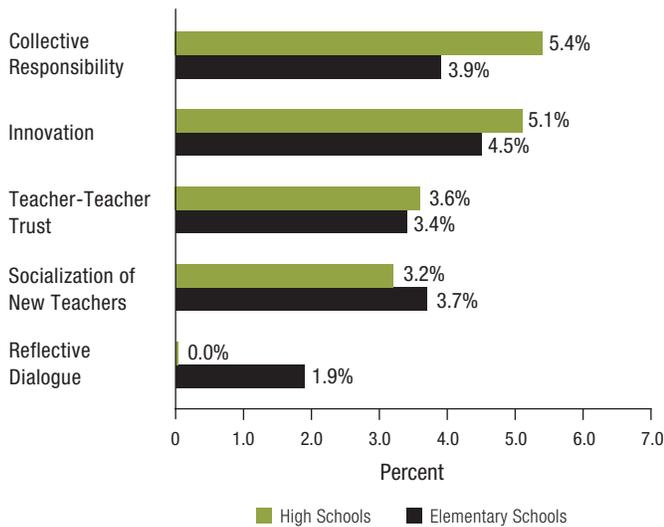
Other research on teacher turnover has shown that school leadership is an important factor in teachers' decisions to leave a school, and this can also be seen at

FIGURE 20

Stability was higher where teachers believed their colleagues were innovative and shared a sense of collective responsibility for school improvement

Difference in One-Year Stability Rates: Schools with Strong Climate Compared to Schools with Weak Climate

Average Across All Years, After Controlling for Teacher and Student Characteristics



Not related to teacher stability: the quality of professional development or access to new ideas.

Note: The relationships shown are significant at $p < .01$, except for reflective dialogue which is significant at $.05$ in elementary schools and not significantly related to teacher stability in high schools. These differences are calculated net of differences in school composition, structure, changes in student enrollment, and teacher's background characteristics. Bars represent a difference of two standard deviations in the school climate measure.

CPS. Most important for teacher stability is the degree to which teachers feel they have influence over school decisions. In both elementary and high schools, stability rates were at least five percentage points higher in schools with substantial teacher influence, compared to schools where teachers had little influence over their work environment (see Figure 21). Teacher influence is largely dependent on school administration, and teachers' views of their leaders are strongly related to their likelihood of staying in their school. Teacher stability rates are about 4 to 5 percentage points higher in schools where teachers report high levels of trust of their principal and where they view the principal as a strong instructional leader, compared to schools serving similar students where few teachers report that they trust their principal or where they view the principal as a weak instructional leader. We might wonder whether

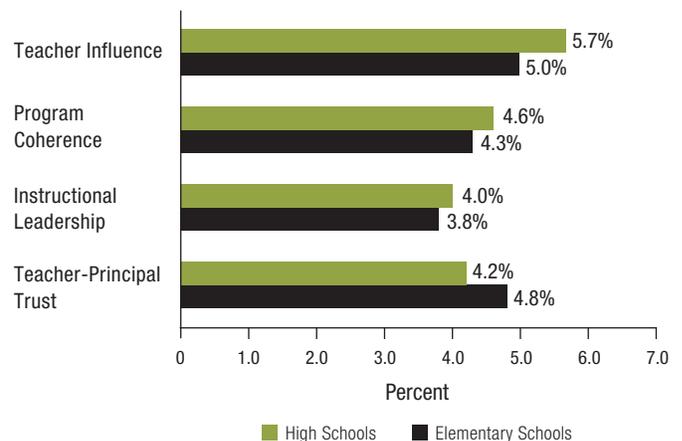
principals themselves are important for retaining teachers, or whether this strong relationship between instructional leadership and teacher stability exists because schools with strong leaders also have better working relationships among teachers and a better climate for instruction and learning. When we analyze multiple elements of the workplace conditions together, we find that some of the relationship between principal leadership and teacher stability is explained by other working conditions in the school, but that principal leadership remains a strong, significant predictor of teacher stability on its own.⁴⁶ Finally, given that indicators of principal leadership and teacher cooperative work are predictive of stability, it is not surprising that stability rates are higher in schools where teachers report more coherence in instructional programming—these are schools where the principal and teachers work together to coordinate instruction and programs in a coherent and sustained way.

FIGURE 21

Stability was higher where more teachers reported good relationships with the school principal and influence over school decision-making

Difference in One-Year Stability Rates: Schools with Strong Climate Compared to Schools with Weak Climate

Average Across All Years, After Controlling for Teacher and Student Characteristics



Note: The relationships shown are significant at $p < .01$. These differences are calculated net of differences in school composition, structure, changes in student enrollment, and teacher's background characteristics. Bars represent a difference of two standard deviations in the school climate measure.

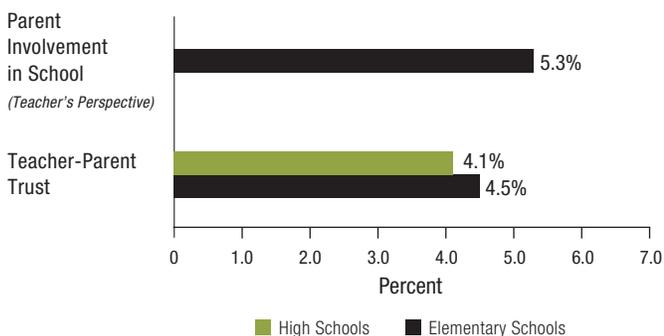
Elementary Teachers Are Much More Likely to Stay in Schools Where They Report Trusting Relationships With Parents

Besides working with their school principal and other teachers in the school, teachers rely on parents to support their students' education. Accordingly, teachers are much more likely to remain in elementary schools where many parents are involved with the school—where most parents pick up report cards, attend parent-teacher conferences, attend school events, volunteer to help in the classroom, and raise funds for the school (see Figure 22). We do not have a similar measure of parent involvement at the high school level. However, at both the elementary and high school levels, teachers are about four percentage points more likely to remain teaching in schools if there are high levels of trust with parents, compared to schools serving similar students but with low levels of trust. These are schools where teachers report that parents support their work and they feel respected by their students' parents. There is no relationship, however, between teacher stability and *students'* perceptions of their parents' involvement in their schoolwork. This suggests that it is parents'

FIGURE 22
Stability was higher in elementary schools where teachers viewed parents as partners in their work

Difference in One-Year Stability Rates: Schools with Strong Climate Compared to Schools with Weak Climate

Average Across All Years, After Controlling for Teacher and Student Characteristics



Not related to teacher stability: students' perceptions of parent's support for learning.

Note: The relationships shown are significant at $p < .01$. Measures of teachers' perspectives on parent involvement in school and students' perceptions of parents' support were not available in the high schools. These differences are calculated net of differences in school composition, structure, changes in student enrollment, and teacher's background characteristics. Bars represent a difference of two standard deviations in the school climate measure.

interactions with teachers and the quality of the relationships with teachers that affects teachers' likelihood of remaining in a school, more so than parents' general involvement in their children's education. These interactions with teachers are shaped not only by parents but also by the ways the school structures communication with parents and opportunities for parent involvement in the school. Differences in teachers' perceptions of parents explain about half of the difference in stability rates between low-income African American elementary schools and other CPS elementary schools, and teacher-parent trust explains about 11 percent of the difference in high schools.

Teachers Are More Likely to Stay in Schools with a Safe, Supportive Environment for Students, Particularly at the High School Level

Having supportive colleagues, a supportive principal, and involved parents can make teachers' work easier. But most of teachers' workday involves interactions with students. Therefore, it is not surprising that students' behaviors in a school are very strongly associated with the likelihood that teachers remain teaching at that school. Teachers are more likely to stay at schools where students feel safe, and where students report that their classroom peers engage in appropriate academic behavior. Particularly in high schools, student behaviors and the safety of the school climate are highly predictive of teacher stability. Comparing high schools that serve similar students, those with very safe environments have stability rates that are six percentage points higher than schools with similar student bodies but poor student safety (see Figure 23).⁴⁷ Teachers' jobs are easier if their students are well behaved, accordingly, high schools where students behave well in class have teacher stability rates that are six percentage points higher than schools serving similar students who engage in poor classroom behavior. Likewise, the more that students at a school have disciplinary problems, the more likely their teachers are to leave that school.

Differences in students' behavior across schools, and feelings of safety, account for many of the differences in teacher stability between low-income African American schools and other schools. After accounting for differences in students' classroom behavior and

parent involvement across schools, low-income African American elementary schools do not show significantly different rates of teacher stability than other CPS schools.⁴⁸ Students' classroom behaviors also explain about half of the differences in teacher stability rates between African American high schools and other CPS high schools.⁴⁹ We also wondered whether crime in the school neighborhood explained some of the differences in stability by racial and economic composition, beyond the climate of the school; it did not. Any effects of neighborhood crime on teacher stability seem to affect teachers through the effects of crime on school climate (see page 24 for details).

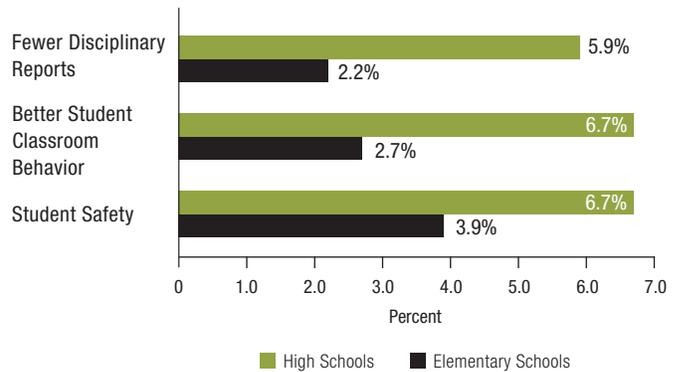
While students' perceptions of the climate of safety in the school and of their peers' behaviors are strongly related to teacher stability, their reports of relationships with teachers and their interactions with teachers in their classrooms are not. Whether teachers are effective in the classroom, as measured by students' engagement and reports of academic press and personalism, does not show a relationship with teacher stability at the school level. Teachers are more likely to stay where the environment is conducive to teaching; however, whether or not students perceive teachers as effective within that environment is not strongly related to their likelihood of staying.⁵⁰

FIGURE 23

Stability was higher in schools where students reported a safer climate and support from peers

Difference in One-Year Stability Rates: Schools with Strong Climate Compared to Schools with Weak Climate

Average Across All Years, After Controlling for Teacher and Student Characteristics



Not related to teacher stability: students' reports on classroom engagement, press and teacher trust.

Note: The relationships shown are significant at $p < .01$. These differences are calculated net of differences in school composition, structure, changes in student enrollment, and teacher's background characteristics. Bars represent a difference of two standard deviations in the school climate measure.

Chapter 3

Interpretive Summary

On average, CPS schools do not lose many more teachers each year than the typical school in Illinois or across the nation; about 20 percent of teachers leave their school each year. However, teacher loss adds up over just a few years, so that less than half of the teachers remain in a typical school for five years. This has important implications for professional development and program implementation; there must be continual training and incorporation of new staff or any effort is unlikely to be sustained.

Furthermore, there are large differences in teacher mobility across schools within CPS—differences unequally felt in schools with low levels of student achievement, and particularly in schools that predominantly serve African American students and where nearly all students are low-income. CPS schools with chronic teacher instability lose a quarter to a third of their teachers each year. Thus, year after year they must devote substantial time and effort to recruiting and mentoring their staff if they are to have a successful faculty. This places substantial demands on veteran staff and administration beyond what is typical in most other schools. It is difficult to imagine how these schools could sustain new initiatives or build consensus on common practices and strategies with a staff that continually changes. Many schools are likely stuck in a cycle of teacher loss that is hard to break—teachers leave because of poor school climate and low achievement, but these are hard to improve when there is constant turnover of teachers each year.

> Factors that predict teacher stability reflect the control teachers have over their work environment.

The quality of the teacher workforce in our nation's schools has become a widely acknowledged concern and a national priority. Effective teachers are vitally important for student learning. Thus, there is widespread concern about whether schools are losing effective teachers. Prior research that has shown less effective teachers leave at higher rates than more effective teachers might ease some concerns about mobility. But losing weak teachers is only beneficial if they are replaced with better teachers; otherwise, there is simply a shuffling of weak teachers. Patterns such as those seen in low-performing CPS elementary schools—where teachers transfer among similarly poor-performing schools—are troubling. It is possible that ineffective teachers are pushed out from one school only to be rehired by other schools desperate to fill vacant positions. Unfortunately, we do not know much about the effectiveness of teachers leaving CPS schools because the data currently in place do not allow us to link teachers with their students. Until we can link teachers to their students' records we will not know whether more or less effective teachers are leaving their schools.

A common strategy for promoting teacher retention is mentoring and induction of new teachers. But it turns out that retention is not just a problem in the first two years of teaching. While new teachers are more likely to leave than veterans, it is not sufficient for schools to keep teachers for just their first two years. Five-year stability rates are very low—among new teachers less than one-third remain in their original school, and less than half of all CPS teachers remain in one school for five years. Furthermore, socialization of new teachers is not the most important predictor of the stability of the teacher workforce in a school. Developing and sustaining a cooperative work environment among teachers, and between teachers and the principal, are more important.

Teachers' perceptions of other teachers in the school are strongly tied to mobility. Teachers are more likely to stay where they believe their colleagues take responsibility for the whole school and are willing to work to make the school work better. Teachers stay when they see themselves as a part of a team that is working towards making their school better; they leave when

they view their colleagues as uncooperative and resistant to change. This suggests that the expectations for teachers need to go beyond their individual classroom doors. Teachers who are viewed by colleagues as not supporting broader efforts in the school do not just isolate themselves—they lead their colleagues to become dissatisfied and to move out of the school. Especially in high schools, where teachers are less likely to collaborate and more likely to simply focus on their content area, it is important to foster a sense of teamwork and shared responsibility among teachers.

Principals set the expectations for teachers' work and shape the working conditions in the school. Thus, schools where teachers view their principals as strong instructional leaders tend to have better relationships among teachers and higher teacher stability. The principal, who is the teacher's supervisor, can provide direct support to their practice. Therefore, teachers' perceptions of their principal matter for teacher retention, as well as the conditions established for teachers' cooperative work.

Many of the factors most strongly predictive of teacher stability reflect the control teachers have over their work environment, including the conditions that limit their ability to do their job. Teachers are more likely to stay in schools where teachers feel they have influence over school decisions. They are more likely to stay where they have supportive principals and cooperative colleagues who help them do their job well. They are unlikely to stay in schools where they feel their colleagues, and the parents of their students, do not support and respect them. Likewise, teachers tend to leave schools where students present high levels of disciplinary problems. Teaching is a struggle in schools that have poor safety and little discipline.

We cannot ignore the fact that student classroom behavior is the strongest predictor of teacher mobility in the high schools. CCSR researchers have visited classrooms throughout Chicago and seen many examples of exemplary teaching and orderly classrooms. But we also regularly see classrooms in chaos. It is difficult to imagine how a teacher would return day after day to a work environment where students are so disruptive that no learning can occur. Moreover, many teachers seem to lack strategies for dealing with

students' behavioral issues and appear to get little support with these classroom management issues. There is clearly a need to help teachers address classroom management, develop school policies that improve discipline, and work to develop students' non-cognitive skills (e.g., perseverance, study skills) so that they can more effectively engage in learning. These are basic conditions necessary for successful teaching to occur.

It may seem futile to try to reduce teacher mobility if mobility is so strongly affected by student and parent behavior. After all, most schools do not choose the students they serve or their students' parents.⁵¹ Some schools have greater problems with student behavior simply because they serve large percentages of students who are dealing with problems that interfere with learning, such as family disruption or mental health issues. Many of these same schools find it difficult to establish trusting relationships with parents due to high rates of student mobility or cultural differences between teachers and parents. More is expected of teachers in these schools, and it is not surprising that teachers leave these schools at particularly high rates. Yet, we also know that students' behaviors and parental involvement are not completely out of the influence of the school. Schools cannot choose the parents they serve, but they can design their outreach to parents in ways that encourage productive collaboration with teachers, rather than anger and resentment. Teachers' perceptions of parents may arise from an interaction of their own beliefs and experiences with parents, and from parent reactions to school policies over which the teacher has little control.

While teachers' work together matters for retaining teachers in the school, it does not seem to matter whether they are specifically working on improving teaching and learning in the school. Reflective dialogue

about practice in the school shows no relationship with teacher stability, nor does the quality or quantity of professional development in which teachers participated. Likewise, students' reports of the quality of their interactions with teachers—their trust of teachers, engagement in classes, the degree to which teachers personalized instruction—are not related to teacher stability. Yet other research at CCSR has shown that teacher collaboration needs to focus on instruction if student learning is to improve.⁵² This prior work shows that the schools making the greatest gains in test scores are those that have a professional community of teachers working together on improving the quality of instruction in the school.

One key finding in this report involves the higher mobility rates seen at small schools. Small schools put enormous demands on teachers and can potentially “burn-out” even the most enthusiastic new teacher. As CPS continues to open a range of new and small schools, the district must pay special attention to issues of teacher retention in these environments.

This report will likely provide sobering news for those concerned with building a high-quality, stable cadre of teachers in Chicago and other urban communities nationally. Yet there are also some grounds for optimism. Even among schools with similar student characteristics, there are differences in teacher stability. Schools retain their teachers when they have strong collaborative relationships among teachers, parents, and administrators and where the learning climate for students is safe and non-disruptive, regardless of the backgrounds of their students. This suggests that efforts to improve school environments can help in reducing teacher turnover and may further assist these schools in building their overall capacity to support student learning.



References

ACORN (2005)

Here One Year, Gone the Next: Summarizing the Teacher Turnover Data for 64 ACORN Neighborhood Schools, 2002–03 to 2003–04. http://www.acorn.org/fileadmin/ACORN_Reports/ACORN_turnover_study.pdf.

Boe, E. E., S. A. Bobbitt, and L. H. Cook (1997)

Whither Didst Thou Go? Retention, Reassignment, Migration, and Attrition of Special and General Education Teachers from a National Perspective. *The Journal of Special Education*, 30(4), 371–89.

Boyd, Donald, Pamela Grossman, Hamilton Lankford, Susanna Loeb, and James Wyckoff (2007)

Who Leaves? Teacher Attrition and Student Achievement. Working paper. Albany, NY: State University of New York, Albany.

Boyd, Donald, Hamilton Lankford, Susanna Loeb, and James Wyckoff (2006)

Analyzing the Determinants of the Matching of Public School Teachers to Jobs: Estimating Compensating Differentials in Imperfect Labor Markets. Working paper. Albany, NY: State University of New York, Albany.

Buckley, J., M. Schneider, and Y. Shang (2004)

The Effects of School Facility Quality on Teacher Retention in Urban School Districts. Chestnut Hill, MA: National Clearinghouse for Educational Facilities.

Carroll, T. G., K. Fulton, K. Abercrombie, and I. Yoon (2004)

Fifty Years after Brown v. Board of Education: A Two-Tiered Education System. Washington, D.C.: National Commission on Teaching and America's Future.

Center for Teaching Quality (2007)

Teaching and Learning Conditions Improve High School Reform Efforts. Raleigh, Center for Teaching Quality.

DeAngelis, Karen J., and Jennifer B. Presley (2007)

Leaving Schools or Leaving the Profession: Setting Illinois' Record Straight on New Teacher Attrition. Illinois Education Research Council Policy Research Report: IERC 2007–1.

Dolton, P., and W. von der Klaauw (1995)

Leaving Teaching in the UK: A Duration Analysis. *The Economic Journal*, 105(429), 431–44.

Ferguson, Ronald F. (1998)

“Teachers’ Perceptions and Expectations and the Black-White Test Score Gap,” In Christopher Jencks and Meredith Phillips (Eds.), *The Black-White Test Score Gap and Can Schools Narrow the Black-White Test Score Gap?* 273–374, Washington, D.C.: Brookings Institution Press.

Ferguson, Ronald F., and Helen F. Ladd (1996)

“How and Why Money Matters: An Analysis of Alabama Schools,” In Helen F. Ladd (Ed.), *Holding Schools Accountable: Performance Based Reform in Education*, Washington, D.C.: Brookings Institution Press.

Fisk, C., P. Prowda, and B. Beaudin (April 2001)

Are We Keeping the Best and Brightest? A Study of Beginning Teacher Attrition in Connecticut. Paper presented at the American Educational Researchers Association Annual Meeting, Seattle.

Gallagher, H. A., H. J. Hough, and J. M. Luczak (April 2004)

What Is Alternative Certification?: Bringing Clarity to the Confusion. Paper presented at the American Educational Research Association, San Diego.

Goldhaber, Dan, Lauren Cramer, and Hyung-Jai Choi (2007)

A Descriptive Analysis of the Distribution of NBPTS Certified Teachers in North Carolina. *Economics of Education Review*. 26(2): 160–72.

Goldhaber, Dan (Summer 2006)

National Board Teachers Are More Effective, but Are they in the Classrooms Where they're Needed the Most? *Education Finance and Policy*. 1(3): 372–82.

Grissmer, D. W., and S. N. Kirby (June 1993)

Teacher Attrition: Theory, Evidence, and Suggested Policy Options. Paper presented at the Seminar of the World Bank/Harvard Institute for International Development on “Policies Affecting Learning Outcomes through Impacts on Teachers,” Cambridge, MA.

Grissmer, D. W., and S. N. Kirby (1997)

Teacher Turnover and Teacher Quality. *Teachers College Record*, 99(1), 45–56.

- Guarino, C., L. Santibañez, G. Daley, and D. Brewer (2004)
A Review of the Research Literature on Teacher Recruitment and Retention (No. TR-164-EDU). Santa Monica: RAND Corporation.
- Guin, K. (2004)
Chronic Teacher Turnover in Urban Elementary Schools. *Education Policy Analysis Archives*, 12(42).
- Hanushek, E. A., J. F. Kain, and S. G. Rivkin (1998)
Teachers, Schools, and Academic Achievement. Working paper. Cambridge, MA: National Bureau of Economic Research.
- Hanushek, E. A., J. F. Kain, and S. G. Rivkin (2004)
Why Public Schools Lose Teachers. *Journal of Human Resources*, 39(2), 326–54.
- Ingersoll, R. M. (2001)
Teacher Turnover and Teacher Shortages: An Organizational Analysis. *American Educational Research Journal*, 38(3), 499–534.
- Ingersoll, R., and N. Alsalam (1997)
Teacher Professionalization and Teacher Commitment: A Multilevel Analysis (No. NCES 97-069). Washington, D.C.: U.S. Department of Education.
- Institute for Education Sciences National Center for Education Statistics (2004)
Schools and Staffing Survey. http://nces.ed.gov/surveys/sass/tables/state_2004_21.asp.
- Johnson, S. M., J. H. Berg, and M. L. Donaldson (2005)
Who Stays in Teaching and Why: A Review of the Literature on Teacher Retention. Cambridge: The Project on the Next Generation of Teachers, Harvard Graduate School of Education.
- Kahne, Joseph E., Sue Sporte, and Marisa de la Torre; with John Q. Easton (2006)
Small Schools on a Larger Scale: The First Three Years of the Chicago High School Redesign Initiative. Consortium on Chicago School Research.
- Kapadia, Kavita, and Vanessa Coca; with John Q. Easton (2007)
Keeping New Teachers: A First Look at the Influences of Induction in the Chicago Public Schools. Consortium on Chicago School Research.
- Kirby, S. N., M. Berends, and S. Naftel (1999)
Supply and Demand of Minority Teachers in Texas: Problems and Prospects. *Educational Evaluation and Policy Analysis*, 21(1), 47–66.
- Louis, K. S., H. M. Marks, and S. Kruse (1996)
Teachers' Professional Community In Restructuring Schools. *American Educational Research Journal*, 33(4), 757–98.
- Luekens, M. T., D. M. Lyter, E. E. Fox, and K. Chandler (2004)
Teacher Attrition and Mobility: Results from the Teacher Follow-Up Survey, 2000–01. Washington, D.C.: National Center for Education Statistics.
- McLaughlin, Milbrey, and Joan Talbert (2001)
Professional Communities and the Work of High School Teaching. Chicago: University of Chicago Press.
- Murnane, R., J. D. Singer, and J. Willett (1988)
The Career Paths of Teachers: Implications for Teacher Supply and Methodological Lessons for Research. *Educational Researcher*, 17(5), 22–30.
- Murnane, R. J., J. D. Singer, J. Willett, J. J. Kemple, and R. J. Olsen (1991)
Who Will Teach?: Policies that Matter. Cambridge: Harvard University Press.
- Public Agenda (2004)
Teaching Interrupted: Do Discipline Policies in Today's Public Schools Foster the Common Good? Washington, D.C.: Public Agenda.
- Rees, D. I. (1991)
Grievance Procedure Strength and Teacher Quits. *Industrial and Labor Relations Review*, 45(1), 31–43.
- Rosenholtz, S. (1989)
Teachers' Workplace: The Social Organization of Schools. New York: Longman.
- Sebring, Penny Bender, Elaine Allensworth, Anthony S. Bryk, John Q. Easton, and Stuart Luppescu (2006)
The Essential Supports for School Improvement. Consortium on Chicago School Research.
- Shen, J. (1997)
Has the Alternative Certification Policy Materialized Its Promise? A Comparison between Traditionally and Alternatively Certified Teachers in Public Schools. *Educational Evaluation and Policy Analysis*, 19(3), 276–83.
- Shen, J. (2003)
New Teachers' Certification Status and Attrition Pattern: A Survival Analysis Using the Baccalaureate and Beyond Longitudinal Study, 1993–97. Paper presented at the AERA annual meeting, Chicago.
- Stevens, W. David (2008)
If Small Is Not Enough...?: The Characteristics of Successful Small High Schools in Chicago. Consortium on Chicago School Research.
- Stinebrickner, T. R. (2001)
A Dynamic Model of Teacher Labor Supply. *Journal of Labor Economics*, 19(1), 196–230.
- Useem, E. (2003)
The Retention and Qualifications of New Teachers in Philadelphia's High-Poverty Middle Schools: A Three-Year Cohort Study. Philadelphia: Philadelphia Education Fund.

Appendix A: Statistical Models

We used three-level hierarchical logistic regression models to examine the movement of teachers into and out of their schools. These models allow us to examine the relationship of teacher stability with each teacher and school characteristic net of the effects of the other characteristics. The models also help smooth instability in the data due to small samples (e.g., the small number of teachers who leave a school in each year); structural changes occurring in schools (losing students, demographic changes); and inconsistencies in the data from year to year. Schools that closed are removed from the analyses during the year of closure.

Level one in the models is the teacher level, where we typically have multiple observations of each teacher across years.⁵³ Level two models school years (with one observation of each school in each year). Level three is the school level. Our dataset for these models includes elementary schools with survey data from 2002–03 to 2006–07, and contains 37,714 total observations of 16,102 individual teachers in 998 years-within-schools in 346 schools; for high schools, we have 12,858 observations of 5,837 teachers in 147 years-within-schools and 53 schools. Each teacher could be observed four times at most—from 2002–03 to 2003–04, 2003–04 to 2004–05, 2004–05 to 2005–06, and 2005–06 to 2006–07. Since the survey is administered every other year, survey data from the most recent survey year is assigned to schools in the non-survey years. That is, in 2004 (a non-survey year), schools are assigned their survey data from 2003.

When examining the factors related to teacher stability, we built the models in stages—first modeling the effects of declining enrollment, then adding teacher background variables, then school structure and compositional variables, and finally survey measures.

When doing this, we found that indicators of student body composition (percentage of students at norms, percentage of low-income students, racial status, probation status of the school) were so highly correlated with each other that the models could not discern separate effects. Thus, each was entered separately from the others to confirm that it remained a significant predictor on its own—which was the case. Subsequent models then included only a subset of student composition variables to serve as control variables for student body composition. Likewise, the school climate measures were correlated with each other to such an extent that it was not possible to include more than two in one model without substantially increasing multi-collinearity. Therefore, climate measures were also entered into the model individually to confirm that they remained significant predictors of stability controlling for student body composition, school structure, and teacher backgrounds. The dependent variable was a dichotomous indicator for whether a teacher remained in the school in the subsequent year.

Level 1 Models: Teachers

$$\log[P/(1-P)]_{ijk} = \pi_{0jk} + \sum_{p=1}^p \pi_{pjk} (X)_{ijk} + e_{ijk},$$

where X is a vector of teacher background variables including gender, a series of race/ethnicity dummy variables, a series of dummy variables representing highest degree earned, a series of dummy variables representing the institution where the teacher obtained their bachelor's degree, a dummy variable for first-year teachers, and a series of dummy variables representing age.

Level 2 Models: School Years

$$\pi_{0jk} = \beta_{00k} + \sum_{r=1}^r \pi_{0rk} (Y)_{jk} + r_{0jk},$$

$$\pi_{pjk} = \beta_{p0k} \text{ (except where noted below)}$$

where Y is a vector of time-varying school characteristics, including dummy variables representing the racial composition of the school in that year, the school size in that year, the degree to which the student body decreased or increased that year, whether the school received a new principal that year, the economic backgrounds of the students in the school in that year, and the school's probation status that year (went on, went off, remained on).⁵⁴ Models that examine school climate and culture include survey measures in the vector of school characteristics. Most models also include a variable at level 2 representing time (coded 0–3 for each year). This variable picks up the linear trend in stability across all four years.

All π other than the intercept were fixed without a random component at either the year or school level, without level-2 predictors, unless they were being examined for a particular analysis. Some models were run where one π was predicted with the variable representing time to determine whether stability trends were different for a subgroup of teachers (e.g., novice teachers compared to veteran teachers). Other models examined whether particular types of teachers were more likely to remain in particular types of schools by predicting specific level-1 coefficients with school variables at level 2 (e.g., predicting the π for teacher race with the racial composition of the school).

Level 3 Models: Schools

$$\beta_{00k} = \gamma_{000} + u_{00k}$$

$$\beta_{prk} = \gamma_{pr0}$$

At level 3, only the level 2 intercept was allowed to vary at the school level. All other γ were fixed at level 3. No school predictors were included since school characteristics were entered as time-varying covariates at level 2. Table 2 shows the degree to which school-level variation was explained by teacher and school characteristics.

TABLE 2
School level variability in teacher stability rates

	Elementary	High School
Unconditional Model	.21433	.27810
Controlling for School Structure	.19817	.19337
Plus Teacher Background	.18583	.21950
Plus Student Background	.09000	.01256
Plus School Climate	.04846	.00082

Limitations on Causal Inference

The analyses in this report examine the probability of teachers remaining in their school from year to year, given the conditions in the school in the first year and their own background characteristics. We are limited in making causal inferences about whether changing conditions would cause a change in teacher mobility because we are not manipulating the conditions in the schools that we study. However, the analyses are not mere correlations—we examine relationships net of other observable factors, including teachers' background characteristics and the composition of students served by the school. Furthermore, because our data are longitudinal we can discern the causal ordering of the relationships—determining which conditions in year one predict stability from year one to year two. However, we cannot be certain whether there are unmeasured factors that might account for some of the relationships we observe.

Appendix B: Description of Measures

Measures of school climate come from surveys conducted by the Consortium on Chicago School Research (CCSR) in the spring of 2001, 2003, and 2005. Since 1991, CCSR has surveyed all CPS principals, teachers, and students to learn their views on and experiences in our public schools. Our surveys ask about learning climate, student-teacher relationships, leadership, and quality of the school's instructional program. They also

ask about the school's professional environment, and the nature of the school's relationships with parents and the community. From these surveys, we create measures about features of each school. The survey items that were used to construct the measures, and information about the psychometric properties of the measures, are available at <http://ccsr.uchicago.edu/surveymeasures2007>.

TABLE 3
CCSR measures on school climate and instruction

Measures from Surveys of Students	
<p>Student Classroom Behavior measures the degree to which students' classmates treat each other with respect, help each other learn, like to put others down, and don't care about each other. Students' reports refer to a specific class.</p> <p>Classroom Personalism gauges whether students perceive that their classroom teachers give them individual attention and show personal concern for them. Students were asked if their teachers know and care about them, notice if they are having trouble in class, and are willing to help with academic and personal problems. Students' reports refer to a specific class.</p> <p>Student-Teacher Trust focuses on the quality of relationships between students and teachers. Students were asked whether they believe teachers can be trusted, care about them, keep their promises, and listen to students' ideas, and if they feel safe and comfortable with their teachers.</p> <p>Parent Support for Student Learning gauges student views of their parents' support for their schoolwork. Students were asked about how often their parents (or other adults) encourage them to work hard, do their homework, and take responsibility.</p>	<p>Academic Press measures students' views of their teachers' efforts to push students to higher levels of academic performance. Students also report on teachers' expectations of student effort and participation. High levels indicate that most teachers press all students toward academic achievement.</p> <p>Safety measures a reflection of students' sense of personal safety inside the school, outside the school, and traveling to and from school. High levels indicate that students feel very safe in all these areas.</p> <p>Incidence of Disciplinary Action measures how often students get into trouble and are disciplined. Questions ask students how many times they have been sent to the office or suspended, and how often their parents have been contacted about discipline problems. High levels indicate that students get into trouble frequently and often receive disciplinary action. This a negative scale; low levels are more desirable than high ones.</p>

TABLE 3—CONTINUED

CCSR measures on school climate and instruction

Measures from Surveys of Teachers	
<p>Instructional Program Coherence measures the degree to which teachers feel the programs at their school are coordinated with each other and with the school’s mission. Teachers were asked if the materials in their schools are consistent both within and across grades, if there is sustained attention to quality program implementation, and if changes at the school have helped promote the school’s goals for student learning.</p> <p>Collective Responsibility focuses on the extent of shared commitment among the faculty to improve the school so that all students learn. Teachers were asked how many colleagues feel responsible for students’ academic and social development, set high standards of professional practice, and take responsibility for school improvement.</p> <p>Reflective Dialogue about Practice reveals how much teachers talk with one another about instruction and student learning. Teachers reported how often they discuss curriculum and instruction as well as school goals, and how best to help students learn and how to manage their behavior.</p> <p>Teacher-Teacher Trust measures the extent to which teachers in school have open communication with and respect for each other. We asked, for example, whether teachers in the school trust and respect each other, and feel like they can discuss feelings and frustrations.</p> <p>Teacher-Parent Trust asks teachers whether they feel good about parents’ support for their work, the extent to which they feel respected by their students’ parents, whether teachers and parents think of each other as partners, whether staff work to build trusting relationships with parents, and whether parents have confidence in the expertise of teachers.</p> <p>Teacher Commitment to the School gauges the extent to which teachers feel loyal and committed to the school. Teachers reported whether they look forward to working in the school, would rather work somewhere else, and would recommend the school to parents.</p> <p>Reflective Dialogue measures teachers’ assessment of how often they talk with one another about instruction and student learning. Questions asked teachers about their discussion of curriculum and instruction, the school’s goals, and the best ways to manage classroom behavior and help students learn. High levels indicate that teachers frequently discuss instruction and student learning.</p>	<p>Teacher-Principal Trust measures the extent to which teachers feel their principal respects them. Teachers reported if their principal looks out for the welfare of teachers and has confidence in their expertise, and if they respect the principal as an educator.</p> <p>Innovation measures teachers’ perceptions of whether or not teachers in the school are continually learning and seeking new ideas, have a “can do” attitude, and are encouraged to try new ideas in their teaching. High levels indicate that there is a strong orientation toward improvement and a willingness to be part of an active learning environment.</p> <p>Teacher Influence measures the extent of teachers’ involvement in school decision-making. It assesses teachers’ influence on the selection of instructional materials, setting of school policy, in-service program planning, discretionary funds spending, and hiring of professional staff. High levels indicate that teachers have influence on a broad range of issues at the school.</p> <p>Principal Instructional Leadership assesses teachers’ perceptions of their principal as an instructional leader with respect to the teaching and learning standards, communication of a clear vision for the school, and tracking of academic progress. High levels indicate that teachers view their principal as very involved in classroom instruction.</p> <p>Quality Professional Development measures teachers’ assessment of the degree to which professional development has influenced their teaching, helped them understand students better, and provided them with opportunities to work with colleagues and teachers from other schools. High levels indicate that teachers are involved in sustained professional development focused on important school goals.</p> <p>Socialization of New Teachers measures teachers’ reports of the extent to which new teachers are made to feel welcome and are given helpful feedback on their instructional practices. High levels indicate strong, positive efforts to include new teachers in the professional community of the school.</p> <p>Access to New Ideas measures the extent to which teachers participate in professional development. Questions ask teachers how often they attend professional development activities sponsored by the school, district, or union; take continuing education courses at a college or university; and network with teachers from other schools. High levels indicate that teachers are actively involved in professional development activities.</p>

Appendix C: Characteristics of CPS Teachers

TABLE 4

CPS Elementary Schools	All Years	2002–03	2003–04	2004–05	2005–06
Percentage of Female Teachers	84.6	84.6	84.3	84.8	84.8
Percentage of African American Teachers	34.4	35.3	35.4	33.8	33.1
Percentage of White Teachers	45.2	41.8	45.9	46.6	46.7
Percentage of Hispanic Teachers	14.7	13.2	14.8	15.2	15.9
Percentage of Asian Teachers	2.7	2.3	2.7	2.9	2.9
Percentage of Teachers with a Degree in Education	83.6	83.8	84.5	83.2	82.7
Percentage of Teachers with at Least a Master's Degree	48.7	47.8	49.7	46.6	51.0
Average Age	44.0	44.4	44.2	43.6	43.8

CPS High Schools	All Years	2002–03	2003–04	2004–05	2005–06
Percentage of Female Teachers	59.2	58.5	58.9	59.4	60.0
Percentage of African American Teachers	34.1	35.2	34.7	34.3	32.4
Percentage of White Teachers	50.3	46.3	51.4	51.6	52.0
Percentage of Hispanic Teachers	8.8	8.1	9.0	9.0	9.2
Percentage of Asian Teachers	3.6	2.9	3.5	3.9	4.2
Percentage of Teachers with a Degree in Education	63.4	63.3	64.7	62.9	63.1
Percentage of Teachers with at Least a Master's Degree	54.0	53.9	54.1	52.4	55.7
Average Age	44.9	46.1	45.3	44.4	44.1

Analyses are based on teachers in each base year (2002-03 through 2005-06); therefore, a description of 2006-07 teachers is not included in this table because data in 2006-07 were used only to determine whether teachers remained in CPS or left.

Appendix D: Numbers of Cases in Figures

The number of teachers and schools represented in the figures differ based on whether survey data were used and which years are represented.

TABLE 5

Number of teachers represented in Figure 4

	Teachers in 2002–03		Teachers in 2003–04		Teachers in 2004–05		Teachers in 2005–06	
	Left CPS	Stayed in CPS						
Elementary	1,648	1,998	1,944	1,073	2,351	1,101	2,083	1,250
High School	639	594	828	407	983	534	973	482

TABLE 6

Number of teachers represented in Figure 7

	First Year in CPS	All Others
Elementary	1,477	15,865
High School	791	6,323

TABLE 7

Number of teachers represented in Figure 8

	Teachers Hired in 2002–03	Teachers Hired in 2003–04	Teachers Hired in 2004–05	Teachers Hired in 2005–06
Elementary	1,794	1,379	1,697	1,477
High School	734	663	829	791

TABLE 8

Number of teachers and schools represented in Figure 11

	Lost More than 30% of Students	Lost 20–30% of Students	Lost 10–20% of Students	Lost 0–10% of Students	Gained Students
Number of Teachers					
Elementary Schools	116	403	2,273	8,470	6,080
High Schools	138	54	368	2,510	4,044
Number of Schools					
Elementary Schools	4	15	75	218	173
High Schools	4	1	5	25	72

TABLE 9

Number of teachers and schools represented in Figure 12

	Small	Medium	Large
Number of Teachers			
Elementary Schools	1,252	6,971	8,740
High Schools	2,036	2,063	2,682
Number of Schools			
Elementary Schools	72	227	169
High Schools	41	20	18

TABLE 10

Number of teachers and schools in Figure 13 and Figure 14

Elementary Schools	<30%	30–40%	40–50%	50–60%	60–70%	70–80%	80–90%
Number of Teachers	99	1,525	3,699	3,414	3,524	3,205	1,124
Number of Schools	4	48	107	94	92	78	32
High Schools	<20%	20–40%	40–60%	60–80%	>80%		
Number of Teachers	2,064	2,553	849	507	642		
Number of Schools	33	27	8	6	6		

TABLE 11

Number of teachers and schools in Figure 15

Number of Teachers	>95% Low-Income	80–95%	50–80%	<50% Low-Income
Elementary Schools	7,038	6,561	2,210	1,154
High Schools	1,071	3,937	1,304	468
Number of Schools	>95% Low-Income	80–95%	50–80%	<50% Low-Income
Elementary Schools	197	173	60	38
High Schools	17	52	15	5

TABLE 12

Number of teachers and schools in Figure 16

	Predominantly African American: at Least 85% African American	Mixed Minority: at least 85% Minority	Predominantly Latino: at Least 85% Latino	Racially Mixed: 15–30% White	Integrated: at Least 30% White
Number of Teachers					
Elementary Schools	6,419	3,074	4,068	1,597	1,805
High Schools	2,461	2,268	1,084	476	491
Number of Schools					
Elementary Schools	157	79	86	39	51
High Schools	41	28	10	5	5

TABLE 13

Number of teachers and schools in Figure 18

		Percent Low-Income			
Number of Teachers		Less than 50%	50–85%	85–95%	95% or More
Elementary Schools	Predominantly African American	41	699	3,493	2,796
	Less than 85% African American	1,072	1,830	4,992	2,711
			Less than 85%	85–95%	95% or More
High Schools	Predominantly African American		469	1,244	454
	Less than 85% African American		1,732	438	
Number of Schools		Less than 50%	50–85%	85–95%	95% or More
Elementary Schools	Predominantly African American	3	24	108	95
	Less than 85% African American	36	42	114	163
			Less than 85%	85–95%	95% or More
High Schools	Predominantly African American		5	16	7
	Less than 85% African American		17	19	4

Endnotes

- 1 Kane et al. (2006).
- 2 Williams (2003).
- 3 Boyd et al. (2005).
- 4 Alliance For Excellent Education (2008).
- 5 Goldhaber et al. (2007).
- 6 Boyd et al. (2005).
- 7 DeAngelis and Presley (2007); Goldhaber et al. (2007).
- 8 Alliance (2008).
- 9 Boyd et al. (2006, 2007).
- 10 Goldhaber et al. (2006).
- 11 Goldhaber et al. (2007).
- 12 DeAngelis and Presley (2007); Goldhaber et al. (2007); Alliance for Excellent Education (2008).
- 13 Ferguson (1998); Ferguson and Ladd (1996); DeAngelis and Presley (2007).
- 14 Boyd et al. (2005, 2007).
- 15 Alliance For Excellent Education (2008); NCTAF (2003).
- 16 Scafidi et al. (2003).
- 17 Boyd et al. (2005); Hanushek et al. (2004).
- 18 DeAngelis and Presley (2007).
- 19 Marvel et al. (2007).
- 20 Clotfelter et al. (2006); Grissom (2008).
- 21 Johnson et al. (2005).
- 22 Grissom (2008).
- 23 Loeb et al. (2005).
- 24 Clotfelter et al. (2003); Boyd et al. (2005).
- 25 Ingersoll (2003); Hanushek and Rivkin (2006).
- 26 We count a teacher as retained in his or her school if he or she was actively employed by the same school on November 1 of two consecutive years.
- 27 Final models did not include the concentration of poverty around the school, as this characteristic did not explain differences in teacher stability beyond the composition of students in the school.
- 28 Not all of the schools were open for the entire period of the study.
- 29 Kapadia and Coca (2007).
- 30 Marvel et al. (2007).
- 31 This is similar to the two-year stability rate reported by *Catalyst* (November, 2003).
- 32 Four-year stability rates are similar to rates observed nationally. Nationally, about 57 percent of teachers have been in their schools for four or more years, compared to 55 percent of CPS high school teachers and 58 percent of CPS elementary teachers. See Institute for Education Sciences National Center for Education Statistics (2004), Schools and Staffing Survey, http://nces.ed.gov/surveys/sass/tables/state_2004_21.asp.
- 33 We also controlled for changes in student enrollment numbers, so these figures represent a school with no loss of students.
- 34 Schools are defined as having chronically low stability if their average stability rates fell over the last five years, controlling for changes in student enrollment, fell in the bottom quarter of all schools and in at least one of those years was less than 70 percent. On average, these schools retained 68 percent of their teachers each year.
- 35 This holds true controlling for teacher and school characteristics with statistical models.
- 36 We control for teachers' personal characteristics and school effects when comparing stability rates by college, because newer teachers are more likely to come from less traditional feeder colleges and teachers from some colleges may cluster at particular schools due to networking and college-school partnerships.
- 37 Statistical tests that compare teachers with similar backgrounds in similar schools show that female teachers in elementary schools were significantly more likely to stay in their school than male teachers, but only by two percentage points. This is statistically significant only because of the large number of cases. The gender difference among high school teachers is not statistically significant.
- 38 These statistics compare teachers with similar background characteristics (e.g., education, age, experience) at similar schools; therefore, declining stability among white teachers is not due to changes in teachers' background characteristics (e.g., more teachers of retirement age, more new white teachers).
- 39 When school-level stability rates are calculated, lower stability rates at small schools can partly be an artifact of measurement—a few teachers that leave could be a large percentage of the total teaching staff at a small school. However, the relationships shown here were calculated across teachers, not calculated separately by school, so that the higher mobility rates are not just a measurement artifact. Furthermore, stability rates are lower at small schools even controlling for changes in student enrollment.
- 40 In all years, teachers at small elementary schools had significantly higher average rates of commitment to their school at small schools than at medium or large schools, by 0.26 to 0.64 standard deviations.
- 41 Kahne et al. (2006).
- 42 The 2007 IERC report found only modest differences in new teacher stability and the racial composition of the school. However, when we focus on schools in Chicago and separate African American schools from Latino schools and mixed-ethnicity schools, we see systematic differences in stability rates.
- 43 Teacher characteristics explain none of the variation in teacher stability rates among high schools. When variables for student body composition are added to the model, 94 percent of the school-level variation is explained. See Table 2 in Appendix B for details.

- 44 Teacher characteristics and school structural characteristics explain only 6 percent of the school-level variation in teacher stability rates among elementary schools. When student composition variables are added to the model, 55 percent of the variation is explained (an increase of 49 percent).
- 45 McLaughlin and Talbert (2001); Center for Teaching Quality (2007).
- 46 The relationship between instructional leadership and stability shrinks by half at the elementary level (from a coefficient of .19 to .10) when parent involvement is controlled, and by one-third at the high school level (from .15 to .10) when student behavior is controlled. (Parent involvement and student behavior are the climate measures with the strongest relationships to teacher stability at the elementary and high school levels, respectively.)
- 47 We wondered whether teachers were particularly likely to leave unsafe schools, rather than particularly likely to stay at safe schools. Both were true; in general, the more that students felt safe at a school, the more likely teachers were to stay in the school. From 2005–06 to 2006–07, 76 percent of teachers stayed in schools at or below the 50th percentile of safety; 81 percent stayed in schools between the 50th and 75th percentiles, and 86 percent stayed in schools above the 75th percentile.
- 48 Low-income African American elementary schools no longer have significantly lower teacher stability, after controlling for teacher-parent trust and student behavior.
- 49 The difference in stability rates between low-income African American schools and teacher stability declines by half, but remains significant, when teachers' perceptions of students' behavior is controlled with a linear and quadratic term.
- 50 It could be that individual teachers within a school who have especially strong relationships with teachers are more likely to stay and this is not picked up by school averages. Unfortunately, we cannot link student and teachers with survey data. However, school average measures of teacher-student relationships and teacher personalism have been shown to be related to better student outcomes (Allensworth and Easton, 2007), which suggests that it is not just individual teachers' relationships that is important.
- 51 Some schools do choose the students they serve. Selective enrollment schools do choose their students, and special programs within schools may choose the students that enroll according to criteria. Schools may have some control through recruitment or the development of relationships in a neighborhood.
- 52 Stevens (2008); Sebring et al. (2006).
- 53 Teachers who have part-time positions are treated as full-time in this model—if a part-time teacher leaves his or her school, this departure is counted the same as a full-time teacher.
- 54 There were also dummy variables that picked up deviations in two school years (1999 and 2003) for which the personnel records seemed to systematically use different leave codes or dates. The inconsistencies in these years appeared in all schools, suggesting that the personnel data were entered or pulled in a different manner in these years.



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