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The Essential Supports for School Improvement

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Acknowledgements

The idea of the "five essential supports for school improvement" was developed in the mid-1990s as a way to capture and summarize evidence-based findings on widely agreed-upon characteristics of good schools. The initial framework was used in the Chicago Public Schools (CPS) to guide school-improvement planning and self-assessment efforts. Though researchers from the Consortium on Chicago School Research (CCSR) took the lead in developing this framework, many Chicago educators participated, including CPS leaders and others across the city. We particularly note the contributions of Donald Moore of Designs for Change to the development of these and related concepts.

In the intervening years, as we have collected more evidence and conducted more analyses, these ideas have evolved. We thank many of our Steering Committee members and other colleagues who have helped in this evolution. Among them is the late Barbara Sizemore, who pushed our thinking on the concept of school leadership.

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Executive Summary

This report sets forth a framework of essential supports and contextual resources for school improvement, examines empirical evidence on its key elements and how they link to improvements in student learning, and investigates how a school's essential supports interact with community context to affect student learning. The purpose of this research is to establish a comprehensive, empirically grounded practice framework that principals, teachers, parents, and school-system leaders can draw on as they work to improve children's learning in Chicago and elsewhere. This publication is an abbreviated version of a larger study that will be published as a book.

The focus of this report is Chicago public elementary schools during the period of 1990 through 1996, an era when an extraordinary natural experiment in school change took place. Under the 1988 school reform law, local school councils selected principals who brought very different leadership styles to school-reform efforts and attacked a broad set of problems in highly diverse ways. The system as a whole made progress during this time, but there was substantial variation across school communities in achievement trends. Thus, conditions were favorable for exploring why some elementary schools were able to make substantial progress and others stagnated.

A Framework of the Essential Supports and Contextual Resources for School Improvement

The Five Essential Supports

Leadership, acting as a catalyst, is the first essential support for school improvement. Leadership is conceptualized broadly as being inclusive, with a focus on instruction and a strategic orientation. Deft leadership, in turn, stimulates and nourishes the development of the four other core

organizational supports: parent-community ties, professional capacity of the faculty and staff, a student-centered learning climate, and ambitious instruction.

Parent-community ties and professional capacity of the faculty and staff reflect the individual and collective capacities of the adult actors in the school community. Parents who support their children and reinforce learning expectations at home contribute significantly to school improvement. Through volunteer activity and participation in school decision making, parents also are critical partners of the school.

Professional capacity depends greatly on the knowledge, skills, and dispositions of the faculty and staff, and their ongoing learning and professional growth. Equally as important as the skills of individual teachers, though, is the presence of a school-based professional community focused on developing instructional capacity across the school. Partnership and cooperation among teachers, parents, and community members provide the social resources needed for broad-based work on conditions in the school and the challenges involved in improving student learning.

The work of adult actors, in turn, results in the conditions that directly affect student learning—learning climate and ambitious instruction. The most basic requirement is a safe and orderly environment that is conducive to academic work. Schools that are most effective will further create a climate where students feel motivated and pressed to work hard while knowing that adults will provide extensive academic and personal support. Ultimately classroom instruction is the single most direct factor that affects student learning. Ambitious, coherent instruction and a curriculum that is coordinated within and across grades are essential. It is when the other four supports are focused on supporting ambitious instruction that we should see improvements in student learning.

Contextual Resources

The development of the five essential supports depends in significant ways on features of local context. Previous studies have established the critical role of relational trust across a school community.[1] School size and the stability of the student body have also been linked to school improvement.[2] This report adds new findings about the linkage between the social context of school communities and their capacities to improve. In some schools, the cumulative stresses of poverty, crime, and other social problems make improvement efforts especially daunting. At the same time, because they contribute to safer, more viable communities, social resources in the community, such as churches and voluntary organizations, help to build a social foundation that facilitates stronger ties between the school and the community.

Evidence for the Framework

The Essential Supports

In this study we investigated the extent to which strength in the essential supports was linked to improvement in learning gains and the extent to which weakness was linked to stagnation in learning gains. To assess school improvement, we used scores on the Iowa Tests of Basic Skills (ITBS) to create a measure of academic productivity for each school in both reading and math. We calculated the amount students learned each year and whether these learning gains increased over time. Thus, improving schools showed larger learning gains at the end of our study, the 1995–96 academic year, than in the initial year, 1990–91.

To measure the essential supports in each elementary school, we drew on teacher and student surveys conducted by the Consortium on Chicago School Research (CCSR) in the spring of 1994. From these surveys we created a series of measures that capture the degree to which components of the essential supports existed in Chicago elementary schools.

Impact of the Essential Supports

We found that schools strong in most of the essential supports were at least ten times more likely than schools weak in most of the supports to show substantial gains in both reading and mathematics. These schools also were very unlikely to stagnate. In contrast, not a single school that was weak in most of the supports showed substantial improvements in mathematics. Schools demonstrating weakness on most of the core indicators were four to five times more likely to stagnate than schools with strong overall organizational capacity scores. Particular combinations of supports, such as curricular alignment, an orientation toward innovation,

and teacher commitment to the school, were decidedly beneficial. Moreover, subsequent analyses of more recent surveys and test-score trends further validate these findings, confirming the linkages between strength in the essential supports and subsequent improvements in learning gains.

Community Context

In general, we found that there were both improving and stagnating schools in all kinds of communities. However, there were disproportionately more improving schools among the predominantly Latino, racially diverse, and racially integrated schools. Stagnating schools were more common among predominantly African-American schools in low-income or very poor communities. Among African-American schools of moderate income, there were roughly equal numbers of substantially improved and stagnating schools.

To learn more about why these differences in school improvement rates occurred, we turned to a growing body of research in urban sociology on the quality of social relationships in communities and how these relationships influence the quality of everyday life and shape collective capacity to solve local problems. These relationships are often called "social capital."[3]

We obtained community-level data from other organizations and agencies to explore the potential influence of these community factors. School community social capital measures were developed from surveys collected by the Project on Human Development in Chicago Neighborhoods (PHDCN) and from crime statistics compiled by the Chicago Police Department. In addition, a further challenge for some Chicago elementary schools is the relatively large number of children who live under extraordinary circumstances and bring significant social or emotional problems with them to school. One such group of students is those who have been subject to abuse or neglect. For example, during the period of our study, on average 15 percent of students in the Chicago Public Schools (CPS) had been substantiated by social services as abused or neglected at some point in their elementary career. In almost 10 percent of schools, however, this number swelled to more than 25 percent of the students enrolled. This raises the question of whether the concentration of students living under such extraordinary circumstances poses exceptional demands on schools that may make it more difficult to sustain attention on improvement efforts. To investigate this question, we obtained data from the Chapin Hall Center for Children on the percentage of students in each elementary school for whom there was a substantiated case of abuse or neglect at any time in their lives.

Impact of Community Context

We found that schools with strong essential supports were more likely to exist in school communities with strong social capital—active religious participation, collective efficacy, and extensive connections to outside neighborhoods. Schools with strong supports also were found more often in communities with a low crime rate, and they were far more likely to exist in school communities with a low density of abused or neglected children.

Communities with weak social capital—low levels of religious participation, collective efficacy, and few social connections beyond the neighborhood—were likely to have weak essential supports in their schools. Weak supports also were more typical in communities with high crime rates and relatively higher percentages of abused or neglected children. Taken together, these results suggest that positive school community conditions facilitate the development of the supports, while the presence of crime and a high density of students living under extraordinary circumstances inhibit them.

We also analyzed the combined influence of the essential supports and community context on the probability of improvement in reading and math. In general, the essential supports were important for schools in all types of communities. However, the structure of these relationships varied as a function of community factors. School communities with high levels of social capital and low densities of abused or neglected students could improve with average levels of the essential supports. In these contexts, even average levels of essential supports seemed to protect against stagnation and increased the odds of improvement in student learning.

In contrast, for schools in communities with low social capital and for those serving a high density of abused or neglected students, the essential supports needed to be exceptionally robust to result

in improvements. The probability of stagnation for this group of schools was high if they had weak *or* average essential supports. These patterns suggest that the school works in interaction with the community: if social capital is weak in the broader school context, the social organization inside the school must be strong enough to compensate.

It is encouraging that schools with strong essential supports located in communities with relatively low levels of social capital and high densities of abused or neglected children were able to improve and showed higher-than-average learning gains. The discouraging news is that schools with strong essential supports were relatively rare in these communities.

Interpretive Summary

It is significant that the greatest improvements occur when there is organizational strength in all the essential supports. Each support appears to facilitate the functioning of the other supports. For instance, even though the quality of instruction has the most direct effect on student learning, being able to provide such instruction requires strength in other areas, such as professional capacity and a student-centered learning climate.

The opposite is also true: a weakness in any organizational element can undermine strengths in other areas. A school can be doing a good job of communicating with parents and welcoming them to the school, but if parents see disciplinary problems increase or observe their children struggling in poorly organized classrooms, they will not continue to support the school.

The importance of strength in multiple essential supports suggests that narrow interventions will have limited success in improving student learning. For example, investments in integrating technology into the curriculum will have little effect if students do not feel safe coming to school and if there are frequent disruptions in their classrooms. Hence, the framework of essential supports and contextual resources embraces a holistic, coherent view of the processes of school development and raising student academic achievement.

We have also documented that it was very unlikely that we would find strong essential supports in schools with a relatively high concentration of children living under extraordinary circumstances. We suspect that teachers and administrators in these schools were so focused on the children and their needs that they had few resources remaining to sustain attention to the core processes of school improvement.

This research brings greater clarity to an enduring problem in Chicago. Schools located in communities with the least social capital are the most difficult to change for the better. This difficulty is intensified by the large proportion of students who come to school with extraordinary needs. The needs of these students divert staff resources away from building a school's essential supports. The resources necessary to achieve substantial improvement in the most extreme cases are formidable indeed.

We celebrate the substantial progress that Chicago's elementary schools made in the 1990s. We identified 95 schools that showed substantial improvement in academic productivity in reading and mathematics. Accumulated over the eight years of instruction that a child might receive (CPS elementary schools generally include eighth grade), we estimated that top-performing schools obtained an extra half year of learning in reading and over 1.25 years more learning in mathematics.[4] In addition, the evidence we have shown for the essential supports can serve as a useful guide and thus offers hope for strengthening urban elementary schools and improving students' learning opportunities.

At the same time, we worry about the socially isolated, crime-ridden communities where there is little social capital. While the school system must press forward to strengthen the essential supports in these schools, it also needs to build and support powerful partnerships at the community level, as well as the city, county, state, and federal levels to address the very serious challenges facing our city youth that go beyond the schoolyard.

Endnotes

1 Bryk and Schneider (2002).

2 Sebring, Bryk, Easton, Luppescu, Thum, Lopez, and Smith (1995); and Kerbow (1998).

3 Sampson, Raudenbush, and Earls (1997).

4 The average base learning gain (in grade equivalents) in CPS, averaged for 1990–91 and 1990–92, in reading and mathematics at all elementary grade levels was 0.87 and 0.82, respectively. Applying the percent improvements to these base gains and then accumulating these effects over eight grades results in the numbers reported here.

Introduction

The Chicago Public Schools (CPS) is in the midst of a major effort to open new schools and close schools with low enrollment or chronic poor performance. Since 1996, 134 schools have opened and 60 have closed. The Renaissance Schools Fund, the Gates Foundation, local foundations, and private sources have invested millions of dollars in new school creation. Regular neighborhood schools, charter and contract schools, small new high schools, and specialty schools compose the new generation.[1] Each new school brings new leadership; in some cases principals have transferred from other Chicago public schools, and in others, they are new to the district or first-time principals. Besides these new schools, many traditional Chicago public schools have relatively new leaders. In 2005, for instance, 150 principals (out of 600) averaged a mere three years of experience.[2]

These conditions are not unlike those of the early 1990s, when the Illinois legislature passed a law establishing the local school councils (LSCs), which brought local oversight to many aspects of school operations, such as principal selection and discretionary spending. The introduction of LSCs resulted in a raft of principal resignations and hirings. Between 1990 and 1992, 45 percent of schools had hired new principals, and 94 percent of these were first-time principals.[3] The law also led to an influx of significant new resources for most schools.

The school leaders of today face a similar challenge to that faced by the leaders in the early '90s: how to create the conditions and enact the practices that ultimately lead students to perform at higher levels. Beyond Chicago, this is a fundamental and serious issue facing educators in most major urban districts in the United States. Hence, it is worthwhile to look back at the earlier period and derive lessons on the kinds of internal structures and practices that were successful in raising student achievement and warding off failure.

For about a decade, researchers with the Consortium on Chicago School Research at the University of Chicago (CCSR), have been developing a conceptual framework about school improvement and testing it against a large body of evidence collected in Chicago elementary schools. This is the subject of this report, which we have compiled to accomplish three main goals:

- Elaborate the framework of essential supports and contextual resources for school improvement;
- Examine the empirical evidence about each of the key elements and how they link to improvements in student outcomes; and
- Determine how the internal essential supports interact with community social capital and student needs to affect the improvement of student learning.

In so doing, we strive to establish a comprehensive, empirically grounded practice framework that principals, teachers, parents, and school-system leaders can draw on as they work to improve children's learning in Chicago and in other urban centers. This publication is an abbreviated version of a book on this topic that will be released later.[4] Before going further, however, it is worthwhile to review the context and circumstances surrounding CPS in the early 1990s.

Social and Economic Conditions in Chicago, 1990

The loss of manufacturing jobs and flight of the middle class to the suburbs during the last half of the 20th century had increased the concentration of poverty in the city.[5] According to the 1990 census, 40 percent of Chicago families that enrolled children in the public schools had incomes below the federally defined poverty line.[6] The vast majority of CPS elementary students met the federal educational definition for low income, with 82 percent eligible to receive a free or reduced-price lunch in 1994. In more than 200 Chicago elementary schools, 90 percent of students received a free or reduced-price lunch. In comparison, only 21 percent of students in the rest of Illinois were deemed eligible for a free or reduced-price lunch.

Nearly nine out of ten CPS students were members of a racial or ethnic minority group: 57 percent African-American, 28 percent Latino, and the rest Asian and other racial/ethnic groups. Eight out of ten African-American elementary students were enrolled in racially isolated schools where more than 80 percent of the student population was African-American.

Accompanying the socioeconomic transformation of Chicago's schools was a long history of poor performance. For some elementary schools, virtually none of their students graduated from high school. Only about one-third of students scored at the national average on standardized tests in reading, and in some schools only a handful of students reached this level.

The Chicago Reform Context

The 1990s was a period of extraordinary ferment around public education in Chicago. The state legislature had passed the Chicago School Reform Act of 1988 that devolved significant resources and authority to newly formed local school councils (LSCs) and charged these site leaders with a mandate to reform their schools. The Reform Act deliberately constrained the power of the central bureaucracy to interfere with local initiative. Rather than centrally developed plans for improvement, Chicago chose a very different course—democratic localism as a lever for change.

Underlying this reform was a simple but powerful belief. If local school professionals reconnected to the parents and communities they were supposed to serve, and if these individuals were empowered to reform their schools, together they could be much more effective in solving the problems of their school communities than some impersonal public bureaucracy.[7]

In the fall of 1989, school communities elected the first set of LSCs, composed of the school principal, two teachers, six parents, and two local community members (high schools also had a student member). LSCs were granted authority to select and evaluate their school's principal, who was now employed under a four-year performance contract, and to approve the annual school improvement plan and budget that guided use of the school's discretionary funds. Along with transferring authority, the legislation also transferred

resources to local schools. By the end of the phase-in period in the mid-1990s, the average elementary school received about $500,000 in discretionary funds. These monies could be used for a wide range of purposes, including hiring additional staff, buying new equipment and materials, purchasing new programs, and securing more professional development time and services.[8]

As would be expected, decentralization led schools to adopt diverse strategies to try to improve student learning. In our book *Charting Chicago School Reform: Democratic Localism as a Lever for Change,* we documented that many schools began significant reform efforts after decentralization. Fundamental organizational changes were occurring in about one-third of schools, another third of schools were actively engaged in restructuring but struggling, while a final third appeared stuck in their old ways.[9]

Development of the Framework of Essential Supports and Contextual Resources for School Improvement

As LSCs struggled to achieve positive changes in their schools, it became clear that many schools needed some external assistance to guide their efforts. In 1994, a series of discussions in Chicago sparked serious thinking about how to develop strong schools. The superintendent of CPS invited a group of school stakeholders, including teachers, principals, LSC members, community activists, university professors, and parents to help create a framework for school development that would drive a systemwide improvement agenda.[10] Researchers from CCSR had taken a major role in crafting this framework, drawing heavily on the ideas of local democratic action and systemic organizational change that CCSR documented during the initial period of reform.[11] We sought to create a practical guide for school development consistent with the best research evidence collected to date.

To do this, we drew on prior research on effective schools,[12] CCSR's earlier research in Chicago, ongoing research at the Center for School Restructuring at the University of Wisconsin, and sustained interactions with many local stakeholders. An early version of the framework was used to formulate subsequent CCSR studies. As a result, the framework continued to evolve and took shape over a period of years—as researchers gathered qualitative data, developed survey items, analyzed data, and shared results with the CCSR Steering Committee. In our discussion of the framework, we draw on all these sources. While we took a lead in conceptualizing elements of the essential supports, it would be quite inappropriate to describe this as our invention. Rather, it was the product of a city's concern about its schools and efforts to provide research-based guidance.

In the chapters ahead, we lay out our framework, present our evidence linking this framework to improved student outcomes, and then describe the social context that surrounded the most-improved and least-improved schools. Our framework includes five essential supports: school leadership, parent-community ties, professional capacity, student-centered learning climate, and ambitious instruction. Within each essential support are several important concepts. In this report, we describe how we measured these concepts and then established their validity in terms of improved student learning.

Endnotes

1 Ahluwalia (2006).

2 Hart, Ponisciak, Sporte, and Stevens (2006).

3 Bennett, Bryk, Easton, Kerbow, Luppescu, and Sebring (1992).

4 Allensworth, Bryk, Easton, Luppescu, and Sebring (2006). Although this is the first report of the citywide results on the essential supports, we have shared information with elementary schools on their own results with respect to the essential supports. Confidential reports allowed each school that participated in our biannual surveys to reflect on their strengths and weaknesses with respect to a set of conditions, attitudes, and practices that are linked to improvements in student learning.

5 See Wilson (1987).

6 In fact, the poverty rates in Chicago exceeded those found in the New York and Los Angeles school systems, which were 35 percent and 33 percent respectively, at the same point in time. See Storey, Easton, Sharp, Steans, Ames, and Bassuk (1995).

7 For a more detailed account of the mobilizing for reform in Chicago, including its intellectual and social context, see Chapter 1 in our earlier volume, *Charting Chicago School Reform: Democratic Localism as a Lever for Change,* Bryk, Sebring, Kerbow, Rollow, and Easton (1998). The summary presented here draws extensively from this text. Our remarks in this chapter on this topic are not heavily annotated, since documentation already exists elsewhere.

8 In 1995, the state legislature authorized the mayor to take control of the school system. The mayor was granted authority both to appoint a small Reform Board of Trustees, replacing the previous school board, and directly appoint a Chief Executive Officer for the CPS to replace the system's former school superintendent. Beginning in 1996, the new CEO developed a number of high-stakes accountability initiatives and centrally planned improvement efforts that came to define Phase II of Chicago school reform. While most of the provisions of the 1988 decentralization remained in the 1995 law, the introduction of centrally mandated reforms marks the end of the natural experiment in school improvement precipitated by the 1988 legislation.

9 Bryk, Sebring, Kerbow, Rollow, and Easton (1998).

10 The superintendent also invited representatives from the Consortium on Chicago School Research and the Center for School Improvement at the University of Chicago, the Chicago Panel on Public School Policy, Designs for Change, and the North Central Regional Education Laboratory. Together participants developed a series of research-based guidelines that schools could use in planning for their improvement. The result was the first version of the essential supports for student learning and an official CPS document, *Pathways to achievement: Self-Analysis Guide,* which was distributed to all schools. See Chicago Public Schools (1994).

11 In addition, Designs for Change (1993) had undertaken a review of literature and published a report that identified five areas for school improvement that overlapped with and complemented CCSR findings.

12 Edmonds (1979); Good and Brophy (1986); and Purkey and Smith (1983)

Chapter 1

A Framework of Essential Supports and Contextual Resources for School Improvement

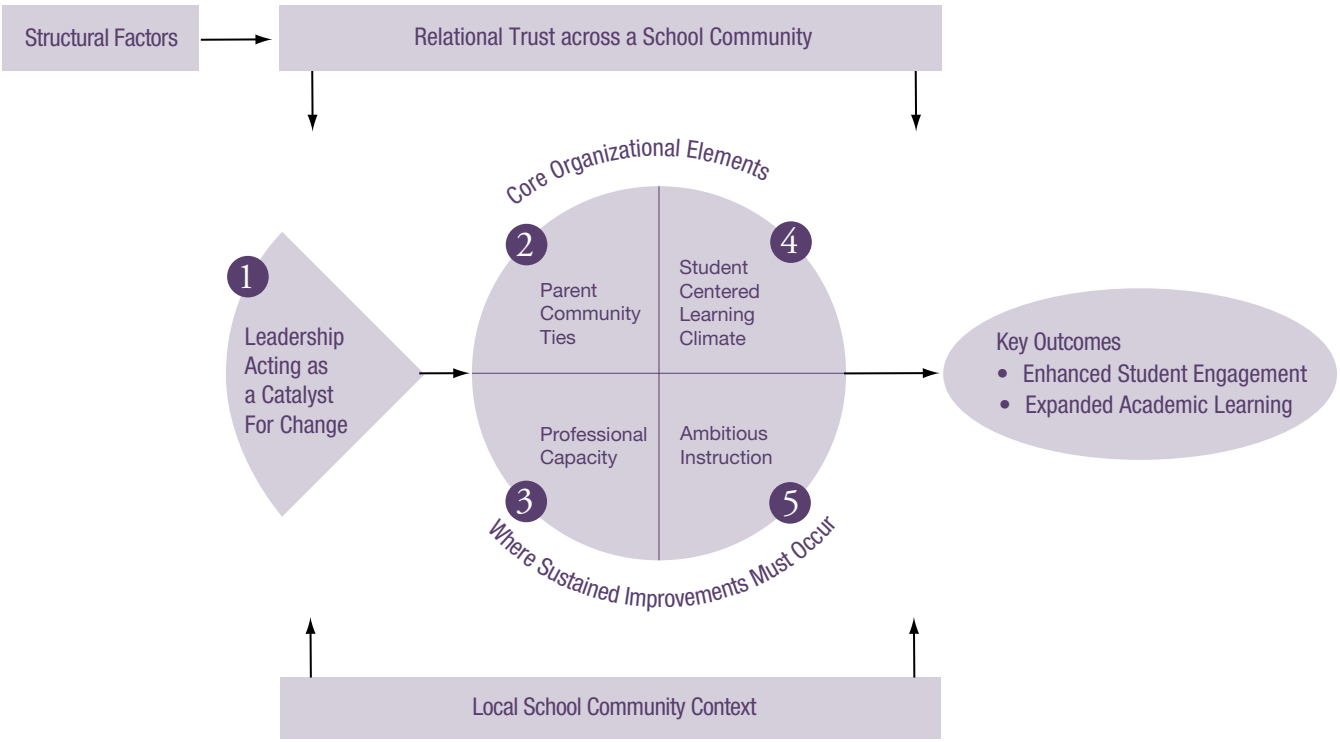
A complex set of attitudes, practices, resources, and conditions both within the school and in the community combine to foster students' engagement in learning and to accelerate their academic progress in elementary school. We argue that there are five categories of in-school supports that are all essential for improving student learning. Leadership, acting as a catalyst for school improvement, is the first essential support. To be successful, local leaders must stimulate and nourish the development of four additional core organizational supports: parent-community ties, professional capacity of faculty and staff, a student-centered learning climate, and ambitious instruction. While instruction has the most direct effect on students, the ability of a faculty to provide such instruction depends very much on the strength of the other supports. In the next few pages, we describe each of these. The inner circle of Figure 1.1 illustrates the essential supports and how they contribute to student outcomes. Later on we elaborate the contextual resources for school improvement that are shown in the perimeter of this figure. We pay particular attention to the local community context and history and provide more brief mention of structural factors and relational trust.

Leadership

Under this framework, leadership does not rest solely with the school principal. Instead, improving students' learning and performance requires leadership from the faculty, the parents, and the community. In part,

FIGURE 1.1

A Framework of Essential Supports and Contextual Resources for School Improvement



this broad definition of leadership reflects the formal constitution of LSCs under the 1988 school reform law, but in part it also reflects the need for leadership across the school and its community.

Inclusive Leadership Focused on Instruction

In two previous studies, we observed that in schools that were actively restructuring, the principal often helped to stimulate, nurture, and guide faculty members and other staff.[1] Principals articulated a "vision-in-outline" for the school and invited teachers and parents to further elaborate and shape this vision. Such work requires principals to vigorously reach out to parents, community members, and faculty, inspiring and enabling them to assume leadership roles. Recently, scholars have begun to characterize such leadership as "distributed" throughout the school community: multiple leaders carry out leadership tasks.[2]

In their leadership work, principals must play a significant role in focusing teachers' and parents' energies on the quality of instruction and the ultimate prize, student learning. To accomplish this aspect of their role, principals must be knowledgeable about how children learn, capable of leading discussion and analysis of the curriculum, and responsive to teachers' needs for appropriate materials and professional development. They must set high standards for teaching and encourage teachers to take risks and try new methods. Regular visits to classrooms demonstrate their conviction and give them a pulse on daily instruction.[3]

Faculty/Parent/Community Influence

A corollary of inclusive leadership is that parents, community members, and faculty enjoy a real sense of influence over school policy. This is particularly important for schools with diverse student populations, where different norms regarding parenting and education may exist across various parent groups.[4] In well-functioning Chicago elementary schools, LSCs are routinely informed about the decisions they must make on the budget, and they give input to and review the annual school improvement plan.[5] They also lead initiatives to expand the base of parent involvement.[6] Recruiting leadership from the community and

drawing parents into a closer relationship with the school strengthen the foundation of social support for the difficult decisions and hard work involved in school improvement.[7]

If teachers also play an active role in the improvement process and feel ownership for the changes that result, it is likely that they will enhance their own teaching. Thus, in improving schools, teachers are likely to have significant say in school policy, particularly in areas like choosing instructional materials and determining the content of in-service programs.[8] The major challenges are to make time and other resources available for teachers to work together and to create structures and procedures, such as leadership teams or grade-level committees, for carrying out the day-to-day work of school development.[9]

Strategic Orientation

Complementing the focus on an inclusive process is a strategic orientation that deliberately orchestrates people, programs, and extant resources toward an integrated, sustained, and coherent program of improvement. Evidence must constantly be brought to bear on what is working and what is not (and why not) if the ongoing multiple reform activities are to culminate in fundamental improvements in students' lives. This evidence serves to guide and marshal both human and financial resources to implement a vision of improved performance. In contrast, scattershot, uncoordinated projects are likely to waste resources, fail, and generally undermine optimism and a sense of collective confidence.[10]

Parent-Community Ties

A major obstacle to parent involvement and parent leadership is the sometimes troublesome relationship between parents and school professionals. After several years studying the Comer School Development Program in Chicago and a set of very low-performing schools, researchers from Northwestern University reported serious shortcomings in the social foundation in several of these schools. Among other problems, they noted there was little trust and a palpable discomfort between parents, teachers, and administrators. Each group held low expectations for the other. Tensions often accompanied differences in race and ethnicity or age, and internal communication was far from adequate for addressing these problems.[11]

Extensive research literature testifies to the importance of parental involvement as children move into their school years.[12] Schools must find ways to develop trusting relationships with parents and to work together with them to increase student learning. In more concrete terms, developments must occur along three dimensions: (1) Teachers need to be knowledgeable about student culture and the local community and draw on these in their lessons, (2) School staff must reach out to parents and community to engage them in the processes of strengthening student learning, and (3) Schools should draw on a network of community organizations to expand services for students and their families.[13]

Teachers Learn about Student Culture and Local Community

In inner-city schools, where teachers may be of a different race, ethnicity, or social class than their students, teachers need to develop deep understanding of their students. This helps them develop empathy and begin to forge the cognitive connections between students' existing knowledge and new learning.[14] Also, parents of particular racial and ethnic groups may have differing perspectives on their appropriate role in helping their children learn and in participating in school life.[15] Taking part in the community and making use of community resources can help teachers find common ground with students and their families.

Staff Engages Parents and Community in Strengthening Student Learning

Because poor and minority parents are often disenfranchised from any meaningful influence in their children's school lives, it becomes incumbent on school staff to take the lead in strengthening parent-school ties. Indeed, prior research has shown that schools can take action to enhance parent involvement. Teachers in improving schools work deliberately to involve parents with the academic content. For example, they may loan books to parents, so they can read to their children. Or they may organize parent workshops on ways to sup-

port their children's learning.[16] From the parents' point of view, collaboration with the school can help them better manage their children's development. Parents value strong schools and other social institutions in the neighborhood, because these organizations help them be more effective in carrying out their parental role.[17]

Specifically, researchers have identified a number of tools and strategies that contribute to enhanced student learning. These include teaching parenting skills, communicating with parents to reinforce study habits and expectations, finding ways to extend learning at home for students, inviting parents to volunteer at the school, and encouraging parent participation in school decision making.[18]

Professional Capacity

While parents are their children's first teachers, the school faculty holds the keys that unlock students' intellectual development. To raise student achievement so that most students attain high academic standards requires profound changes in teachers' capacities—their content knowledge and pedagogical skills and their abilities to work well with others. We refer to this combination of human and social resources as professional capacity.[19] To elaborate, professional capacity encompasses the quality of the faculty and staff recruited and maintained in a school, their base beliefs and values about responsibility for change, the quality of ongoing professional development focused on local improvement efforts, and the capacity of a staff to work together as a cohesive professional community focused on the core problems of improving teaching and learning.

Quality of Human Resources

This first aspect of professional capacity refers to the broad array of knowledge, skills, and dispositions possessed by the faculty. Teachers' knowledge of subject matter and awareness of students' needs and learning styles are central to effective teaching and learning.[20] Talented teachers choose appropriate books and other materials, leverage technology, know how to convey ideas skillfully, and invite students to master basic skills and develop higher-order thinking habits. Recruiting capable teachers is critical to creating the breadth and depth of expertise within a faculty necessary to undertake significant school development. At the same time, moving low-performing teachers out of the school is equally important. The continued presence of incompetent teachers can be highly corrosive to any collective efforts made toward school improvement.[21]

Values and Beliefs about Teacher Responsibility for Change

Undergirding teachers' work is a set of values and beliefs that reflect teacher responsibility for change—the second dimension of professional capacity. This often takes the form of an orientation toward innovation, so that teachers embrace new ideas and do not hesitate to try new approaches and materials. In addition, it reflects teachers' sense of personal commitment to the school. "The person brings a sense of agency and commitment to the work that, in turn, embodies the belief that he or she has something to contribute to it."[22] This stands in sharp contrast to the "work to rules" mentality that has tended to dominate highly regulated urban school systems.[23] In part, teachers bring their values and beliefs with them when they are recruited to a school, and in part, the conditions of the workplace, including professional development, help to strengthen their sense of responsibility for change.

Quality of Professional Development

To stay abreast of new knowledge and to continue their individual growth, teachers must take part in ongoing professional development focused on local improvement efforts. Recent research underscores the importance of both content and pedagogy in professional development experiences.[24] In addition, research in Chicago has revealed the value of providing teachers professional development opportunities that relate directly to the school's improvement efforts. Professional development should build on teachers' prior beliefs and experience, provide sufficient time and follow-up for sustained inquiry and problem solving, and offer opportunities for analysis and reflection.[25]

Professional Community

In order to reflect on their teaching and implement new practices, teachers must come out of the isolation of their classrooms, engage in dialogue with other teachers, and work together to improve student learning. Suspicion and social discomfort should fall away as teachers gradually build a school-based professional community, the fourth element of a school's professional capacity.[26] Professional community refers to close collaborative relationships among teachers, which are focused on student learning and coupled with strong norms governing teachers' responsibility for all students. Extensive collaboration fosters sharing of expertise to address the core problems of practice. By engaging in reflective dialogue about teaching and learning, teachers deepen their understanding and expand their instructional repertoire.[27] Teachers become more open in their practice and visit each others' classrooms to share and trade off the roles of advisor, mentor, or specialist.[28] In such environments, there is a sense of collective responsibility for all students in the school, not just those students in a teacher's classroom.

The four elements of professional capacity are mutually reinforcing and in practice tend to merge together, promoting both individual and collective growth. Thoughtful professional development programs that are aligned with the school's strategic goals enhance professional community. Similarly, professional community also contributes to professional development.[29] Shared values and beliefs about teachers' responsibility for change propel teachers to search for new ideas, experiment with new curricula, and expand their role in school leadership.

Student-Centered Learning Climate

A fundamental requirement of schools is to create a safe, welcoming, stimulating, and nurturing environment focused on learning for all children.

Safety and Order

In order to teach students, schools must minimize distractions and engage them in learning processes and activities. Without this, all other educational goals remain lofty rhetoric. The most basic requirement in this regard is a safe and orderly environment that is conducive to academic work. Concerns about safety and order are highly salient for students and their families in urban schools, where the crime rate is high and gangs are active in particular sections of the city.[30] In addition, clear, fair, and consistently enforced expectations for student behavior ensure that students receive maximum instructional time.

Press toward Academic Achievement Coupled with Personal Concerns for Students

Moving beyond these fundamentals, the school environment must also press toward academic achievement, while displaying deep personal concern for students. Studies of teachers' expectations and externally based standards generally suggest that placing more rigorous demands on students will lead to increased effort and performance at higher levels.[31] The opposite effect is also possible: teachers can have harmful effects on students if they lower their expectations because they have little confidence in their students' capacity to learn the material.[32] Higher academic standards may result in more homework, efforts to guard or extend instructional time, more difficult tests, and more stringent requirements for grades.

Some fear that when standards are raised, students with poor academic skills may become disheartened, disengaged, and even drop out of school.[33] It is especially important in these circumstances that the press toward higher academic standards be accompanied by ample social support to sustain students in their more difficult undertakings.[34] The dynamic interaction of caring and high expectations leads to greater engagement in the learning process and to higher achievement.[35]

Peer norms and culture can also play a key role in students' motivation, especially in the upper elementary grades. Doing well in school can place a student in an ambiguous position with his or her peers.[36] Hence, schools where teachers have been able to engage students in the learning process and where the school community has been able to shape a strong ethic for academic achievement are much more likely to achieve growth in student learning.[37]

More broadly, teachers' and principals' personal concern for students and support from peers can build social capital for students, which provides a network of social relationships that offers moral support, information, and access to resources to help the individual reach his or her goals.[38] Such social capital also creates a powerful social-control mechanism, energizing rather than undermining students' academic efforts. Social capital is critical for students in urban contexts because historically in the United States, it has been problematic for working-class minority children and youth to acquire the social capital and institutional supports needed for healthy development, academic success, and social and economic integration in society.[39]

Ambitious Instruction

A safe, nurturing climate sets the stage for learning, but instruction is the single most direct factor that affects student learning.[40] Ambitious instruction couples the development of strong skills and basic knowledge with the development of keen intellectual capacity. Complex and multifaceted, ambitious instruction requires systematic organization of textual and graphic materials, a variety of classroom activities designed to meet learning objectives, and purposeful assignments for students. While large urban districts have been struggling to improve students' basic skills, broader society continues to increase its expectations for public schools. No longer is it sufficient for students to master basic skills. Since the 1983 report *A Nation at Risk,* there has been a widespread and persistent political movement to require schools to meet world-class standards.[41] Moreover, this movement appears to be in line with the changing structure of work in the United States. Each year more jobs are created that require deep knowledge and problem-solving ability, and relatively fewer jobs demand repetitive tasks or low skills.[42]

The other essential supports—leadership, parent-community ties, professional capacity, and student-centered learning climate—are supports that characterize the entire school organization. Instruction, however, often varies substantially across classrooms within a school. How individual teachers engage students around subject matter dictates to a large degree what students learn. Nonetheless, the schoolwide orientation toward teaching and learning also plays a role in determining what teachers do in the classroom and, to some extent, the success they have with their students. When the principal and teachers address state and local standards and/or subject standards (such as for English, mathematics, or history), they contribute to a curriculum that is aligned across classrooms.

Curricular Alignment

Standards become manifest in schools as faculty work to introduce and consolidate skills and understandings to meet the expectations of each grade level.[43] As the faculty actively seek to organize and coordinate curriculum within and across grades, teachers are likely to modify their instruction to bring it into alignment with the schoolwide plans. Without such curriculum alignment to standards, schools run the risk of weakening students' learning opportunities and achievement through delays, repetitions, and gaps in core knowledge and skills.[44]

Recalling our earlier discussion of leadership, curricuar alignment is likely to be an element of the school's overall strategic or improvement plan. For example, if school leaders recognize weaknesses in mathematics test scores in grades four, five, and six, they may scrutinize what is being taught in those grades and how it is being taught, and devise a plan to improve the sequencing of content, the preparation of teachers, or the books and graphic materials being used. Thus, we argue that schoolwide policies, standards, and plans should have a significant impact on classroom instruction.

Intellectual Challenge

To prepare students for further schooling, specialized work, and responsible civic participation, teachers must move beyond the basic skills and ask students to do intellectually challenging work.[45] Newmann and his colleagues advocate authentic instruction, where teachers help students learn how to acquire and use knowledge to solve particular problems. In constructing this knowledge, students need to follow a disciplined inquiry process that draws on prior knowledge in a field, seeks deep understanding, and communicates ideas effectively with others. Ultimately,

students should gain competence in creating products or discourse that has meaning beyond getting a good grade or a high mark on a test. An example of an intellectually challenging activity was an assignment given by a sixth-grade teacher in a Chicago school who asked her students to write a fable involving two animal characters. The fable had to result in a moral lesson and had to include dialogue.[46] In completing the assignment, students had to develop and elaborate a plot that would support a moral and use the conventions of writing accurately and effectively.

Despite the compelling arguments for ambitious intellectual work, in inner-city schools, where children typically score below their grade level on standardized tests, policy makers and local educators often worry more about basic skills instruction because they believe that students cannot do more challenging work until they master the basic skills. In this context, including such schools in Chicago, teachers rarely get to the more ambitious tasks.[47] Clearly, teachers need to work with students on intellectually engaging tasks while at the same time helping them develop written and oral communication and other basic skills. Delpit has characterized it this way: "[If] minority people are to effect the change which will allow them to truly progress, we must insist on skills *within the context of* critical and creative thinking."[48] Hence, what is needed is a balance between basic skills and knowledge development and more challenging intellectual work. A solitary emphasis on either is likely to be self-defeating.

Contextual Resources

The five essential supports are the foundation for improving student learning. At the same time, these core supports are anchored within a context unique to each school—a climate of relational trust, a school organizational structure, and resources of the local community. (See the perimeter of Figure 1.1.)

Previous CCSR studies and a book by one of the authors have established the critical role of trusting relationships in promoting the development of the essential supports and the improvement of student learning.[49] Comprehensive school improvement requires sustained cooperative work among all adults in a school community—administrators, teachers, parents, and local officials. The overall quality of the basic social relationships among these various partners is key to initiating meaningful change and sustaining it over time.[50]

Structural factors, like the size of the school and the stability of the student body, are strong influences as well, largely because they facilitate the development of relational trust. Small size enables a friendly, informal atmosphere, where faculty members and the principal can easily discuss strategic issues, coordination of instruction, standards for student behavior, and other matters. In prior research on Chicago, CCSR has demonstrated that small schools were more likely than others to be highly rated on leadership, parent involvement, and professional community.[51] Lack of stability also affects the level of trust between parents and teachers. If families move frequently, there is simply less opportunity for teachers to get to know and understand students and their parents. Likewise, parents may not be in the community long enough to gain an appreciation for teachers' trustworthiness or competence.[52] Whatever reduces the level of relational trust in schools depletes the social resources for reform and improvement.

The framework further recognizes the critical role of the local community and its history in the development of the essential supports and students' opportunities to learn. In some communities, the stresses of poverty, crime, and other social problems make it more challenging to operate schools. At the same time, because they contribute to safer, more viable communities, social resources in the community, like churches and voluntary organizations, help to build a social foundation that facilitates stronger ties between the school and the community. All of this was especially salient in the context of Chicago's embrace of the 1988 reform, with its emphasis on democratic localism as a lever for change. Reformers assumed that all communities had sufficient human and social resources to improve their local schools, if given the opportunity. Not all school communities, however, started in the same place, and their initial differences might well play a significant role in the pace of reform and its ultimate outcome.

A Dynamic Model

Our framework suggests a dynamic model of improvement, not a specific lockstep plan. Progress can advance along numerous paths, and no one course is obviously best for all schools. How development starts and proceeds in any specific context will largely depend on the base capacity of that school, the characteristics of the community, and the particular interests of school leaders. Nonetheless, we posit that sustained work must eventually emerge on each of the essential supports. Stated somewhat differently, it is hard to envision improved student learning emerging in a school with poor leadership, weak parent-school ties, little professional commitment or learning, or little attention to ambitious instruction.

Endnotes

1 Bryk, Sebring, Kerbow, Rollow, and Easton (1998); See "The Case of Breakthrough Schools" in Smylie, Wenzel, Allensworth, Fendt, Hallman, Luppescu, and Nagaoka (2003), p. 84. In articulating a framework of essential supports and contextual resources for school improvement, we reference exemplars of previous research that provide an empirical and theoretical foundation, but we have not attempted to conduct an exhaustive literature review.

2 Teacher leaders often exercise leadership from a different point of view than the administration. See Spillane, Halverson, and Diamond (2001). Similarly, Ogawa and Bossert (1995) write that leadership flows broadly through social networks. Smylie and Hart (1997) see leadership as an interactive relationship between leaders and followers, or a negotiated order.

3 See Elmore, Peterson, and McCarthey (1996); Blase and Kirby (1992); and Sebring, Bryk, Easton, Luppescu, Thum, Lopez, and Smith (1995).

4 Riehl (2000).

5 Ryan, Bryk, Lopez, Williams, Hall, and Luppescu (1997).

6 This encompasses supporting parents in their parental role, for example by offering parent-training classes. It also means teaching parents ways to monitor homework and reinforce learning at home, involving them as advisors and decision makers, and recruiting them as volunteers. See Epstein, Coates, Salinas, Sanders, and Simon (1997).

7 Bryk, Sebring, Kerbow, Rollow, and Easton (1998), ch. 6.

8 Sebring, Bryk, Easton, Luppescu, Thum, Lopez, and Smith (1995), p. 17.

9 See Sergiovanni (2000). He likens the principal to a midwife who enables the staff to bring forth a transformed environment for teaching and learning. Mohrman, Wohlstetter, and associates (1994) claim that principals must empower their constituencies to achieve high involvement. Bolman and Deal (1997) discuss how leaders empower staff and build political links to key stakeholders. Also see Elmore (2002) and Knowles (2002) on the development of instructional leadership.

10 See Fullan (1999); and Schlecty (1997).

11 Payne (2001).

12 Clark (1983); Epstein and Dauber (1991); Lareau (1989); and Muller (1993).

13 While this is critically important, and it is a central element of the University of Chicago's charter schools, we did not collect data on these services. The University of Chicago charter schools provide systematic academic and social support for students. Services range from tutoring, to supplying eyeglasses, to obtaining medical services.

14 See Baldacci (2004) for a dramatic example of a teacher's efforts to connect with students. See also Braddock and McPartland (1993).

15 See Lawrence-Lightfoot (1978); Walker (1993); and Valdéz (1996).

16 Rosenholtz (1989) found this to be a significant difference between schools that were "stuck" and schools that were "moving." Teachers in stuck schools assumed that nothing could be done to encourage parent activity.

17 Furstenberg, Cook, Eccles, Elder, and Sameroff (1999) found that modest and low-income families in Philadelphia could better manage their children's development when there were strong schools and other institutions within the community. The authors urged schools to make serious efforts to reach out to families and make them aware of their programs and resources.

18 Epstein, Coates, Salinas, Sanders, and Simon (1997). These authors have outlined a set of tools and strategies to help schools promote these roles among their parents, and Epstein has founded the National Network of Partnership Schools to conduct further research and develop strategies to strengthen the connections between families and schools. See also Fullan (2001).

19 See discussion of leadership as it relates to the transformation of instruction. Leithwood, Begley, and Cousins (1994); and Louis and Miles (1990).

20 Darling-Hammond (1997); Ferguson (1991); and Smylie (1995).

21 Bryk and Schneider (2002), p. 25.

22 Hansen (1995), p. 15. See also Bryk, Lee, and Holland (1993).

23 Rowan (1990).

24 Darling-Hammond and Ball (1998); Darling-Hammond and McLaughlin (1995); Lieberman (1995); and National Staff Development Council (1995).

25 Smylie, Allensworth, Greenberg, Harris, and Luppescu (2001).

26 See Bryk, Camburn, and Louis (1999); and Louis, Kruse, and Bryk (1995).

27 Newmann and associates (1996); and Little (1982).

28 Lieberman, Saxl, and Miles (1988); and Little (1990).

29 McLaughlin (1993).

30 Our 1999 survey provided evidence on this. Ninety percent of sixth-graders and eighth-graders reported they felt mostly or very safe in their classrooms, but only 52 percent indicated they felt mostly or very safe outside around the school. See Miller, Luppescu, Gladden, and Easton (1999).

31 Edmonds (1979); Good and Brophy (1986); Purkey and Smith (1983); and Phillips (1997).

32 Raudenbush (1984); and Rosenthal (1995).

33 McDill, Natriello, and Pallas (1986).

34 Lyon (1998); and Snow, Burns, and Griffin (1998). Going back to the progressive education movement in the 1940s, social support has been recognized as a key ingredient of learning. Personal relation-

ships with adults foster motivation and heighten students' confidence that they can master content, develop skills, and hone their higher-order thinking. Bryk and Driscroll (1988); Lee and Smith (1999); Lee, Smith, Perry, and Smylie (1999); Dorsch (1998); and Noddings (1988).

35 Prior research, including studies carried out by CCSR, has demonstrated the power of the combination of high expectations and a caring, personalized environment. Neither academic press nor social support by itself has as powerful an impact. In fact, in the lowest-performing schools in Chicago, we found that students rated these schools about the same as other schools with respect to personal concern of teachers, but they did not perceive a strong press toward academic achievement. Sebring, Bryk, Roderick, Camburn, Luppescu, Thum, Smith, and Kahne (1996); Lee and Smith (1999); Lee, Smith, Perry, and Smylie (1999); Shouse (1996); and Bryk, Lee, and Holland (1993).

36 Fordham and Ogbu (1986); and Ogbu (1985).

37 Lee and Smith (1999); Newmann, Lopez, and Bryk (1998); and Newmann, Bryk, and Nagaoka (2001).

38 Coleman (1988).

39 In general, schools and other institutions serving this population are structured in a way that makes it very difficult to develop interpersonal trust and solidarity between students and institutional agents. A number of institutional barriers stand in the way of providing social capital to working-class minority students. First, bureaucratic policies aimed at administrative efficiency take precedence over the consideration of the individual student. Second, teachers and others adults play contradictory roles; while they can be helpful and supportive, they also exercise control over scarce resources and behave in self-interested ways. Third, with large classrooms and severe time constraints, relationships between adults and students necessarily become superficial and transitory. Finally, class and ethnicity-based antagonisms of the larger culture can manifest themselves in subtle ways within the school. See Stanton-Salazar (1997).

40 Sanders and Rivers (1996).

41 Nation Commission on Excellence in Education (1983).

42 Autor, Levy, and Murnane (2001).

43 At the time of our study, the Chicago Public Schools were beginning to work on a set of standards, but the most detailed standards were published after the period of the study. See Chicago Public Schools (1997).

44 Smith, Smith, and Bryk (1998).

45 Newmann and associates (1996). See also Cohen, McLaughlin, and Talbert (1993); McLaughlin and Shepard (1995); Porter (1994); and Stevenson and Stigler (1992).

46 See Newmann, Lopez, and Bryk (1998), p. 18. Newmann and his colleagues also found that students performed better on both basic skill and higher cognitive tasks when they had been exposed to more authentic pedagogy. Similarly, Lee, Smith, and Croninger's (1995) research revealed that students who attended schools with a greater emphasis on authentic instruction learned 78 percent more math between eighth and tenth grade than did students at other schools. See Newmann, Bryk, and Nagaoka (2001); Newmann and associates (1996); and Lee, Smith, and Croninger (1995).

47 Newmann, Lopez, and Bryk (1998); and Newmann, Bryk, and Nagaoka (2001).

48 Delpit (1986), p. 384.

49 Bryk and Schneider (2002).

50 Sebring, Bryk, Easton, Luppescu, Thum, Lopez, and Smith (1995); and Bryk and Schneider (2002).

51 Sebring, Bryk, Easton, Luppescu, Thum, Lopez, and Smith (1995).

52 Bryk and Schneider (2002), ch. 7. See also Kerbow (1988).

Chapter 2

Evidence for the Framework: The Essential Supports for School Improvement

From a research perspective, the Chicago public school system from 1990 through 1996 represented an extraordinary natural experiment in school change. Under the 1988 school reform law, LSCs chose principals who brought very different leadership styles to this effort. Together, these school community leaders attacked a broad set of problems in highly diverse ways, pursuing different solutions and implementing each with varying intensity and duration. Schools started in different places and had different local resources on which to draw.

Taking Advantage of a Natural Experiment

Many schools showed improving test scores in the years after the reform law's passage. In 1990, 24 percent of elementary school students scored at or above the national average in reading comprehension, and 27 percent of students performed at or above the national average in mathematics.[1] Systemwide, student test scores declined slightly in 1991, bottoming out in 1992, and then started an upward trajectory over the next several years. By 1996, 29 percent of students were at national norms in reading. The comparable figure for mathematics was 31 percent. Although these scores were far from acceptable, at last Chicago seemed headed in the right direction.

While the system as a whole was making some progress during this period, there was substantial variation across school communities in achievement trends. Figures 2.1 and 2.2 illustrate the trends in reading and math scores on the Iowa Tests of Basic Skills (ITBS) for the one-quarter of schools with the most-improved scores and for the one-quarter of schools

with the least-improved scores during the period 1990 through 1996.[2]

In the 118 schools with the most-improved reading scores, about 37 percent of the students scored at or above national norms in 1996, whereas in 1990 only 22 percent had done so. This substantial improvement in this relatively large group of schools materialized during the four-year period of 1993 through 1996. Among the 118 schools with the least improvement in reading scores, the trend was essentially flat, with 24 percent of students scoring at or above national norms in both 1990 and 1996.

Trends in math scores displayed the same patterns. The 117 most-improved schools made great gains, moving from 27 percent of their students scoring at or above grade level to 44 percent. Having 50 percent of CPS students score at national norms was an objective set out in the 1988 reform legislation, and these Chicago schools were actually approaching the goal. In the least-improved schools, in contrast, math scores declined from 29 percent at or above grade level to 25 percent.[3] It is important to recognize that during our study period, 1990 to 1996, there was far less emphasis on test-score accountability in CPS than during the latter part of the decade. This suggests that the improvement in test scores was a real indicator of change in students' learning and not the result of narrow test-preparation activities.

Taken together, these conditions provided an opportunity to learn more about how the base resources present in school communities condition their capacity to make fundamental changes in their structure and operations, and how changes in these key organizational features in turn link to improvements in student learning. Thus, Chicago's decentralization reform afforded a unique opportunity to assemble a large, longitudinal database with which we could test empirically key propositions about how schools work and how their operations might be improved, and how this can contribute to improved student learning.

FIGURE 2.1

Reading Score Trends in Improving versus Stagnating Schools (Iowa Tests of Basic Skills)

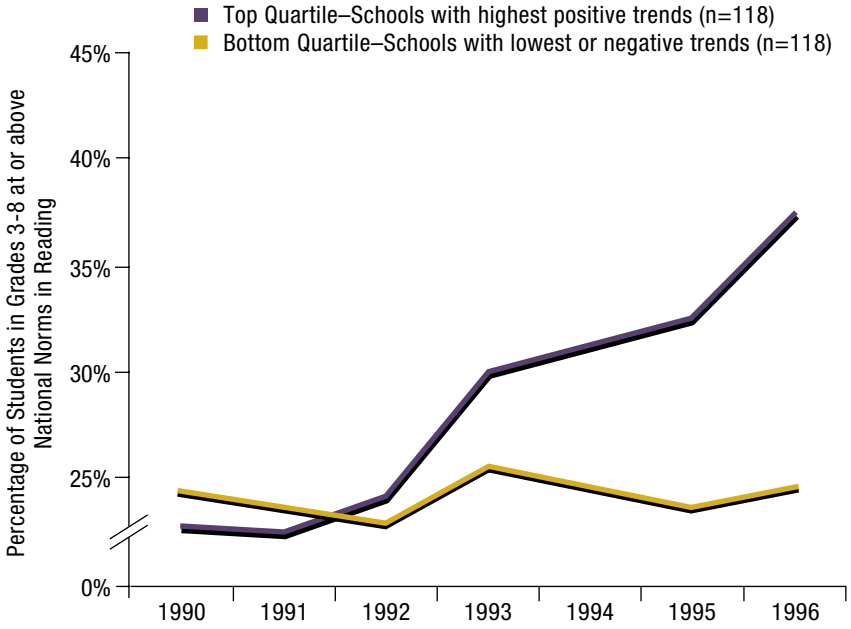
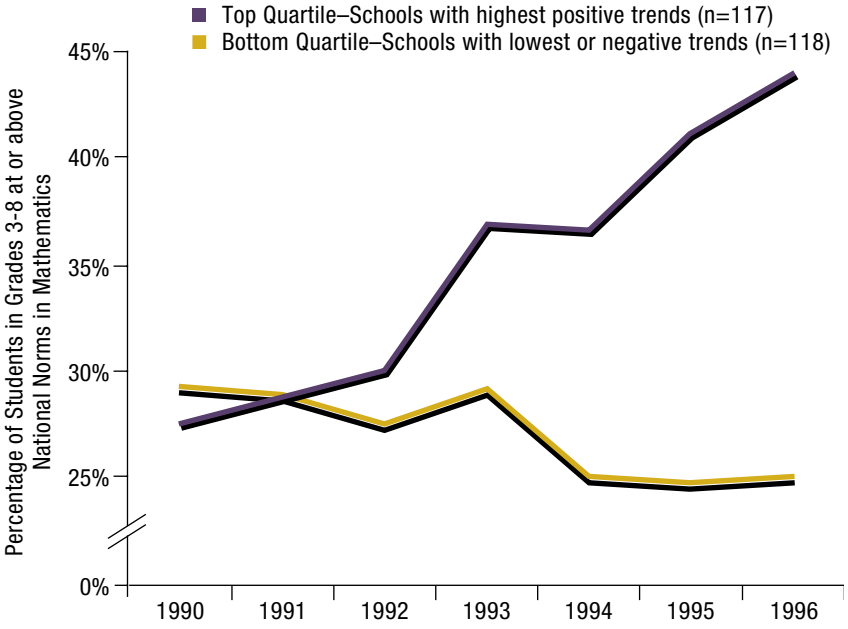


FIGURE 2.2

Mathematics Score Trends in Improving versus Stagnating Schools (Iowa Tests of Basic Skills)



Using Variability in School Improvement to Examine Evidence for the Framework

In this section, we present evidence of the importance of the five essential supports for progress in school improvement. Our analyses investigate whether strength in the essential supports was linked to improvement in learning gains and whether weakness in the essential supports was linked to stagnation in learning gains. Schools that were already high achieving, including magnet schools, were removed from our analysis because they faced less pressure to show substantial improvements, and our main concern was to understand how regular, neighborhood schools succeed.[4] We use the term "stagnant" to describe those schools with the least improvement—those in the bottom quartile. "Substantially improved" describes those in the top quartile.

Figures 2.1 and 2.2 display contrasting groups of schools based on the percentage of students scoring at or above the national norms on the ITBS. There are a number of difficulties with this method, including the fact that it does not take into account yearly changes in each school's student population that can affect the results. However, in our analyses we used a more complex and technically defensible measure of school improvement. Using ITBS scores, we created a measure of academic productivity for each school in both reading and math. In developing a productivity indicator for each school we sought to focus directly on the amount students learned each year and whether these learning gains increased over time. According to this standard, improving schools should show larger learning gains at the end of our study, the 1995–96 academic year, than in the initial year, 1990–91. In other words, we measured the degree to which students were learning more in these schools at the end of the study period than they were in the beginning. We describe in detail how we created this value-added indicator in a CCSR report entitled *Academic Productivity in Chicago Public Schools*.[5]

Measuring the Essential Supports

To measure the essential supports, we drew on CCSR's extensive database of surveys of principals, students, and teachers conducted in the early and mid-1990s. The survey series, initiated in 1991 and still conducted biannually in CPS, sought ongoing, systematic data about school communities and about local responses to the decentralization reform and the varied impact that it was having on adults and students across the city. For this work, we rely especially on teacher and student surveys conducted in the spring of 1994, since this data collection occurred at approximately the midpoint in our study period (1990 to 1996). In our forthcoming book, *Organizing Schools for Improvement,* we supplement the 1994 surveys with information on the initiation of reform from the 1991 teacher survey and 1992 principal survey; and with data on the sustained effects of decentralization in 1997 from surveys of principals, teachers, and students.[6]

Beginning in 1994, the scope of the surveys included detailed information about teachers' professional work, including instructional practices, opportunities for continued learning, and the development of professional collaboration and community. In addition, these surveys explored teachers' perceptions of the school environment, their participation in school governance, and the involvement of parents and community in school life. Also in 1994, a student survey was administered in conjunction with the teacher survey. The student surveys were designed to measure students' learning opportunities and experiences in school, their motivation and engagement with learning, their educational and work aspirations, their perceptions of the school environment, and their relationships with teachers. Students were also asked to provide their views about classroom instruction.

From these surveys we created a series of measures that capture the degree to which components of the essential supports existed in Chicago elementary schools. Each measure might combine four to twelve survey items that are conceptually linked. For our larger study, we drew on 205 survey questions asked of teachers, 70 questions asked of students, and eight questions asked of school principals, for a total of 283 survey questions. From these survey items, we were able to create 36 different Rasch measures or scales that capture various aspects of the essential supports.[7]

For the analyses in this report, we selected a subset of 13 measures that are illustrative of and capture the five essential supports. We have grouped them into five overall core indicators—one for each support—and display them in Table 2.1. Note that the leadership indicator is a factor that statistically combines six measures. In terms of the subconcepts of leadership discussed in Chapter 1, the first measure captures inclusive leadership and the second reflects instructional leadership. The third and fourth measures relate to the influence of faculty, parents, and community. The last two measures indicate a strategic orientation.

The indicator for parent-community ties is a simple composite variable that combines two measures. Both measures pertain to the staff engaging parents in strengthening student learning. The indicator for professional capacity is the work orientation factor, which statistically brings together a measure of innovation and

TABLE 2.1

Core Indicators for the Five Essential Supports

Leadership	**Leadership Factor**
	Inclusive leadership—teachers view principal as an inclusive, facilitative leader, focused on parental and community involvement and creating a sense of community in the school
	Instructional leadership—teachers view principal as setting high standards and exercising leadership for instructional reform
	Teacher influence—measures the extent of teachers' involvement in school decision making
	LSC contribution—teachers' views of the effectiveness of the local school council
	Program coherence—teachers' views of whether there is a focus on quality and coordination of programs within the school
	SIP implementation—teachers' view of whether the school improvement plan is integral to the school's operation and improvement efforts
Parent-Community Ties	**Parent Involvement Composite**
	Teacher outreach to parents—teachers' views of the effort to develop common goals and understandings with parents and work together to strengthen student learning
	Parent involvement in the school—teachers' reports of how often parents pick up report cards, attend parent-teacher conferences, attend school events, and other activities
Professional Capacity	**Work Orientation Factor**
	Teacher orientation toward innovation—teachers' reports of whether they are continually learning, seeking new ideas, and have a "can do" attitude
	School commitment—teachers' reports of how loyal and committed they are to the school
Student-Centered Learning Climate	**Safety and Order Factor**
	Safety—students' perceptions of personal safety inside and outside the school and traveling to and from the school
	Classroom disruptions—teachers' reports of disruptions due to students' behavior and due to administrative interruptions
Ambitious Instruction	**Curricular Alignment Measure**
	Change at each grade level in the difficulty of math content teachers reported emphasizing, which is compared to knowledge needed to meet national norms

a measure of personal commitment. Both of these capture teachers' values and beliefs. The indicator for student-centered learning climate is the safety and order factor that statistically combines the measures of safety and classroom disruptions. We have one measure of ambitious instruction, which is curricular alignment.

In summary, in this report we focus on the evidence of academic productivity in reading and mathematics, the key role of the five essential supports in elevating the probability that learning gains will improve over time, and how the school-community context influences and interacts with the essential supports. In our forthcoming book, we take up the question of student engagement. As noted earlier, existing research already offers empirical evidence documenting the effects of school size, stability of enrollment, and relational trust, and evidence on these variables also will be included in the book.

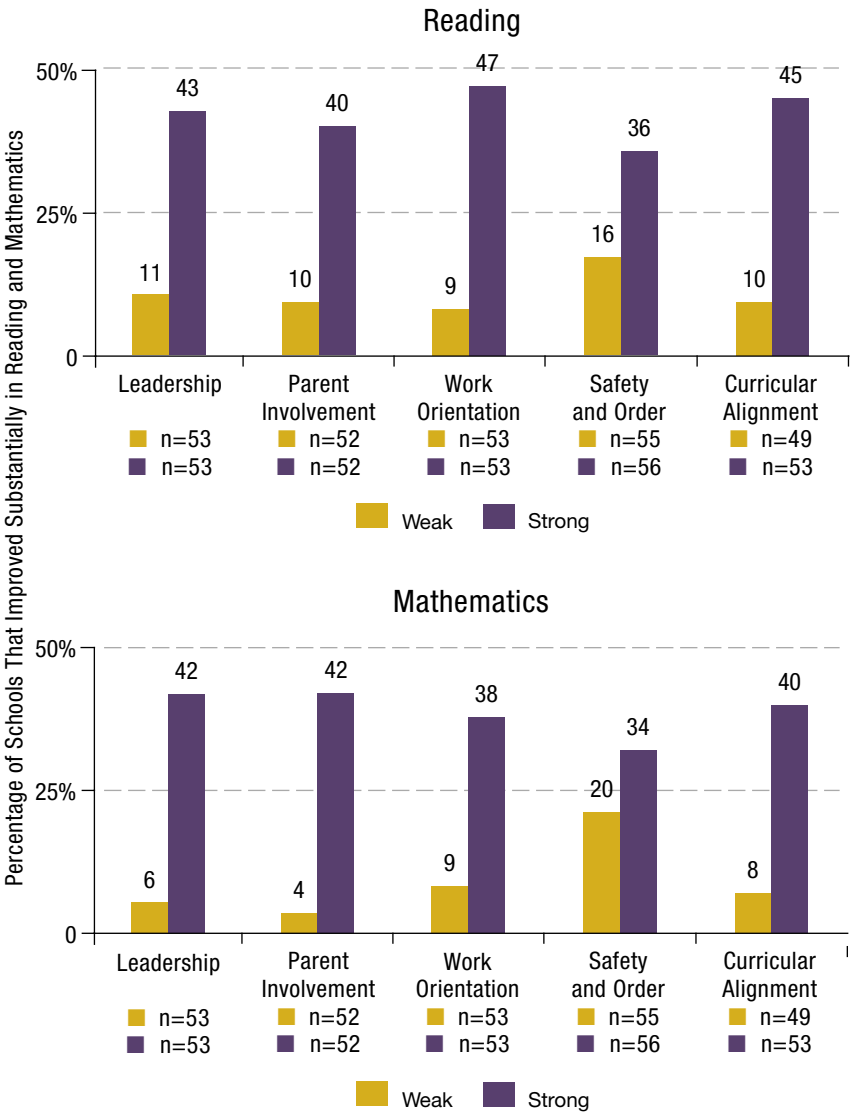
Each Support on Its Own Shows a Relationship to Improving Test Scores

The basis of our analysis is a comparison of those schools that showed the most improvement in learning gains to those that showed the least. In the analyses that follow, we call schools "improving" if they were in the top quartile for their seven-year (1990 through 1996) academic productivity trends in reading and mathematics, and we call them "stagnant" if they are in the bottom quartile. Thus, by definition 25 percent of the schools are categorized as improving and 25 percent as stagnant. If we knew nothing at all about the organization of a particular school, the chance that this school would show substantial improvements between 1990 and 1996 is one in four. Similarly, absent any real knowledge about a particular school, we would expect one in four to be stagnant as well. To the extent that a support is "essential" for improvement, the presence or absence of that support should differentiate which schools are likely to improve and which are likely to stagnate.

Figure 2.3 offers our first evidence of the support role that each organizational element plays in advancing school improvement. For purposes of this display, we have categorized schools as strong on

FIGURE 2.3

Likelihood of Substantial Improvement in Reading and Mathematics, Given Weak or Strong Essential Supports



an essential support if their core indicator ranked them among the top quartile of Chicago elementary schools in the 1994 surveys. Similarly, schools ranked in the bottom quartile on a core indicator in 1994 were classified as weak on that essential support. Key here is the extent to which a strength or weakness in an organizational support substantially alters our predictions about the likelihood of improvement in reading and math from the chance level of one in four or 25 percent. These results are represented in Figure 2.3 by purple bars for schools strong on an essential support and by yellow bars for those weak on the same support.

Notice that all of the yellow bars fall well below the 25 percent reference line. This means that a reported weakness in any of the five core organizational indicators substantially reduces the probability of improvement below the chance level of 25 percent. Only 11 percent of schools weak in leadership improved substantially in reading, only 10 percent weak in parent involvement improved, only 9 percent weak in teacher work orientation improved (our indicator for professional capacity), and so on. The likelihood of improvement in both reading and mathematics was especially low among schools that were weak in leadership, parent involvement, teacher work orientation, or curricular alignment.

Correspondingly, the purple bars in Figure 2.3 show the probability of substantial improvement in student outcomes among schools with strong reports on each of the individual organization indicators measured in 1994. Each of these bars exceeds the 25 percent reference line. A reported strength in any single core indicator substantially elevates the probability of improvement in both reading and mathematics.[8] Forty percent of the schools with strong parent involvement improved substantially in reading, and 42 percent improved in math. Similar results were found for the other essential supports.

The contrast in the relative lengths of the yellow and purple bars is especially informative. These differences suggest the capacity of each indicator to predict a school's likelihood of improvement based on the school's score on that single indicator. A school with a strong report on any one of the five core indicators is typically four to five times more likely to demonstrate substantial improvement in reading and mathematics than a school whose survey report locates it among the bottom quartile of schools on that core indicator. These differences are especially striking in several cases. For example, the probability of substantial improvement in math is seven times higher among schools with strong leadership than among schools with weak leadership (42 percent compared to 6 percent).

We find corroborating evidence of the importance of strength of the essential supports in school improvement when we examine the probability of stagnation, rather than the probability of substantially improving. As shown in Figure 2.4, schools with weak reports on any one of the five core indicators were typically two to four times more likely to stagnate than schools with strong indicator reports.

A System of Supports Promotes Improvements in Student Outcomes

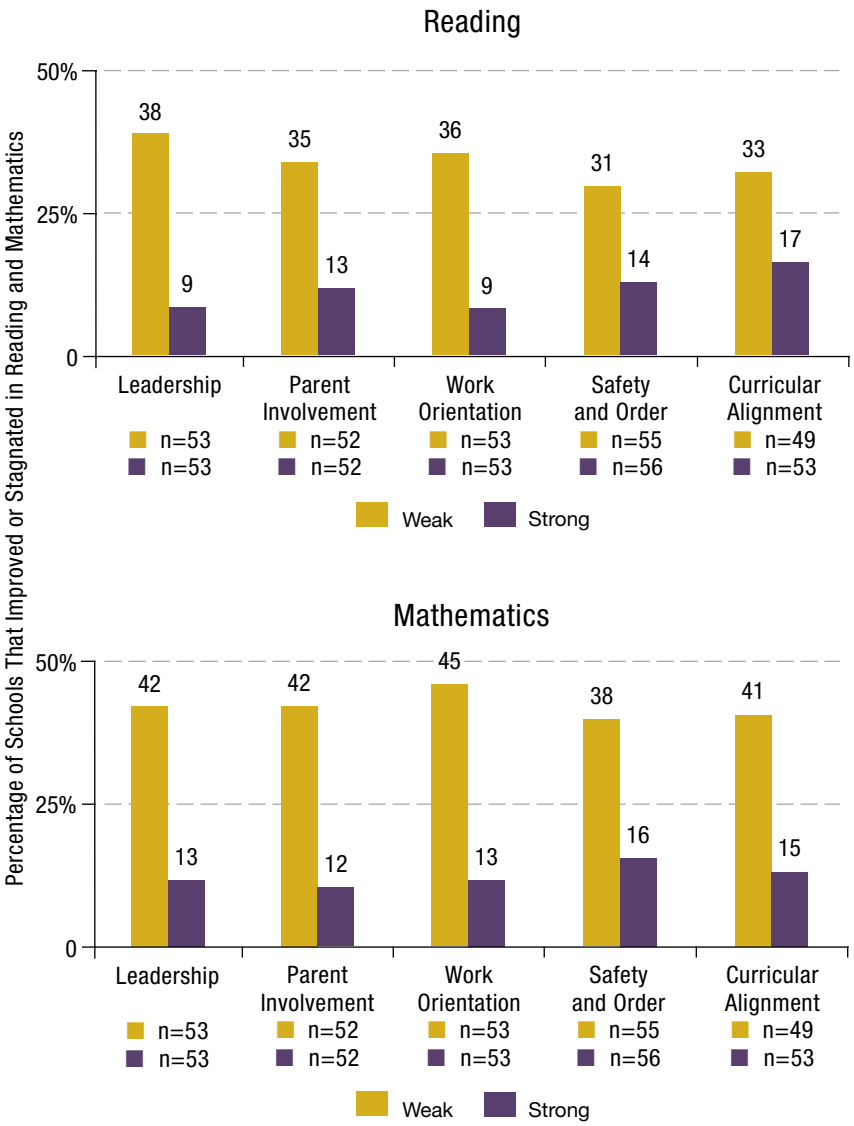
While initial efforts at school development may proceed along varied paths depending on base-state circumstances and resources, our framework of essential supports posits that organizational strength must eventually emerge on all of the essential supports for reform to culminate in improved student outcomes. From this perspective, a high-performing school should evidence at least a modicum of strength across all five organizational supports and certainly not demonstrate a material weakness in any one of them. In contrast, low-performing schools will tend to display significant weaknesses across multiple elements. While organizational irregularity (i.e., genuine organizational strength coexisting with a manifest weakness) may well characterize schools in transition, this is not a stable organizational state. The persistence of a clear weakness in any essential organizational element will eventually undermine whatever strengths might have been assembled elsewhere. For example, a school may do a terrific job in strengthening its ties to parents and the local community. If the capacity of the adults to provide a safe, orderly, and supportive environment does not also eventually emerge, however, this parental engagement will likely atrophy.

This line of reasoning suggests that we should not expect to find stable patterns of gross inconsistency across the five essential supports, where schools are very strong in some supports and very weak in others. In fact we do not. About half of the schools were in the bottom quartile on at least one core indicator in 1994. Among these schools, only 18 percent demonstrated a strength (i.e., were in the top quartile) on one of the four other core indicators. To put these results in perspective, if the five organizational supports were totally independent, we would expect 68 percent of the schools weak on one indicator to show strength on at least one of the other four core indicators.[9] Thus, the observed rate for strong and weak indicator reports occurring together represents a small fraction of what we might have expected to occur due to chance alone.[10] Where there are both strengths and weaknesses, this may be explained by the fact that these data capture only a single, fallible snapshot from a six-year developmental process. At any single point in time, critical organizational changes may be occurring in at least some schools, and this may well produce an organizational indicator report where both strengths and weaknesses co-occur.

More significant than whether the indicator results simply cluster together is whether this clustering in turn predicts actual improvements in student outcomes. Up to this point, we have focused on the relationships between each separate organizational support and measured student outcomes. Our framework, however, suggests that a school's capacity to improve derives from its *overall* organizational strength across all of the essential supports. Therefore, we now look at cumulative effects associated with all five supports simultaneously.

FIGURE 2.4

Likelihood of Stagnation, Given Weak or Strong Essential Supports



For purposes of this analysis, we created a simple score of overall school organizational capacity based on aggregating each school's data from the five core indicators of the essential supports. Schools were credited with a +1 if they ranked in the top quartile of an indicator and a -1 if they ranked among the bottom quartile of the schools. An indicator report between the 25th and 75th percentile was scored as 0 (neutral). We then aggregated these five indicator scores into an overall school organizational capacity measure. These overall scores ranged from -5 (weak on all five essential supports) to +5 (strong on all five

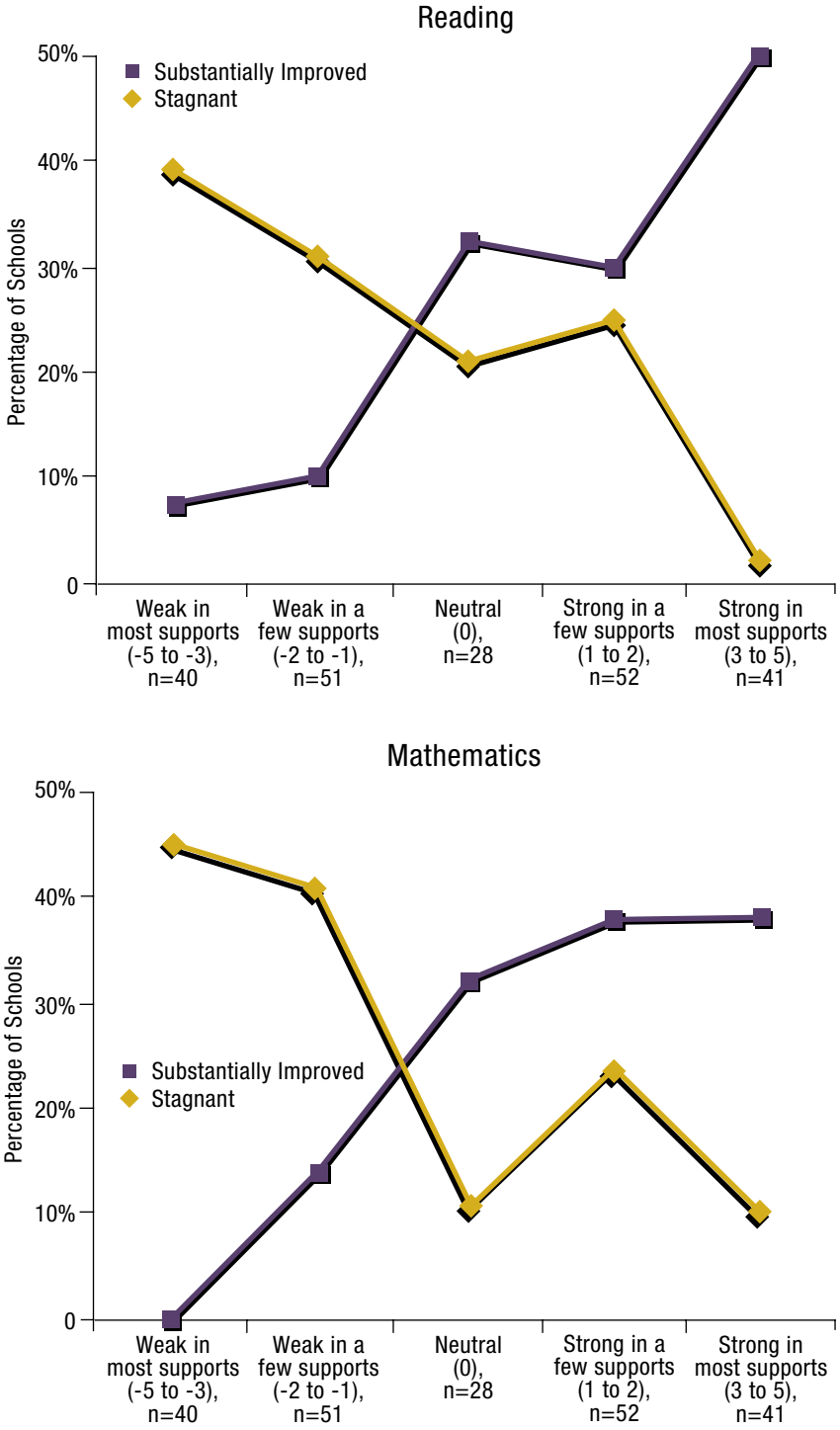
supports). For the purpose of displaying these results, we then categorized schools as weak in most of the supports (scores of -5 to -3), weak in a few supports (-2 and -1), neutral (0), strong in a few supports (1 to 2), and strong in most supports (3 to 5).

The purple lines in Figure 2.5 track the percentage of schools that improved in reading and mathematics based on their overall strength across all supports measured in 1994.[11] These results show the connection of the system of essential supports to improved student outcomes. Schools strong in most supports were at least ten times more likely than schools weak in most supports to show substantial gains in both reading and mathematics. Not a single school that was weak in most of the supports (i.e., with organizational capacity scores of -5 to -3) showed substantial improvements in mathematics. In contrast, half of the schools strong in most supports (i.e., with scores of +3 to +5) showed substantial improvements in reading achievement.

Correspondingly, the yellow lines in Figure 2.5 track the percentage of schools that were stagnant on each student outcome based on the schools' overall organizational capacity scores. The results for predicting stagnation in reading and mathematics mirror those found for predicting substantial improvements. Schools weak in some or most supports were much more likely to stagnate than schools with neutral reports across the five supports. In contrast, schools with strengths across most of the supports were very unlikely to stagnate. Paralleling what we found in examining the effects of individual indicators on stagnation, schools demonstrating weakness on most of the

FIGURE 2.5

Percentage of Schools that Substantially Improved or Stagnated in Each Area by Strength in the Five Essential Supports



core indicators were four to five times more likely to stagnate than schools with strong overall organizational capacity scores.

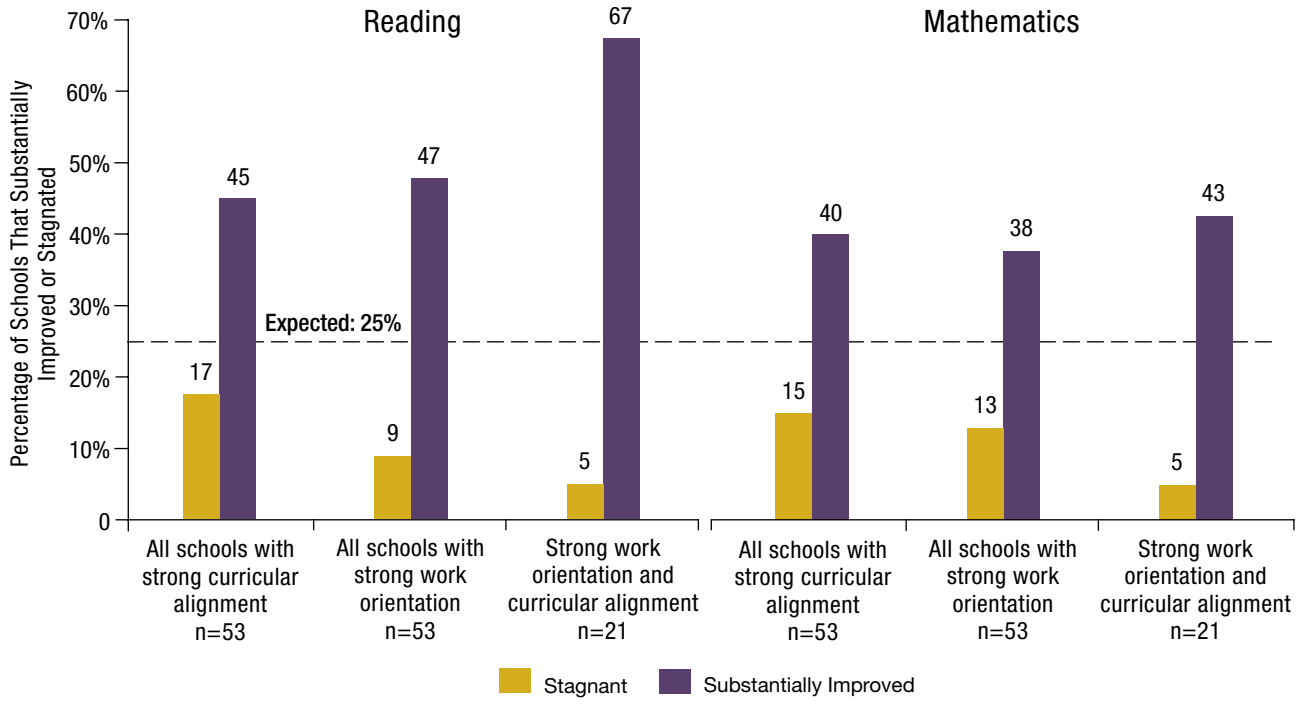
The impact of strong organizational capacity appears particularly important for reading improvement. Half of the schools strong on three or more essential supports improved in reading. Extensive weaknesses in the organizational supports were more predictive for mathematics. No school weak in three or more supports showed substantial gains in mathematics, and almost half of these schools were stagnant. Taken together, these results begin to suggest that a school's organizational capacity may function in somewhat different ways depending upon the nature of the particular student outcome in question. Reading improvement appears to draw more broadly on organizational strengths than advancing gains in mathematics.

For simplicity, the analyses presented so far have examined all of the supports together, with only one indicator representing each essential support. In our forthcoming book, we use our more comprehensive list of indicators to provide a much closer look at how specific combinations of supports are particularly important for improvements in test scores and student attendance. In particular, these further analyses highlight the fact that, when both professional capacity and ambitious instruction are strong, the probability or improvement in both reading and math also rises. We provide one example of this further work below.

As shown in Figure 2.6, on its own, curricular alignment was a good predictor of improvement in reading and math—45 percent of schools with strong curricular alignment showed substantial improvement in reading, and 40 percent in math. If we narrow our

FIGURE 2.6

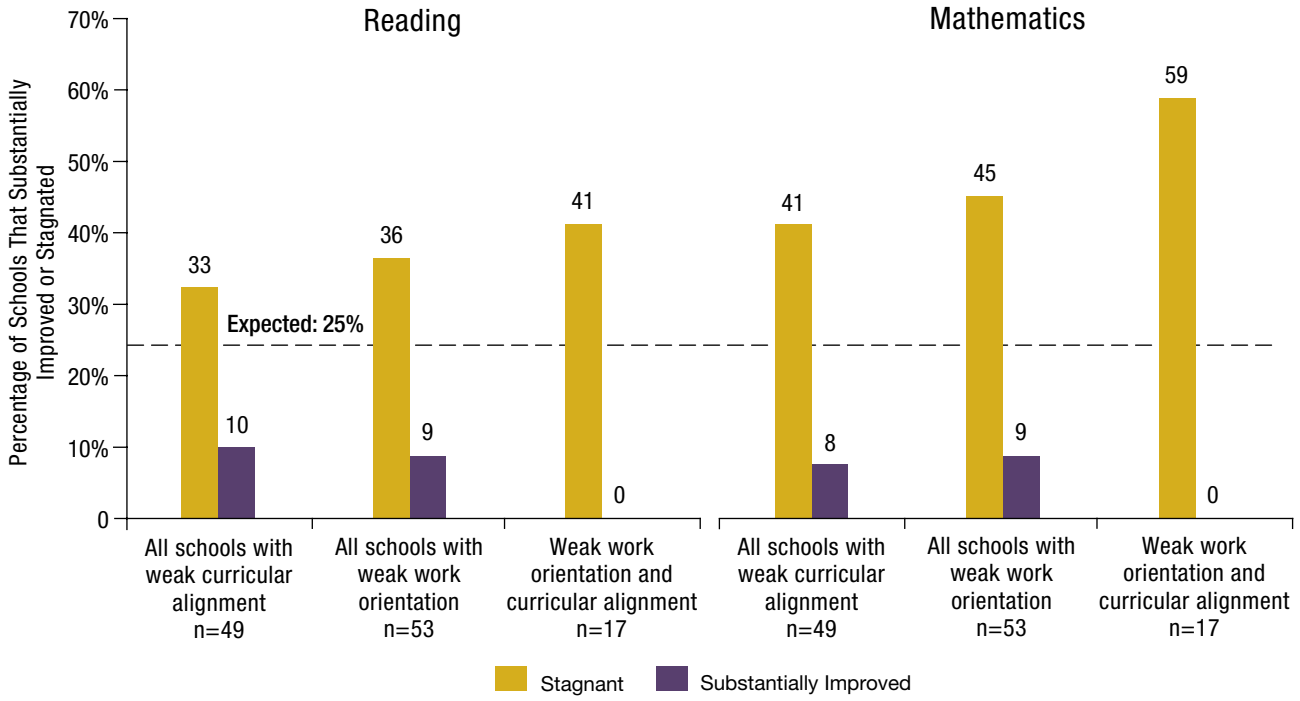
Schools that were strong in both work orientation and curricular alignment showed substantial improvement and were unlikely to stagnate.



Note: The relationships shown in this figure are based on 1994 survey data. When we examined the same relationships using 1997 survey data, they were even stronger.

FIGURE 2.7

Schools that were weak in both work orientation and curricular alignment stagnated and were unlikely to improve.



Note: The relationships shown in this figure are based on 1994 survey data. When we examined the same relationships using 1997 survey data, they were even stronger.

focus to those schools that were also strong in both work orientation and curricular alignment, we see that two-thirds showed substantial improvements in reading, and 43 percent of these schools also showed substantial improvement in math. Virtually none stagnated.

In contrast, *no school* with poor work orientation and poor curriculum alignment showed substantial improvement in either reading or math, and almost 60 percent of these schools showed stagnation in mathematics. (See Figure 2.7.) Taken together, these results afford further testimony for the strength of the essential supports as they work in tandem. Impressive improvements in student learning can occur when a school faculty is committed to change and focus their collective attention on instructional improvement. In contrast, when these two conditions are absent, stagnation in student performance is much more likely to occur.

Summing Up: The Key Role of the Essential Supports

School improvement results from attention to the core organizational supports in a school. We found strong, consistent relationships between the five essential supports and improvement in student outcomes. Each essential element was strongly associated with each of the student outcome trends. A weakness in any core indicator substantially lowered the schools' likelihood of improvement on each measured outcome.

Do Our Findings Establish a Cause-and-Effect Relationship between the Essential Supports and School Improvement?

The scientific community demands a high burden of proof in order to claim that one set of variables "causes" certain results or outcomes. A randomized experimental design is often held up as the gold standard for determining with certainty the causal link between a treatment and an outcome. Creating an experiment to randomly assign schools to different levels of the essential supports, such as either strong or weak leadership, strong or weak parent community ties, or strong or weak student-centered learning climates, would clearly be impossible to do. Instead, we studied a natural experiment that resulted in the development of different conditions—strengths or weaknesses in the essential supports—across a wide range of schools. We then measured a set of outcomes—academic productivity in reading and math—that were associated with different levels of the essential supports. As we have shown, strengths in the essential supports are strongly related to improvements in academic productivity, and equally important for our argument, that weaknesses in the essential supports are also strongly related to lack of improvement in academic productivity.

Strictly speaking, we do not have the evidence to claim that strength in the essential supports caused the improvements in academic productivity that we observed. We are convinced, however, that we are making a strong case for this relationship, and in fact, we believe that the essential supports are indeed "essential" to long-term school improvement. As we have described, schools that are strong in the essential supports are, on average, about four times as likely to have improved as schools that are weak in the essential supports. Very telling to us also is the fact that schools that are weak on two or more of the essential supports have virtually zero chance of improving substantially in either reading or math.

More recently, we have been analyzing the relationship between strengths in various measures of the essential supports and value-added test score improvements for the period 1997 to 2005. During these years, we conducted surveys of all CPS schools every two years, in odd-numbered years. The frequent survey indicators provide more time-sensitive measures of the essential supports in schools. We can investigate how trends and changes in the development of the essential supports relate to school-based achievement improvements. Since we can determine whether the findings are confirmed over multiple replications, this gives us more confidence about the conclusions,

In the recent research, we use a new method for calculating value-added test-score improvements.[a] This method takes advantage of improvements in computing capacity that were not feasible when we determined the academic productivity indicator in the earlier period. We calculated a school-level value-added achievement gain for each specific survey year (1997, 1999, 2001, and 2003). We then calculated the value-added gains in the next survey year (1999, 2001, 2003, and 2005). To test the relationship between the essential supports, we asked two questions. First, does strength in an essential support at the beginning of the period (for example, survey year 1997) predict improved value added in the subsequent survey year (1999)? Second, does improvement in the indicator between the first and second survey result in an improvement in the value-added measure in the same period? We asked these two questions for four periods: 1997 to 1999, 1999

to 2001, 2001 to 2003, and 2003 to 2005.

In general, we found strong evidence for the argument that strengths in essential supports lead to improved achievement, and improvements in essential supports also lead to improved achievement. The preliminary analysis is fully supportive of our earlier work. For example, we analyzed the relationship between strength in our measure of program coherence (a part of the school leadership factor described in this report) and improvements in value-added achievement repeatedly across all four of the two-year time periods noted above. On average, across these four replications, schools that were strong in program coherence at the time of the first survey (one standard deviation above the mean) improved their value-added achievement measure by 0.15 standard-deviation units by the time of the second survey, two years later. In addition, schools that made strong improvements in program coherence between the first and second surveys (one standard deviation above the mean) improved their value-added measure by 0.10 standard-deviation units. These two effects are additive, so that schools that were both strong in the first survey and strong in their improvement in program coherence improved in value-added achievement by 0.25 standard-deviation units.

All in all, we are convinced that these multiple sources of evidence make a compelling case that strength in the essential supports for student learning will lead to higher academic productivity (or higher value-added measures) more often than not. Equally true is the fact that weaknesses in the essential supports rarely, if ever, lead to school improvements.

a Ponsiciak, Bryk, and Raudenbush (2005).

Our framework asserts that principal leadership is a catalyst for change and a key driver of the development of the other essential supports. Space constraints kept us from a full discussion of this, but our forthcoming book presents evidence on this claim. We found that schools with strong principal leadership in 1991 increased their measures of teacher work orientation by 0.5 standard-deviation units and their measures of parent involvement by 0.4 standard-deviation units in 1994. We found comparable relationships between school leadership measured in 1994 and the improvement of essential support measures in 1997. Hence, it is important to recognize the crucial role of the principal in stimulating and nurturing the other core supports.[12]

The essential supports framework is a credible, holistic model for schools to follow to achieve improvements in student learning. Our findings counter arguments that long-term school improvement can result from narrow intervention efforts, such as a specific instructional program or a new set of teachers. Such efforts may produce some short-term gains, but it is difficult to imagine a narrow intervention that would promote continual improvement without attention to multiple core organizational supports. Schools with strong leadership, a committed and innovative staff, and a climate centered on student learning can keep good teachers and make good use of groundbreaking instructional programs. Likewise, new programs or staff can be used

Endnotes

1 These are considerably lower and presumably a more accurate reflection of the base state of student performance in Chicago than the earlier test scores had indicated. CPS had used the same form of the Iowa Tests of Basic Skills (ITBS) for over ten years, and the reference norms were also more than ten years old. Both of these factors contribute to the test score inflation. In 1990, CPS switched to a new form of the ITBS, based on more recent national norms.

2 In order to be certain that changes we observed in schools were not due to chance, we computed an actual improvement trend for each school rather than just using the differences from 1990 to 1996. Specifically, we conducted biweighted regression analyses for each school (see Mosteller and Tukey, 1977), using the percentage of students scoring at or above national norms as the dependent variable and year, with values from 1990 to 1996, as the independent variable. The regression coefficient in reading and math for each school represents the average amount of change in the percentage of students scoring at or above national norms per year. We then ranked the schools—separately by subject—on the basis of these regression coefficients. The 25 percent of schools with the highest coefficients were placed in the top group, and the 25 percent with the lowest coefficients, including negative ones, were placed in the bottom group. The data presented in Figures 2.1 and 2.2 are the average yearly test scores for schools in these two groups.

3 Donald Moore, another Chicago researcher who founded an advocacy organization called Designs for Change, studied test-score improvements among schools that were low achieving in 1990 (that is, schools with fewer than 40 percent of their students with reading scores at or above the national average). He estimated that by 1997, 26 percent of the schools in need of improvement had reading scores that were "substantially up" (a seven-year pattern of gains of 10.5 percent or more) and another 17 percent were "trending up" (a seven-year pattern of gains of between 7.0 and 10.5 percent.) See Designs for Change (1998).

4 Schools were considered high achieving if their average 1991 Illinois Goals Assessment Project scores were at the state average. As a result, about 15 percent of the elementary schools were excluded.

5 Bryk, Thum, Easton, and Luppescu (1998). For this study, in order to relate the variability across schools in their productivity profiles to changing organizational conditions in these schools, we needed to summarize graphical information in an overall numerical index. Since preliminary analyses suggested that whether a school-grade showed an improving trend in value-added achievement depended to some extent on the initial input status (1990), the initial gain (1990 to 1991), and the input trend, we decided to compute a summary indicator that adjusted for, or held these other three components constant. In so doing, we are in essence comparing the value-added achievement trend for a particular grade in a given school to all other school grades that are just like it—that is, school grades that started with the same achievement level had the same amount of achievement gain the first year, and had similar input trends over time. An improving school grade by this criterion has a stronger achievement gain trend than others that started in the same place and experienced similar input trends. We computed this adjusted achievement gain trend for each grade in each school for both reading and mathematics and then averaged them across grades, separately by subject, to form two overall indicators of change in academic productivity in each school.

6 Allensworth, Bryk, Easton, Luppescu, and Sebring (2006). This book is currently being prepared for publication.

7 For details on the Rasch model, see Wright and Masters (1982).

8 Note that schools with strong curriculum alignment in mathematics were more likely to improve in both mathematics and reading. This suggests that schools that work to align mathematics instruction with established standards also pay attention to such alignment in other subjects.

9 If we assume that the five organizational supports are independent, the probability of strength on one of the four other core indicators can be determined from a simple evaluation of the binomial distribution where the probability of a success on each of the four trials is 0.25.

10 One alternative explanation for these data is that school staff holds a generic view of their school as either "good" or "bad" and apply this perspective to any question asked about their school regardless of the specific content of the questions. Such a phenomenon, if true, would also tend to produce a clustering in the indicator reports. This seems implausible given that the survey questions focus on several different role classes (principals, teachers, parents, and the local community) and many items were posed in explicit behavioral terms (e.g., how frequently did certain behaviors occur).

11 Only 1994 survey data were used for these comparisons so that all schools that participated in the 1994 survey could be included in the analysis. Additional work has shown similar patterns using data from 1997.

12 Allensworth, Bryk, Easton, Luppescu, and Sebring (2006), ch. 5.

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Chapter 3

Evidence for the Framework: The Contextual Resources for School Improvement

We now turn to the second part of our framework, the contextual resources for school improvement that influence and interact with the development of the essential supports.

Critical social resources for improvement exist in the larger community around the school. While previous studies have detailed extensively the overall demographic characteristics of urban school populations, little attention has been paid to the economic and social characteristics of the neighborhoods immediately surrounding each school, how these vary, and how they influence school development. Similarly, little attention has focused on the concentration of students who may bring extraordinary personal and social needs to urban schools, and how high concentrations of such students may pose especially demanding problems for school improvement. Using ancillary data from public agencies and other research entities, we examine both of these considerations below.

Community Context

The 1988 Chicago school reform law placed a great deal of responsibility on local communities: electing local school councils that would select and periodically evaluate each school principal, approving the school improvement plan and budget, and advising on other matters. This meant that neighborhoods would have to come together, not only to carry out the formal responsibilities

of the new law, but also to make a serious effort to work with and support the local school. However, neighborhoods varied considerably in their social and economic resources and thus their capacity to support the development of local schools.

We begin by examining the kinds of communities in which improving and stagnant schools were located. In Chicago, residential patterns are highly segregated by racial/ethnic composition and the socioeconomic characteristics of the residents. Thus, it made sense to first examine variation along these lines, although the analysis later moves beyond such attributes. Since there is a very close relationship between the racial composition and socioeconomic characteristics of schools, we created seven categories of schools defined broadly by combinations of racial and ethnic composition and socioeconomic status (SES) of their residential and school neighborhoods. The SES indicators were based on income, employment, poverty levels, and proportion of students living in public housing. (See Appendix B for complete definition.) Table 3.1 summarizes the demographic characteristics of the school communities in these seven categories. Since most of our data were collected in the mid-1990s, the statistics on income, employment, and poverty were taken from the 1990 census.

Because so many schools were predominantly African-American and there was wide variation among them, we divided them into three subsets according to their SES. We borrowed the term "truly disadvantaged" from Wilson's seminal book of the same title to describe schools located in the most impoverished neighborhoods, with 70 percent of residents living below the poverty line and about two-thirds of the male residents not employed.[1] A second group of schools, "African-American, low SES," was somewhat better off

TABLE 3.1

Summary Statistics on Schools in Various Racial/Ethnic and Socioeconomic Status (SES) Classification Groups

Averages across Schools in the Category	Truly Disadvantaged	African-American Low SES	African-American Moderate SES	Predominantly Minority	Predominantly Latino	Racially Diverse	Racially Integrated
Number of Schools	46	95	74	45	39	34	57
Percentage African-American	100%	99%	99%	34%	3%	21%	14%
Percentage Latino	0%	1%	1%	61%	93%	56%	35%
Percentage White	0%	0%	0%	4%	4%	17%	40%
SES*	-1.9	-0.6	0.4	-0.3	-0.3	0.5	0.8
Percentage Low-Income Students in School	96%	90%	83%	93%	94%	86%	70%
Percentage of Male Residents Aged 16–64, Not Employed	64%	46%	32%	29%	24%	24%	22%
Median Family Income in Block Group and around the School	$9,480	$19,385	$33,413	$23,293	$23,381	$33,156	$37,350
Percentage of Families Below the Poverty Line in Block Group and around the School	70%	38%	14%	30%	25%	17%	7%

Sources: Data on students' race, ethnicity, and percentage eligible for free and reduced-price lunch were supplied by CPS.[2] Using school address and students' addresses, we located schools and students' neighborhoods in census block groups, and from these we obtained estimates of the proportion of male residents not employed, median family income, and percentage of families below the poverty line.

**SES: Standard deviation units above or below the mean. It is calculated for 460 schools (including the high-achieving schools that were removed from the analysis), where mean = 0 and standard deviation = 1. See Appendix B for a description of SES.*

economically, although relatively high percentages of residents served by these schools lived below the poverty line. More middle-class neighborhoods were represented by "African-American, moderate SES" schools. Among families sending students to the school (both those around the schools and those living further away) the median family income was over $33,000 a year, which approached the national median family income of that time—$35,200. At the same time, 14 percent of the families lived below the poverty line.

"Racially diverse" schools served a mixture of African-American (21 percent), Latino (56 percent), and white students (17 percent). The median income for families in their neighborhoods also approached the national median. "Integrated schools," which were 40 percent white, served neighborhoods where the median family income of $37,350 exceeded that of the nation. "Predominantly minority" schools, where there was a mix of Latino and African-American students, and "predominantly Latino" schools, were in the middle of the socioeconomic range. Median family income in the neighborhoods served by these two types of schools was about $23,300, and one-quarter or more of the families lived below the poverty line.

A salient point is that the majority of students in all these categories were considered low income using the federal guidelines for qualifying for a free or reduced-price lunch. Even in the most economically advantaged neighborhoods in Chicago, schools serve large numbers of low-income children. In fact, the schools that we consider to be the most advantaged Chicago elementary schools in this study would, in a typical Illinois school district, be considered among the most disadvantaged.

In comparing the academic productivity indicators for these groups, we found that there were both improving and stagnating schools in all categories. (See Figure 3.1.) However, improving schools were disproportionately among the predominantly Latino, racially diverse, and racially integrated schools. Stagnating schools were disproportionately found among the truly disadvantaged, African-American low SES, and predominantly minority school communities. Almost half of the truly disadvantaged schools were stagnant in reading, compared to less than one-tenth of integrated schools.

Community Social Capital and School Improvement

It is not enough to say that there were differences in school improvement rates by race/ethnicity and SES—we wanted to know why. A growing body of research in the area of urban community sociology focuses on the quality of social relationships in communities and how these relationships influence the quality of everyday life and shape collective capacity to solve local problems. These relationships are often called "social capital."[3] Increasingly, social capital is viewed as a critical element in combating poverty. Viable organizations within poor communities can materially affect the success of investments in economic development, education, housing, and social services.[4] Here, we apply these concepts to explain the differences in productivity across schools located in different economic contexts.

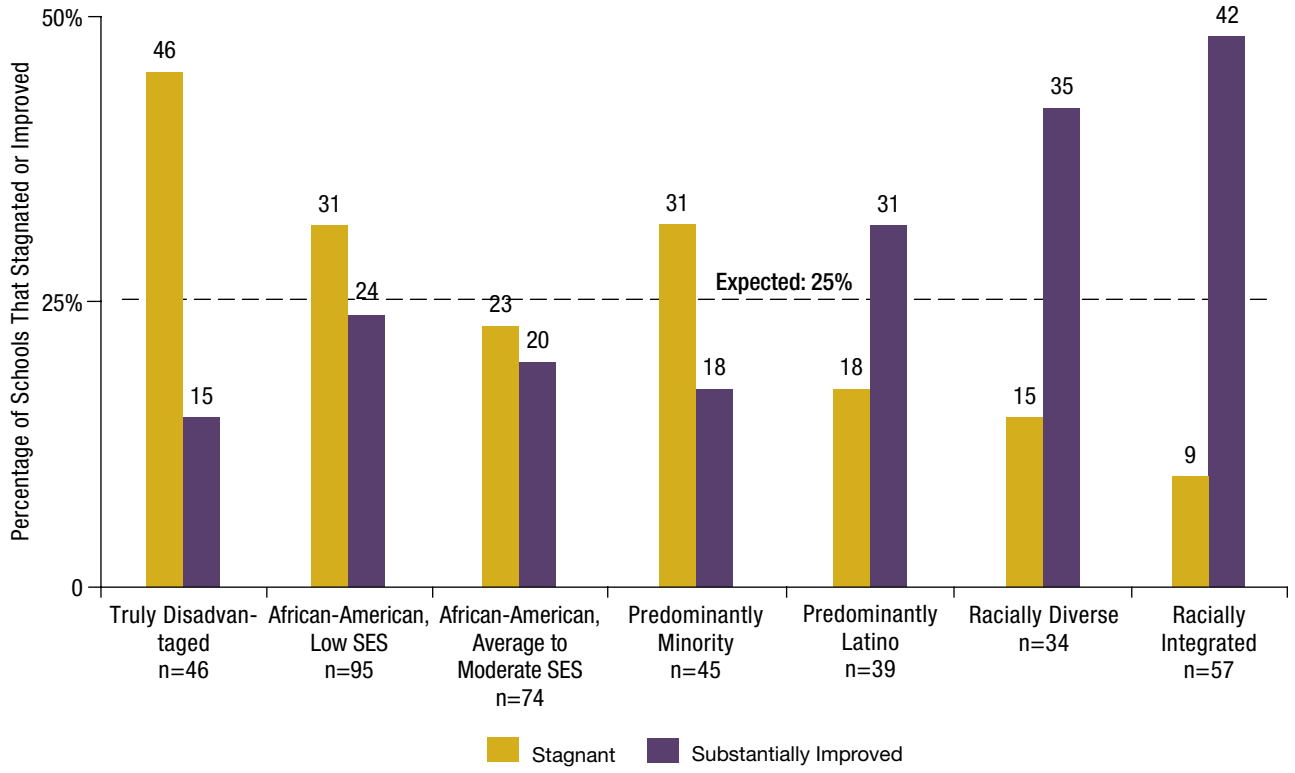
Bonding and Bridging Social Capital

The research on social capital describes two different forms of this resource, each serving somewhat different purposes. Bonding social capital focuses on the density of supportive social ties within a neighborhood or community.[5] The existence of such ties affords group solidarity that makes achieving collective goals much more likely. Informal networks among residents in port-of-entry immigrant communities, for example, provide needed psychological and social support for new members. These social networks can help ameliorate a range of social needs such as helping the old and infirm, caring for children, and protecting one another from criminal elements.

In contrast, bridging social capital accrues in disadvantaged communities as residents have opportunities to engage with external individuals and organizations. These links to different others are valuable for just this reason. Bridging social capital permits job seekers in low-income communities to benefit, for example, from acquaintances with individuals outside of their community who can facilitate introduction to potential employers.[6] Similarly, tutoring and mentoring programs organized by churches can bring middle-class residents into extended relationships with low-income students and their families. A special case of bridging

FIGURE 3.1

Stagnation or Substantial Improvement in Reading by Race/Ethnicity and Socioeconomic Status of Students and Their Communities



social capital is the "constructive connections . . . between organized residents of poor communities and the officials and staff of public and private institutions."[7]

In general, it is thought that bonding social capital is the foundation for establishing bridging social capital, and both are necessary for establishing and maintaining viable local institutions that can take action on behalf of the community. Put succinctly, "bonding social capital constitutes a kind of sociological superglue, whereas bridging social capital provides a sociological WD-40."[8] Bonding social capital ties a community together and bridging social capital helps lubricate its collective actions.

Local religious organizations can play a potentially vital role in fostering bonding social capital and in creating a moral imperative for action. In her study of an African-American Chicago neighborhood, Patillo-McCoy found that the church not only took direct action on issues, but also armed its members with valuable cultural tools—both rhetorical and material—to address community problems, including youth delinquency and drug houses.[9]

In contrast, crime and violence can have a profoundly debilitating effect on the formation and sustenance of social capital. Although the violent-crime rate has been declining in Chicago, violent crime and drug trafficking persist in many Chicago neighborhoods.

Students Living Under Extraordinary Circumstances

Beyond issues of social capital, a further challenge for some Chicago elementary schools is serving children who have been subject to abuse or neglect and may be living in out-of-home circumstances. A large percentage of such children enter foster care, and they must move to a different neighborhood and change schools, often times repeating a grade. Within elementary schools, each student in foster care has his or her own social

Measures of Social Capital and Students Living Under Extraordinary Circumstances

To investigate how social capital and the proportion of students in extraordinary circumstances affect school improvement, we obtained data from several sources: the Project on Human Development in Chicago Neighborhoods (PHDCN), the Chicago Police Department, and Chapin Hall Center for Children at the University of Chicago.

Conducted by scholars at the Harvard School of Public Health, Columbia University, the University of Michigan, and the University of Chicago, the PHDCN study was intended to understand the causes and pathways that lead some children and youth toward antisocial behavior, like crime and substance abuse, and others toward positive social behavior. The study consisted of an intensive study of neighborhoods, which began in 1994–95, as well as a coordinated longitudinal study of 7,000 randomly selected children, adolescents, and young adults. We obtained the community survey data and matched them to the Chicago elementary schools, making it possible to characterize the neighborhoods around each elementary school in our study.[a]

Information from the Chicago Police Department for 1994 provided the data to calculate the incidence of eleven different kinds of crime around each school and in the neighborhoods where students lived. The crimes included murder, robbery, assault, burglary, theft, auto theft, drug-related activities, vice offenses, arson, weapons violations, and other crimes.[b]

Data on social services for children were obtained from Chapin Hall Center for Children for the school years 1995–96 through 2000–01. Chapin Hall had received these data from the Illinois Department of Children and Family Services.

To measure bonding social capital, we used two 1994 PHDCN scales and an aggregate measure of serious crime:

- Collective efficacy, which taps the shared values and social cohesion of the neighborhood and the willingness to intervene and respond when problems arise. (See Appendix C for community survey items used in this study.)
- Religious participation, which consists of four questions regarding whether residents belong to religious organizations, talk with religious leaders, and regularly attend church.
- Crime rate for each school, which was calculated by combining the average crime rate for the school and neighborhoods where students lived.[c]

To measure bridging social capital, we used one question on the PHDCN community survey on outside connections:

- Residents were asked, "How many friends do you have who live outside of your neighborhood?" Answers were aggregated to the neighborhood level.

The specific indicator used to assess the density of students living under extraordinary circumstances in each school was:

- Percentage of students in each elementary school for whom there was a substantiated case of abuse or neglect at any time in their lives.[d]

For descriptive statistics on collective efficacy, religious participation, crime, outside connections, and percentage of students abused or neglected, see Appendix D.

Endnotes

a The 1994–95 neighborhood samples consisted of representative households in 343 neighborhood clusters in the city of Chicago. Each neighborhood cluster contained about 8,000 people, and across all clusters, researchers interviewed 8,782 Chicago residents about the characteristics of their community. For a description of the study, go to www.icpsr.org/PHDCN/.

b Data were furnished by Richard Lock of Loyola University and the Chicago Alternative Policing Strategy Program of the Chicago Police Department.

c First, a scale was created representing the total incidence of crime in the neighborhood around each school. This was the weighted sum of log rates of murder, robbery, assault, burglary, auto theft, drug-related activities, vice offenses, arson, weapons violations, and other crimes. The weights were produced by factor analysis. Similarly a scale representing the means of the total incidence of these same crimes in students' neighborhoods was also calculated. The school and student neighborhood scales were subsequently combined through factor analysis. Thus, for each school there is a scale representing the "average" crime rate for the school and neighborhoods where students live. Since crime is known to undermine the formation of social capital, the reverse term was entered into statistical analyses.

d We deliberately chose to focus on the children who had been abused or neglected rather than children in foster care because the former most directly reflects violent and/or neglectful experiences. While many children in foster care have had these experiences, not all have. The percentages of abused and neglected students were averaged across these six years and converted to the log of the percentage. While only 1995–96 falls within our study period, we found that the correlation between this year and the subsequent five-year rates was 0.97. Given such a high correlation, in order to increase the stability of the percentages, we included data from all six years in the average. Since the percentage captures events of abuse and neglect going back to earlier times in the children's lives, data collected after our study period in some cases captured events of abuse and neglect that occurred during the study period.

worker, which means that the school staff needs to work with multiple caseworkers, along with foster parents. In addition, there is considerable turnover among caseworkers.[10] Hence students living under extraordinary circumstances can bring a whole array of additional, complex responsibilities to the school.

During the period of our study, in the Chicago Public Schools, on average 15 percent of students at some point in their elementary career had been substantiated by social services as abused or neglected. In almost 10 percent of schools, however, this number swelled to more than 25 percent of the students enrolled. This meant that in a typical classroom of 30 students, a teacher might be expected to engage seven or eight such students every year.

Moreover, this was only one social problem. Factor in other students who might have been homeless, or living in foster case, on in households with chronic domestic violence, and one begins to develop a sobering picture of the magnitude of the overall personal and social needs that students bring to some schools.

This finding led naturally to a speculation: Might the concentration of students living under extraordinary circumstances—in foster care, homeless, abused or neglected, and/or living in households marred by domestic violence—pose exceptional demands on schools that made sustained attention to reform much harder to achieve? More specifically, in developing this hypothesis we first undertook a series of preliminary analyses to examine whether patterns of non-improvement in these schools could be explained as a consequence of having a large number of individual students perceived as slow learners. We found, however, little evidence to support this explanation. While students might have been behind before moving into foster care or being identified as abused or neglected, overall they learned at about the same rates as their classmates.[11] Moreover, while this might afford an explanation as to why overall achievement was low in a school, it still left unanswered the question as to why the school's average learning gains did not improve. The data seemed clear—schools with relatively high concentrations of students living under extraordinary circumstances were less likely to improve. These results led us to the idea that some form of a concentration or density effect might be at work.

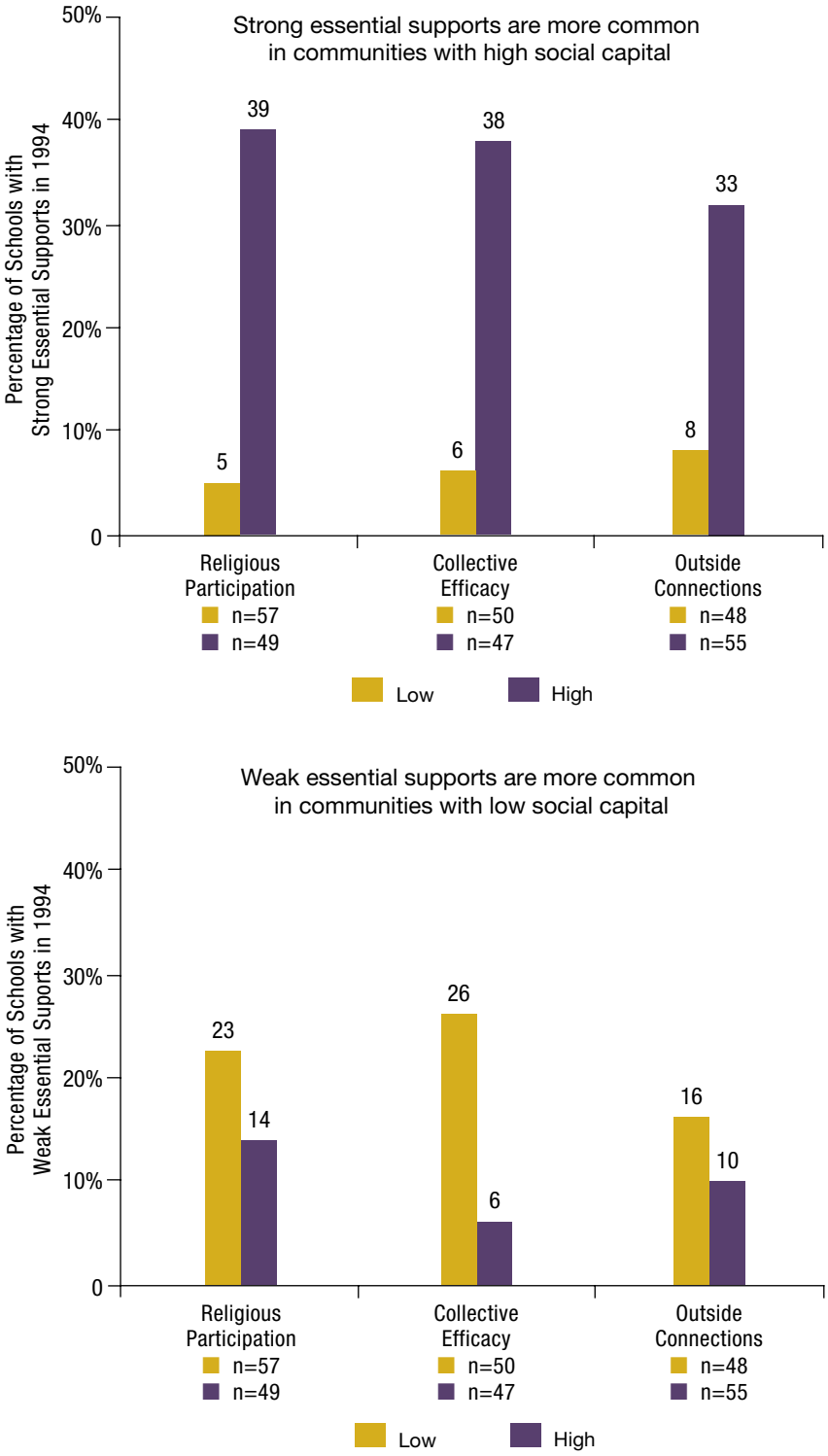
Community Social Capital Serves as a Base for Developing the Essential Supports

Using an approach that is similar to previous analyses, we examine whether the essential supports were more likely to develop in communities with strong social capital resources. Our measure of the essential supports is the aggregate one used in the previous chapter, which indicates the overall school capacity score, ranging from -5 (weak on all five essential supports) to +5 (strong on all five supports). (See Figure 2.5 on p. 26.) We look at the percentage of schools with strong and weak essential supports by the level of bonding and bridging social capital in the neighborhood and the proportion of abused or neglected children in the school. For the latter, we defined low as the bottom quartile and high as the top quartile. For example, in Figure 3.2, only 5 percent of communities in the bottom quartile on religious participation had schools with strong essential supports. However, 39 percent of communities in the top quartile on religious participation had schools with strong supports.

When we examine the prevalence of schools with strong and weak essential supports across different kinds of communities, we see a clear pattern. Figure 3.2 illustrates that the essential supports were more likely to exist in school communities with bonding social capital: active religious participation, collective efficacy, and extensive connections to outside neighborhoods. (See the top graph.)

FIGURE 3.2

Likelihood of Strong or Weak Essential Supports, Given Community Social Capital



Note: Twenty percent of schools were strong in three to five of the essential supports measures.

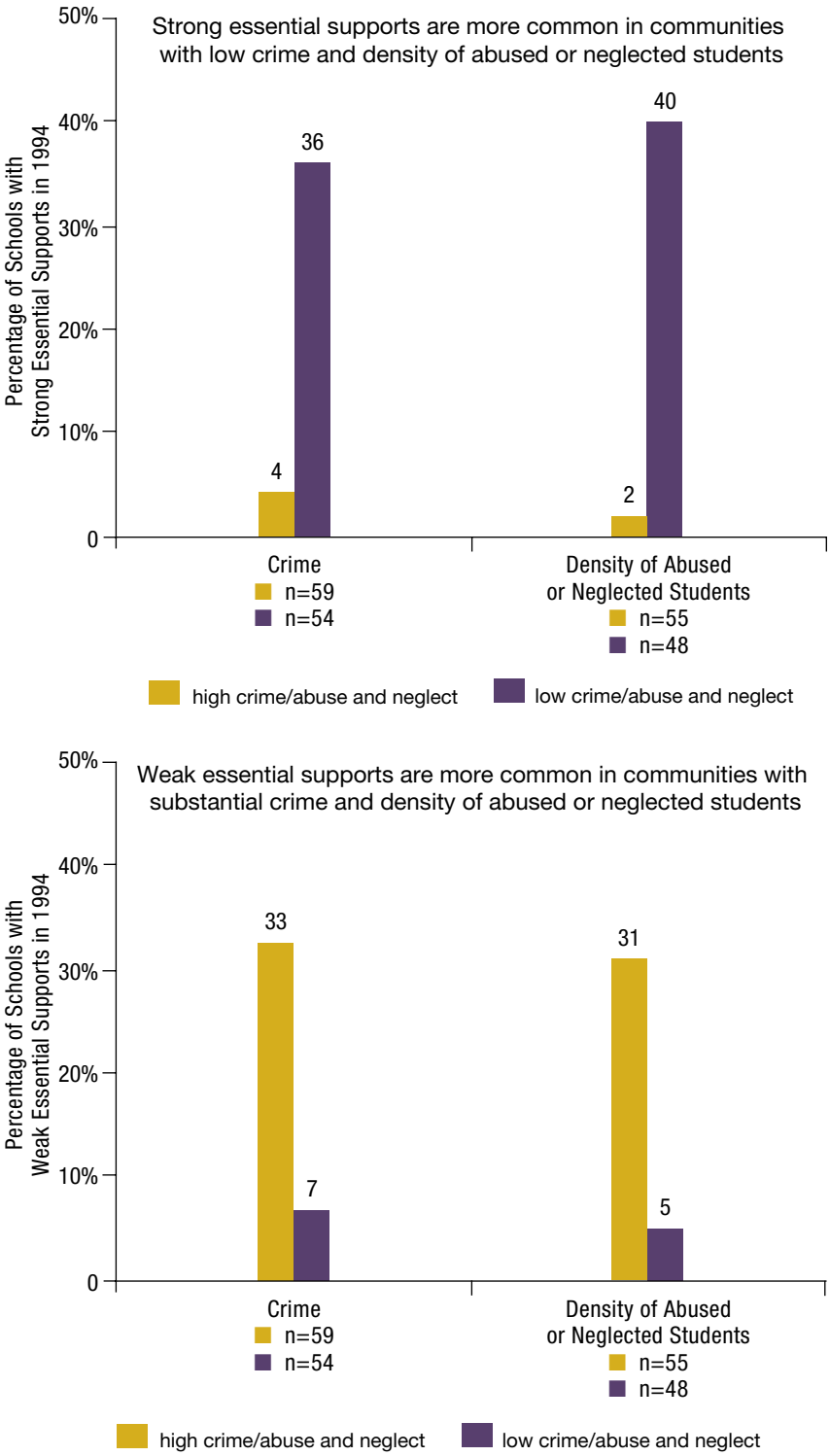
A similar pattern, although somewhat smaller in magnitude, was observed between our school community measures and manifest weaknesses in the essential supports. Looking at the bottom graph of Figure 3.2, weak essential supports were more common in communities with low levels of religious participation, collective efficacy, and few social connections beyond the neighborhood. Twenty-six percent of schools in communities with low collective efficacy had weak supports, compared to 6 percent of those in communities with strong collective efficacy.

Schools with strong supports also were found in communities with a low crime rate (see Figure 3.3), and they were far more likely to exist in school communities with a low density of abused or neglected children. Broad-based organizational strengths existed in 40 percent of schools in which the incidence of abused or neglected children was relatively low. In contrast, only 2 percent of the schools with high concentrations of abused or neglected children showed strong essential supports.

The lower panel of Figure 3.3 shows that weak supports were more typical in communities with high crime rates and relatively higher percentages of abused or neglected children. In high-crime areas, 33 percent of schools demonstrated broad-based weaknesses in the essential supports, compared to only 7 percent of schools in low-crime communities. Similarly, 31 percent of the schools with high densities of abused or neglected children were weak on the essential supports, compared to only 5 percent in school communities with relatively low incidences of abuse or neglect.

FIGURE 3.3

Likelihood of Strong or Weak Essential Supports, Given Crime and Density of Abused or Neglected Students



Note: Twenty percent of schools were strong in three to five of the essential supports measures.

Taken together, these results suggest that positive school community conditions need to be present for broad-based organizational developments to occur in the school. The presence of positive social capital appears to facilitate the work of a school community to enhance professional capacity, forge more vital links to the parents, create a healthy climate for children, and promote ambitious instruction.

We have also documented that in the schools with a high density of children living under extraordinary circumstances, strong essential supports were very unlikely to exist. Teachers and administrators in these schools must put forth a great deal of effort to communicate with multiple caregivers and multiple social workers, facilitate students' transferring in and out of the school, and work with students individually. These are substantial demands for organizations with scarce resources, such as urban schools, which makes it doubly difficult to give time and effort to developing the essential supports.[12]

In summary, as we asserted in our framework of essential supports and contextual resources, social resources in the community form a foundation for the development of the essential supports. Bonding and bridging social capital establish the conditions whereby a community can come together through its LSC to recruit and work with the school principal. What does this mean for neighborhoods of low social capital and high numbers of students in extraordinary circumstances? How do school community factors interact with the essential supports to influence improvement in student outcomes among different Chicago schools?

Combined Influence of the Essential Supports and Community Context

To look at the relationship of school community conditions with school productivity, we created a composite, or overall index, that combined measures of collective efficacy, religious participation, crime, residents' connections to people outside the neighborhood, and the percentage of abused or neglected children in the school. The bottom quartile of schools on this composite index was defined as "low," and the top quartile as "high" on school community factors. For assessing the overall strength of the essential supports, we used the same measure of school organizational capacity that we used for Figures 2.5, 3.2, and 3.3. We defined weak schools the same way—those in the bottom quartile on three or more of the essential supports. Schools characterized as having strong supports had to be in the top quartile on at least three of the essential supports. All other schools were considered "average" on the essential supports.

Figure 3.4 displays the percentage of schools that improved or stagnated by the strength of the essential supports and the combination of community social capital and density of students who had been abused or neglected. In essence, it captures the simultaneous influences of the essential supports and community context.

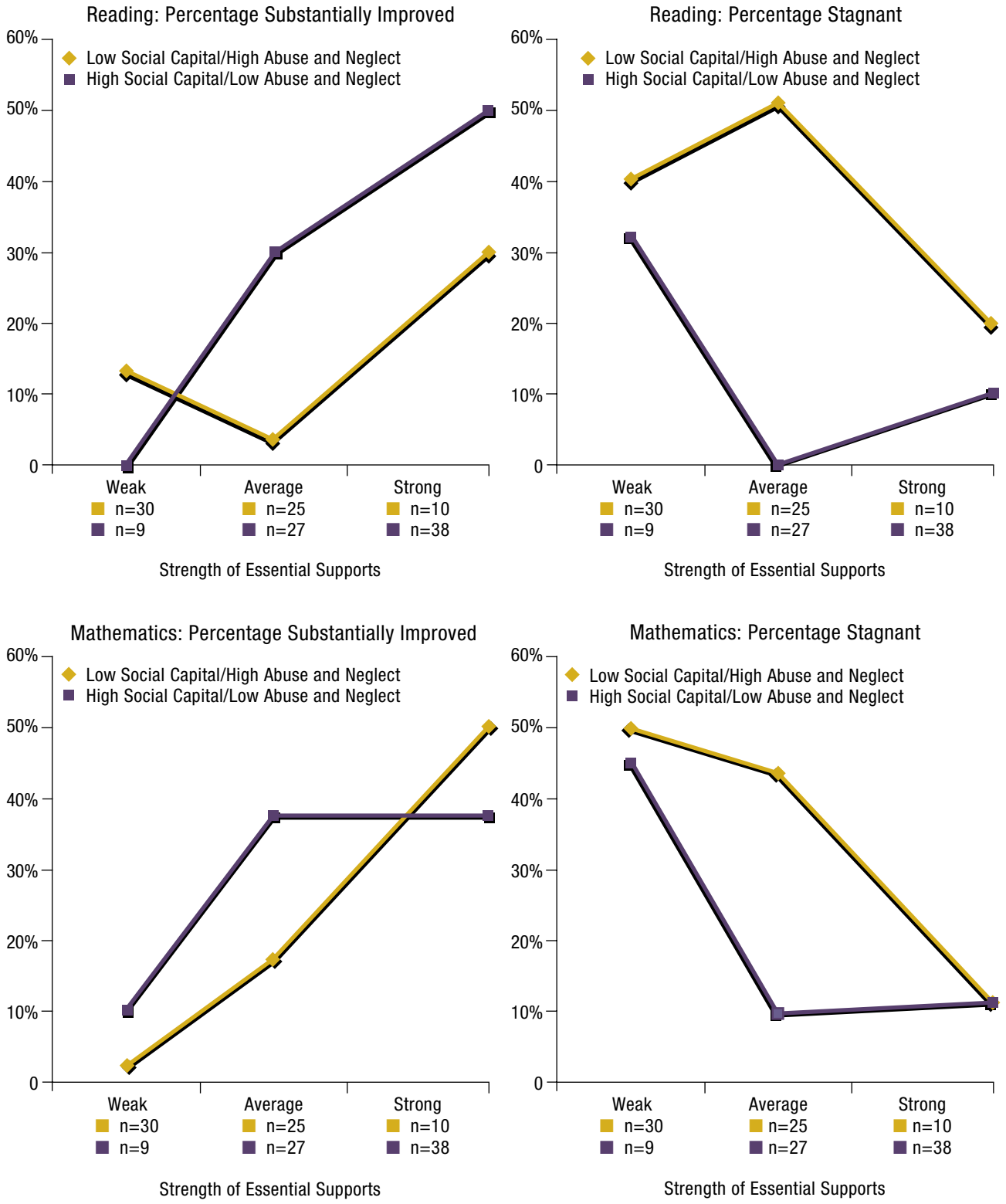
In the left column, we compare schools with weak, average, and strong essential supports to see how they varied with respect to substantial improvement. Recall that substantial improvement means the schools reached the top quartile on improvement in reading and mathematics. On the right we compare schools with respect to stagnation, those schools that remained in the bottom quartile on our value-added index for improvement in reading and math. Within each quadrant, the purple line represents school communities with high levels of social capital and low density of abused or neglected students. The yellow line shows the patterns for school communities with low levels social capital and high densities of abused or neglected students.

Looking at the purple line in the top left quadrant, we see that no schools weak in the essential supports improved substantially in reading, whereas 50 percent of the schools with strong essential supports improved. The yellow line shows roughly the same pattern: about 10 percent of schools with weak supports improved, compared to about 30 percent of schools with strong supports. Hence, in all kinds of communities, schools with strong essential supports generally were much more likely to show substantial improvements in reading. For improvement in math, the overall relationship was similar.

The effect of strong organizational supports is evident whether we look at the probability of substantial

FIGURE 3.4

Likelihood of Substantial Improvement or Stagnation, Given Strength in Essential Supports and Level of Community Social Capital/Density of Abused or Neglected Students



improvement or the probability of stagnation (right quadrants). Following the yellow line (low social capital and high density of abused or neglected students), 40 percent of the schools weak in the essential supports stagnated in reading, but only 20 percent of schools with strong supports did so. Results were similar for communities with high levels of social capital and low densities of abused or neglected students (purple line): 30 percent of weak schools stagnated versus 10 percent of strong schools. Regardless of the community characteristics, schools with weak essential supports showed higher probabilities of stagnating in both reading and math, while schools with strong essential supports had much lower probabilities of stagnation.

Clearly, the essential supports were important for schools in all types of communities. However, the relationships between community factors and essential supports were not the same. School communities with high levels of social capital and low densities of abused or neglected students could get by with average levels of essential supports. Following the purple line in the left quadrants, notice that even with average essential supports, these schools were about as likely to succeed in improving mathematics scores as schools with strong supports. In the right quadrants, the purple line indicates that even average levels of essential supports seem to protect against stagnation. It was important, though, that these schools not have weak essential supports.

In contrast, for schools with little community social capital and high densities of abused or neglected students, the essential supports needed to be exceptionally robust to show improvements. On the left side of Figure 3.4, the yellow line rises for schools with strong essential supports. Notably, in the right quadrants, the yellow line indicates that the probability of stagnation is high for schools with weak *or* average essential supports. Thus modest levels of leadership, parent involvement, professional capacity, student-centered learning climate, and ambitious instruction are not sufficient for advancing elementary schools in communities with low levels of social capital and high densities of abused or neglected children. These patterns suggest that the school works in interaction with the community: if social capital is weak in the broader school context, the social organization inside the school must be strong enough to compensate.

There is cruel irony in these results. Schools in communities with low levels of social capital and high proportions of children living under exceptional circumstances must have strong essential supports to increase their odds of improving student outcomes. Yet, the lack of social capital in the community makes it harder to develop strong essential supports. In comparison, schools in more advantaged circumstances can achieve measurable benefits with more modest internal supports.

It is encouraging that schools with strong essential supports located in communities with relatively low levels of social capital and high densities of abused or neglected children were able to improve and showed higher-than-average learning gains.

The discouraging news is that schools with strong essential supports are relatively rare in low-social-capital communities. In fact, there were only ten schools with strong essential supports in the communities with the least social capital (Figure 3.4). Thus, a serious reform conundrum comes into view: the schools that must develop strong essential supports may lack social capital in their school communities and confront extraordinary student needs, making it less likely that strong internal supports will develop.

Even among schools that are 90 percent low income and 90 percent minority, not all schools are alike. Some confront extraordinary student demands and are located in a context of weak social capital. The combined influence of these two factors poses extremely challenging problems for improvement. We cannot simply bury this phenomenon under the rhetoric of "all schools can improve."[13] Yes, all can improve, but some confront much more severe problems, which are highly resistant to change.

Endnotes

1 Wilson (1987).

2 We define the racial composition of schools this way: African-American, 85 percent or more of students are African-American; Predominantly minority, mix of African-American and Latino students with the two groups totaling 85 percent or more; Predominantly Latino, 85 percent or more of students are Latino; Racially diverse, 15 to 30 percent of students are white or Asian and the rest are African-American or Latino; Racially integrated, more than 30 percent of students are white or Asian and the rest are African-American or Latino.

3 Sampson, Raudenbush, and Earls (1997).

4 Saegert, Thompson, and Warren (2001).

5 Putnam (2000), ch. 1.

6 Ibid. (2000)

7 Saegert, Thompson, and Warren (2001), p. 15.

8 Putnam (1995), p. 23.

9 Pattillo-McCoy (1998).

10 See Courtney, Roderick, Smithgall, Gladden, and Nagaoka (2004); and Smithgall, Gladden, Howard, Goerge, and Courtney (2004).

11 We compared the academic productivity of schools with high concentrations of students in foster care or who had been neglected or abused to that of other schools with about the same initial academic achievement and base learning gains, but with relatively fewer foster care students.

12 It is also possible that the Department of Children and Family Services placed most of their abused/neglected children with families living in neighborhoods with poor schools. See Courtney, Roderick, Smithgall, Gladden, and Nagaoka (2004); and Smithgall, Gladden, Howard, Goerge, and Courtney (2004).

13 See, for example, chapter 19 of *Accountability in Action* (Reeves, 2000). Such studies focus on the common characteristics of "good schools" but do not consider the full range of schools that need to improve and the possible different conditions under which they might be operating. A more nuanced view of schools with student populations that are 90 percent low income and 90 percent minority emerged in this research because we were able to actually study school development over time across a broad spectrum of schools.

Chapter 4

Interpretive Summary

Our long-standing interest has been to comprehend why some Chicago elementary schools were able to increase learning gains while others were not. With the advice of CCSR's Steering Committee, many interactions with local stakeholders, and years of data collection and analysis, we slowly developed the framework of essential supports and contextual resources.

Evidence for the Framework

This report has set forth considerable evidence on the attributes that differentiate improving and stagnating schools with regard to student learning. We found that elementary schools that made substantial progress embraced the five essential supports—leadership, parent-community ties, professional capacity, student-centered learning climate, and curriculum alignment (the measure of ambitious instruction that we included in this report). They had active LSCs and visionary principals who enabled teachers to take responsibility for improving instruction and created opportunities for parent involvement. Teachers, in turn, forged relationships with parents across race and social class, engaging them in school life and in support of their children's needs. These schools invested in teachers' professional capacity, which paid off in a healthy professional learning community, an orientation toward innovation, and a deep sense of personal commitment. Students in such schools reported feeling safe, being challenged intellectually, and receiving a great deal of support. There was clear evidence of alignment of the mathematics curriculum with state and local standards and attention to advancing instructional program coherence.[1]

To recap, we showed that:

- Schools with strong supports were much more likely to post improvements in student learning in both reading and mathematics.
- Schools with strong supports were also very unlikely to stagnate.
- Schools with weak supports generally did not expand their learning gains and had a high probability of landing in the lowest quartile on academic productivity among all elementary schools in CPS.

Regardless of the social capital available in the neighborhood and the density of students living in extraordinary circumstances, schools with robust essential supports were more likely to substantially improve in reading and mathematics performance than schools with weak supports. That said, however, we must acknowledge that in school communities where social capital was in short supply and where the density of abused or neglected children was relatively high, the essential supports had to be exceptionally strong to achieve larger learning gains.

While we did not show new evidence here, we cannot overemphasize the importance of trusting relationships, as demonstrated in our prior research, in facilitating the development of these essential supports. Improving instruction, strengthening ties with parents, or many other aspects of these supports require the adults in the school community to work very closely together. Knowing and trusting one another makes it easier to reach consensus about priorities, fosters a sense of teamwork and professional community, and provides an environment where it is safe to experiment and even to fail. With a sense that "we're all in this together," the staff and parents move forward with conviction, and if plans go awry, they know they can recover.

It is significant that to achieve the best results, organizational strength must eventually emerge in all of the essential supports. Schools with three to five robust supports were ten times more likely to have improved in both reading and mathematics than schools weak in three to five supports. Not a single school weak in three or more supports showed substantial improvements in mathematics. Each support appears to facilitate the functioning of the other supports. For instance, even though the quality of instruction has the most direct effect on student learning, being able to provide such instruction requires strength in other areas, particularly the professional capacity of the staff. At the same time, parental engagement can foster the development of professional capacity, because teachers want to work in a school where they feel supported by parents and the community.

The opposite is also true: a weakness in any organizational element can undermine strengths in other areas. A school can be doing a good job of communicating with parents and welcoming them to the school, but if parents see disciplinary problems increase or observe their children struggling in poorly organized classrooms, they will not continue to support the school. In fact, in Chicago, where it is mostly permissible for parents to choose a school other than their neighborhood school, they may vote with their feet and find a better school for their children.

The importance of strength in multiple essential supports suggests that narrow interventions will have limited success in improving student learning. Consider reforms like accountability, standards for student performance, pay for teacher performance, learning through technology, higher-order thinking skills, and raising children's self esteem. While each one of these can be beneficial, their success ultimately depends on the kinds of core organizational resources that we have identified. It does little good to set standards if new, qualified teachers become alienated in a school where there is little interest in innovation and minimal personal commitment to the school. Without strong professional capacity, a school cannot reach challenging academic standards. Likewise, investments in integrating technology into the curriculum will have little effect if students do not feel safe coming to school and if there are frequent disruptions in their classrooms. Hence, the framework of essential supports

and contextual resources embraces a holistic, coherent view of the processes of school development and raising students' academic achievement.

The Interplay between the Essential Supports and School Community Context

Communities with high levels of collective efficacy, church membership, connections to outside communities, and low levels of crime appeared to be fertile ground for the development of the essential supports in their schools. The dominant pattern was for schools with robust essential supports to be located in communities with extensive social capital. Thirty-nine percent of schools in communities with high levels of religious participation had schools with strong supports, compared to only 5 percent of schools in communities with low levels of religious participation. Likewise, schools with strong essential supports were more common in low-crime communities than high-crime areas.

It is possible that Chicago's decentralized school reform strengthened the linkage between the essential supports and community social capital. Recall that our framework recognizes the primacy of the school principal in stimulating and nurturing the development of the other four essential supports. In Chicago, effective school leadership depends in part on the functioning of the LSCs that select principals. LSCs, in turn, are elected by the community (except the two teacher members, who are chosen by the faculty). LSCs must hold regular, public meetings, establish subcommittees, and contribute their time in other ways. Clearly, these kinds of activities are far more feasible in communities where neighbors know and trust each other and where there is optimism about solving local problems and willingness to step forward to intervene if children are misbehaving. One can hardly imagine these activities taking place in a fragmented community where people do not get along with one another, where the crime rate is high, and where religious participation is low.

A more discouraging finding was that schools with strong essential supports were fairly rare in communities with low levels of social capital. This fact raises serious questions about decentralization as a strategy for reforming the most disadvantaged urban schools. The 1988 school reform law assumed that school professionals working with local residents would be much more effective in improving the local school than a distant bureaucracy. The law took for granted that local communities would possess the human and social capital necessary to make local control work (although the law did direct more financial capital to individual schools). But all Chicago communities were not alike. The most vibrant communities succeeded in developing schools with essential organizational and instructional supports, and these schools made the most progress in expanding learning gains in both reading and math. In the end, decentralization seemed to reinforce pre-existing social inequalities among school communities. While there were exceptions, those schools that were richer in community social capital got richer in student outcomes. Those with low levels of social capital were less likely to have schools with strong essential supports and more likely to stagnate.

We also documented that in schools with a relatively high concentration of children living under extraordinary circumstances, it was very unlikely that we would find strong essential supports. We suspect that teachers and administrators in these schools are focused on the children and their needs, and thus have few resources remaining to devote to building the school's essential supports. Many urban children live under unstable home and community circumstances including homelessness, domestic violence, abuse, and neglect.[2] In such circumstances, a most basic need for healthy child development is stable, dependable relationships with caring adults. The natural inclination for school staff is to respond as fully as humanly possible to students' personal needs, but if the number of students presenting such needs is too large, even the most committed teachers can be quickly overwhelmed.

Similar concentration effects can occur at the school level. Each student receiving some form of external social services may come with a different caseworker,

which means that a school staff has to interact with a large number of external service providers. These types of positions tend to turn over very rapidly. A Chapin Hall study found, for example, that on average 45 percent of children in foster care have two or more caseworkers in a single year.[3] Among schools with ten or more students in out-of-home care, the school staff had to interact with an average of slightly more than 11 caseworkers in a single year. And this is for only one social problem. If we factor in the panoply of extraordinary conditions under which some students live, and the attendant social services that they are connected to, a major problem in service integration, coordination, and communication presents itself. Moreover, this is all occurring in the context of an urban school district which seriously underfunds these social, psychological, and behavioral needs.

In short, another mechanism that impedes school improvement comes into focus. At both the classroom and school level, the good efforts of even the best of educators are likely to be seriously taxed when confronted with a high density of students who are living in extraordinary circumstances.

The serious dilemma for some Chicago communities, particularly the truly disadvantaged school communities, is that they lack the social capital needed to develop effective schools. At the same time, a large proportion of their students come to school with extraordinary needs, which diverts staff resources needed to build a school's essential supports and makes it less likely that the school will develop these supports. The resources necessary to achieve substantial improvement in the most extreme cases are formidable indeed, and probably have not been sufficiently considered by the proponents of most reform initiatives to date.

Even though our findings pertain to CPS schools of the 1990s, they have implications for the No Child Left Behind law. Schools that do not make adequate yearly progress in student test scores for four years or more are likely to be slated for corrective action, such as being taken over, having leaders and teachers removed, becoming a charter school, being closed, etc. To the extent that such school communities are lacking community social capital and confronted with the needs of a large number of students in extraordinary circumstances, the new school leaders will need to be prepared to tackle a very complex set of issues.

Given these conditions, some scholars recommend that urban school reform be linked to the revitalization of communities. Warren points to a growing collaboration between public schools and community-based organizations.[4] One type of collaboration is the community schools model, in which schools remain open after school and on weekends to provide a wide variety of services, including healthcare, family supports, adult education, job training, recreation, and many others. There are over 1,000 community schools in the United States. These schools build social capital through the involvement of parents and the community. They become a center of social activity, where teachers, parents, and service providers collaborate to integrate services for children.

Another variation is a model in which the schools are the locus of community organizing. Chicago's Logan Square Neighborhood Association (LSNA) is one such example. LSNA convinced Chicago's school system to build annexes for five elementary schools and two new middle schools. As part of its leadership development program, LSNA established parent mentors, who were trained and hired to work in classrooms. The mentors eventually began to organize adult education classes, and many took advantage of a program that offered on-site classes from a local university for residents to obtain bachelors' degrees and become bilingual teachers.

These initiatives simultaneously address school improvement and community development. There is some evidence that the stronger models have seen improvement in schools' standardized test scores, though these improvements cannot be attributed solely to the community initiatives. These models aim to support students so that they come to school better able to learn, foster parental and community participation, transform the culture of schools, and build a political constituency for public education.[5]

While the linking of urban schools to community organizations and community development holds

promise, we have to acknowledge that this may not be a potent enough solution for the challenging social and economic conditions that the truly disadvantaged urban neighborhoods face. For a long time, scholars have warned that school reform efforts alone will not be sufficient to improve the life chances of poor urban youth. Tyack and Cuban have argued that too often education reformers have been guilty of "blaming schools for not solving problems beyond their reach."[6] Rothstein recently concluded:

> In reality, however, for lower-class families, low wages for working parents with children, poor health care, inadequate housing, and lack of opportunity for high-quality early childhood, after-school, and summer activities are all educational problems. When a parent's earned income falls, or a parent loses a job, there are educational consequences for their children.[7]

A Mix of Optimism and Realism

We end with a mix of optimism and realism. We begin by celebrating the substantial progress that elementary schools made in the 1990s. We identified 95 schools that in the 1990s showed substantial improvement in academic productivity in reading and mathematics. Reading gains increased in these top-quartile schools by about 8 percentage points overall. This means that annual student learning gains in these schools were 8 percentage points larger in 1996 than in 1990. For improving schools in mathematics, the learning gains in 1996 were about 20 percentage points higher than in the base period. Accumulated over the eight years of instruction that a child might receive (CPS elementary schools generally include eighth grade), this translates into an extra half year of learning in reading and over 1.25 years more learning in mathematics.[8]

These trends stand in sharp contrast to conventional perceptions of the Chicago Public Schools and urban school districts in general. While the public recognizes a few star magnet or selective-enrollment schools, in general it views urban schools as ineffectual. The truth is that CPS schools are not monolithic. As we have shown, a sizeable proportion of the elementary schools made substantial progress in the 1990s. Recall that none of these schools were magnet or traditionally high-achieving schools. Our study focused solely on the regular, neighborhood elementary schools.[9]

In addition, we have elaborated the framework of essential supports and contextual resources for school improvement, and we have shown that the presence of these supports raises the probability that students will improve their performance in reading and math. The framework can serve as a useful guide for strengthening urban elementary schools and improving students' learning opportunities. Achieving genuine strength in these essential supports was especially important in school communities that lacked social capital and served a high density of students with extraordinary needs.

The findings of this study have ramifications for major CPS programs, like the creation of new schools under Renaissance 2010, the Chicago Reading Initiative, the Math and Science Initiative, and GOLDEN Teachers Program. These broad initiatives are much more likely to yield positive results if they encourage the development of the essential supports. It would be difficult to imagine, for instance, a promising new school design that did not address the creation and maintenance of the essential supports. Similarly, reading initiatives that are disconnected from principal and teacher leadership are not likely to gain much traction.

These results are relevant as well for existing schools. Depending on their skills and interests and the particular conditions they face, different leaders will choose to begin at different points. Regardless of where they begin, however, school leaders should work toward intensifying the structures and activities necessary to strengthen all of the essential supports.[10]

Some schools may need to develop strategic goals and communicate more frequently with their staff. Others may have to develop clear strategies to bring parents into closer association with the school. Yet others may need to advance the faculty's knowledge

while at the same time increasing its capacity to work collaboratively toward common goals. For most schools, some combination of all of these actions will be needed. A holistic strategy of building the essential supports requires steady, patient work over several years, as well as expertise and additional resources. This study demonstrates that resources invested wisely in advancing the essential supports are likely to pay off in improved learning opportunities for students.

Taken together, the progress made by one-quarter of the elementary schools and the promise of the framework of essential supports offer grounds for hope. We are convinced that many more schools can move along this same path.

At the same time, we worry about the socially isolated, crime-ridden communities, where there is little social capital. While the school system must press forward to strengthen the essential supports in these schools, it needs powerful partners at the community level, as well as the city, county, state and federal levels to address the very serious challenges facing our city youth that go beyond the schoolyard.

Endnotes

1 Our book manuscript *Organizing Schools for Improvement* presents evidence on a more comprehensive set of essential support measures and shows that strength in particular components of the essential supports seems to affect different student outcomes. For example, the combination of safety and order and interactive instruction is associated with improvements in attendance. See Allensworth, Bryk, Easton, Luppescu, and Sebring (2006).

2 For a moving ethnographic account in this regard, see Kidder (1989). Also see Baldacci (2004).

3 Courtney, Roderick, Smithgall, Gladden, and Nagaoka (2004); and Smithgall, Gladden, Howard, Goerge, and Courtney (2004).

4 Warren (2005).

5 Ibid.

6 Tyack and Cuban (1995), p. 3.

7 Rothstein (2004), p. 130. See also Berliner (2005); and Anyon (2005).

8 The average base learning gain (in grade equivalents) in CPS, averaged for 1990–91 and 1990–92, in reading and mathematics at all elementary grade levels was 0.87 and 0.82, respectively. Applying the percent improvements to these base gains and then accumulating these effects over eight grades results in the numbers reported here.

9 Designs for Change (2005) has also provided evidence of this progress. Using the more common but less precise metric of "percentage of students meeting national norms," they followed 144 elementary schools (out of 433) that in 1990 were low achieving. Among these schools, the percentage of students reading at national norms rose from 20 percent in 1990 to 50 percent in 2005. Designs for Change excluded some types of schools such as schools for incarcerated students and special education schools.

10 Since they participate in CCSR's biannual surveys, most elementary schools receive a report of their own results, which provide data on their relative strengths and weaknesses on the essential supports. Fallon (2006) has observed that what separates high-performing schools from other schools is the intensity, coherence, and focus of their efforts.

Appendix A

Survey Measures, Composite Variables, and Items

Survey data came primarily from teacher and student surveys conducted in 1994. Through Rasch rating-scale analysis, we derived survey measures or scales. This method involves an item response latent-trait model. Survey items are used to define a measure based on the relative probability of a respondent choosing each category on each item. Individuals are then placed on this scale based on their particular response to the items in the measure. The scale units—logits—constitute a linear measurement system and therefore are suitable for use in statistical procedures.

Four types of statistics are reported for each Rasch measure. The first is person or individual reliability, which is a measure of the internal consistency of the scale items and is similar to Cronbach's alpha. The second is the school-level reliability. The third is item difficulty, which estimates the likelihood that respondents will endorse the position, attitude, or behavior represented by each item within a scale. For example, common events, attitudes, and beliefs are "less difficult" to endorse; rarer ones are "more difficult." The fourth is item infit, which is the degree to which individuals respond to a particular item consistent with its placement in a hierarchically ordered scale. For a properly fitting item, individuals who endorse that item are more likely to endorse the easier, "less difficult" items below it in the scale, and are not as likely to endorse the items that are harder or "more difficult" and above it in the scale.

Rasch measures and their associated survey items and statistics are shown below. The response categories are indicated in footnotes.

Endnote

1 Wright and Masters (1982).

Note: To indicate respondent type, T represents teacher respondents and S represents student respondents. Also, similar items are grouped together and within each type the items are ordered by difficulty level.

Measures	Item Text	Statistics			
		Reliabilty			
		Indiv.	School	Diff.	Fit
Leadership					
Inclusive Leadership (T)		0.92	0.69		
	Please mark the extent to which you agree or disagree with each of the following statements. [1] *The principal at this school:*				
	Is strongly committed to shared decision making.			5.23	0.86
	Works to create a sense of community in this school.			4.97	0.94
	Promotes parental and community involvement in the school.			3.13	1.16
Instructional Leadership (T)		0.77	0.69		
	Please mark the extent to which you disagree or agree with each of the following statements. [2] *The principal at this school:*				
	Carefully tracks student academic progress.			5.07	1.14
	Understands how children learn.			4.64	1.05
	Presses teachers to implement what they have learned in professional development.			4.63	1.30
	Communicates a clear vision for our school.			4.35	0.87
	Sets high standards for student learning.			4.21	0.78
	Sets high standards for teaching.			4.09	0.83
	Makes clear to the staff his or her expectations for meeting instructional goals.			3.99	0.96

Footnotes

1 Strongly disagree, disagree, agree, strongly agree.
2 Strongly disagree, disagree, agree, strongly agree.

Measures	Item Text	Statistics			
		Reliabilty			
		Indiv.	School	Diff.	Fit
Teacher Influence (T)		0.88	0.70		
	How much influence do teachers have over school policy in each of the areas below? [3]				
	Hiring new professional personnel.			9.52	1.16
	Hiring a new principal.			7.86	1.11
	Determining the school's schedule (including teacher preparation periods).			7.72	1.00
	Planning how discretionary school funds should be used.			7.56	0.89
	Determining specific professional and teaching assignments.			7.34	0.97
	Determining the content of in-service programs.			6.20	0.91
	Setting standards for student behavior.			5.14	1.12
	Determining how students' progress is measured.			4.28	0.96
	Determining books and other instructional materials used in classrooms.			3.04	1.13
	Please mark the extent to which you disagree or agree with each of the following: [4]				
	Teachers are involved in making the important decisions in this school.			5.56	0.77
	Teachers have a lot of informal opportunities to influence what happens here.			5.00	0.82
	I feel comfortable voicing my concerns in this school.			4.46	1.15
	How many teachers are active in decision making committees (e.g., LSC, PPAC, core planning teams, design teams, or other committees) in this school? [5]			4.30	1.18

LSC Contribution (T)		0.83	0.81		
	Please mark the extent to which you agree or disagree with each of the following statements. Overall, the LSC has been a positive addition to this school. [6]			4.77	1.05
	If somewhat or very knowledgeable about the LSC, please answer the following: The LSC is really helping to make this school better. [7]			4.19	0.88
	Has your LSC made a contribution to improving the following: [8]				
	Student behavior?			2.92	0.91
	Curriculum and instruction?			2.17	1.12
	Safety near or in the school?			1.20	0.98
	Parent involvement?			0.94	1.01
	Community relations?			0.81	0.99
	The school building?			0.78	1.04

Footnotes

3 None, a little, some, a great deal.
4 Strongly disagree, disagree, agree, strongly agree.
5 None, some, about half, most, nearly all.
6 Strongly disagree, disagree, agree, strongly agree.
7 Strongly disagree, disagree, agree, strongly agree.
8 Has hindered, no contribution, has helped.

Measures	Item Text	Statistics			
		Reliabilty			
		Indiv.	School	Diff.	Fit
Program Coherence (T)		0.64	0.62		
	To what extent do you disagree or agree with the following: [9]				
	You can see real continuity from one program to another at this school.			5.21	0.90
	Many special programs come and go at this school.			4.74	0.99
	Once we start a new program, we follow-up to make sure that it's working.			4.72	0.92
	We have so many different programs in this school that I can't keep track of them all.			4.59	1.17

SIP Implementation (T)		0.83	0.55		
	Please mark the extent to which you agree or disagree with each of the following statements.[10]				
	I am familiar with most of the major points in our School Improvement Plan (SIP).			2.05	1.00
	The SIP is just another required document.			4.63	1.27
	The SIP has led to changes in my teaching practices.			4.10	0.75
	Our SIP is based on systematic analysis of student performance data.			3.55	0.83
	The SIP is not improving student learning at this school. [11]			3.42	1.02
	I helped develop the SIP for my school.			3.20	1.37
	The SIP will help make us a better school over the next five years.			2.38	0.74

Parent-Community Ties

Teacher Outreach to Parents (T)		0.85	0.67		
	Please mark the extent to which you agree or disagree with each of the following statements about your school. [12]				
	Teachers work closely with parents to meet students' needs.			3.14	1.04
	Parents have confidence in the expertise of the teachers.			1.57	1.13
	Parents are invited to visit classrooms to observe the instructional program.			1.35	1.15
	We work at communicating to parents about support needed to advance the school mission.			1.19	0.95
	Staff at this school work hard to build trusting relationships with parents.			1.15	1.11
	We encourage feedback from parents and the community.			0.80	0.72
	Teachers really try to understand parents' problems and concerns.			0.41	0.89
	Parents are greeted warmly when they call or visit the school.			0.39	0.98

Footnotes

9 Strongly disagree, disagree, agree, strongly agree.
10 Strongly disagree, disagree, agree, strongly agree.
11 Reverse coded.
12 Strongly disagree, disagree, agree, strongly agree.

Measures	Item Text	Statistics			
		Reliabilty			
		Indiv.	School	Diff.	Fit
Parent Involvement in the School (T)		0.77	0.73		
	For the students you teach this year, how many of their parents: [13]				
	Volunteered to help in the classroom?			10.00	1.06
	Helped raise funds for the school?			8.34	0.98
	Attended school-wide special events?			7.02	0.72
	Attended parent/teacher conferences when you requested them?			3.52	0.94
	Picked up their child's report card in April?			1.06	0.98

Professional Capacity

Teacher Orientation toward Innovation (T)		0.78	0.65		
	How many teachers in this school: [14]				
	Are willing to take risks to make this school better?			3.49	0.92
	Are eager to try new ideas?			3.31	0.79
	Please mark the extent to which you disagree or agree with each of the following: [15]				
	In this school, teachers have a "can do" attitude.			3.02	0.97
	All teachers are encouraged to "stretch and grow."			2.65	1.30
	In this school, teachers are continually learning and seeking new ideas.			2.53	0.87

School Commitment (T)		0.77	0.62		
	Please mark the extent to which you disagree or agree with following: [16]				
	I wouldn't want to work in any other school.			4.75	0.95
	I would recommend this school to parents seeking a place for their child.			4.18	1.01
	I usually look forward to each working day at this school.			3.80	1.18
	I feel loyal to this school.			2.82	0.79

Student-Centered Learning Climate

Safety (S)		0.74	0.88		
	How safe do you feel: [17]				
	Outside around the school?			6.19	0.86
	Traveling between home and school?			5.49	1.31
	In the hallways and bathrooms of the school?			4.67	0.86
	In your classes?			3.53	1.00

Footnotes

13 None, some, about half, most, nearly all.
14 None, some, about half, most, nearly all.
15 Strongly disagree, disagree, agree, strongly agree.
16 Strongly disagree, disagree, agree, strongly agree.
17 Not safe, somewhat safe, mostly safe, very safe.

Measures	Item Text	Statistics			
		Reliabilty			
		Indiv.	School	Diff.	Fit
Classroom Disruptions (T)					
	On a typical day, how many times are your classes: [18]				
	Disrupted by student behavior?	This category is the mean of these two items, converted to number of times per day.			
	Interrupted by announcements, messengers from the office, students coming in tardy, noise in the hallway, etc.?				

Ambitious Instruction

Curricular Alignment (T)	Average change in course content per grade level, measured in ITBS grade level equivalents, and traced across grades in a school. E.g., 0= No change in content between grades, 2= 2 ITBS grade level increases each year. This measure was constructed for a CCSR study of academic pacing in Chicago elementary schools. See Smith, Smith, and Bryk (1998).	

Footnotes

18 Never, once, twice, 3 to 4 times, 5 to 9 times, 10 or more times.

Appendix B

Socioeconomic Status (SES) Factor

Two SES measures were developed using factor analysis. The first was School SES, which reflected the socioeconomic characteristics of the census block group surrounding each elementary school. The second was Student SES, which included the average value of socioeconomic characteristics of the census blocks in which the students lived. Since school and student neighborhoods largely overlap and are highly correlated ($r = 0.86$), it was logical to combine these measures through a single factor analysis. The table on p. 58 shows the 1990 census data and other data used in developing the SES factor. Information regarding geographic level of the data is included to distinguish data obtained for the census block versus the school.

Socioeconomic Status (SES) Factor

Name of Measure	Description	Source of Data and Year Collected	Geographic Level	Factor Loading
Concentration of Poverty	The following two census measures were combined and reverse coded to create a measure of neighborhood poverty: • Percentage of male residents over 18 employed one or more weeks during the year • Percentage of families above the poverty line A measure was created both for the location of the school and for students attending the school.	1990 United States Census	Census block group	Student addresses: 0.88 School location: 0.85
Social Status	The following two census measures were combined to create a measure of neighborhood affluence: • Percentage of employed persons 16 years or older who are managers and executives • Mean level of education among people over 18 A measure was created both for the location of the school and for students attending the school.	1990 United States Census	Census block group	Student addresses: -0.83 School location: -0.77
Percentage Low-Income	Percentage of students attending an elementary school who received a free or reduced lunch in the 1993–94 school year	1993–94 Chicago Public Schools	School	0.70
Percentage of Students Living in a Public Housing Project	Percentage of students attending an elementary school who lived in a large Chicago Housing Authority (CHA) residential project	Chicago Housing Authority, 1994	School	0.60

Appendix C

Interview Questions from the Project on Human Development in Chicago Neighborhoods

Collective Efficacy Measure

Residents were asked if it is very likely, likely, neither likely nor unlikely, unlikely, or very unlikely that their neighbors could be counted on to intervene in various ways if

(1) children were skipping school and hanging out on a street corner;
(2) children were spray-painting graffiti on a local building;
(3) children were showing disrespect to an adult;
(4) a fight broke out in front of their house; and
(5) the fire station closest to their home was threatened with budget cuts.

Using a five-point scale, the second set of questions asked how strongly residents agreed or disagreed that

(1) people around here are willing to help their neighbors;
(2) this is a close-knit neighborhood;
(3) people in this neighborhood can be trusted;
(4) people in this neighborhood generally don't get along with each other; and
(5) people in this neighborhood do not share the same values.

Note: The reliability of this measure ranged from 0.80 for neighborhoods with 20 respondents to 0.91 for neighborhoods with 50 respondents.

Religious Participation Measure

(1) Have you or a household member talked to a local religious leader to help with a neighborhood problem?
(2) Do you or other household members belong to a religious organization?
(3) Is the religious organization in the neighborhood?
(4) About how many people in this neighborhood are religious or attend church regularly?

Note: These items formed a Rasch measure.

Appendix D

School Community Indicators for Different Sub-Groups of Schools

Averages across Schools in the Category	Truly Disadvantaged	African-American Low SES	African-American Moderate SES	Predominantly Minority	Predominantly Latino	Racially Diverse	Racially Integrated
Number of Schools	46	95	74	45	39	34	57
Religious Participation (in s.d. units)	-1.05	-0.40	0.28	0.04	0.78	-0.03	0.60
Collective Efficacy (in s.d. units)	-0.86	-0.48	0.29	-0.03	-0.17	0.40	1.02
Number of Crimes (per 1000 Residents per Year)	418	336	228	211	163	190	126
Outside Connections (in s.d. units)	-0.38	-0.10	0.26	-0.45	-0.65	0.64	0.56
Percentage of Students Abused or Neglected	23%	21%	17%	12%	7%	9%	7%

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