

Chapter 1

Introduction

Many Americans believe that urban schools are failing to educate the students they serve. Their perception is that urban students are floundering in an environment of disruption, violence, decaying buildings, poor quality teaching, and scant resources. This perception has been fueled by various reports and testimony about conditions in urban schools, which have based their findings on data and observations gathered from selected urban schools. According to these reports, students in urban schools have lower levels of achievement, completion of high school and higher education, and employment (Carnegie Foundation 1988; Louis and Miles 1990). Moreover, from the view of city school administrators, the challenges of educating today's urban youth are daunting, with more and more students presenting problems such as "poverty, limited-English proficiency, family instability, discrimination, disability, malnutrition, and poor health" (Council of the Great City Schools 1994, p. viii). Lack of parental support and unsafe communities are also cited as detrimental to urban students (Carnegie Foundation 1988). Urban schools themselves are often portrayed as decaying and crowded facilities that are inadequately staffed with overworked teachers lacking the basic tools of teaching, who must function under poor leadership in an overly bureaucratic and anonymous environment (Louis and Miles 1990; Walker 1989; Carnegie Foundation 1988).

This study addresses these perceptions about urban students, families, and schools using nationally representative survey data to compare students and schools in urban areas to those in suburban and rural areas on a broad range of indicators. These indicators characterize students (chapter 1), their education outcomes (chapter 2), their family background and afterschool activities (chapter 3), and school experiences (chapter 4).

This report goes beyond providing simple comparisons between urban and suburban or rural schools, however. Since urban public schools are more likely to have higher concentrations of students from low income families, it is possible that any differences between

urban and other public schools are actually due to the higher concentration of low income students in urban public schools. This study examines whether urban schools, overall, would still look different from other schools if the concentration of low income students in urban schools did not differ from that at other schools. One contribution of this report to existing research, then, is to identify which education outcomes, family background characteristics, and school experiences are different in urban schools, after factoring out one major characteristic that is often related to these differences—high concentrations of low income students.

The quality of education in those urban public schools that serve the highest concentrations of low income students is a primary focus of this report, since the commonly held perception is that conditions are much worse in these schools than in others. This study analyzes these *high poverty urban schools* separately, and determines whether the conditions and outcomes for students in these schools are even less favorable than an urban location and high poverty concentration added together would predict. That is, do these two characteristics, each with known and measurable negative effects, interact, providing evidence of unusual circumstances in these schools compared to those at other locations and levels of poverty concentration? For each indicator studied, urban high poverty schools are compared to high poverty schools in other locations, and the size of this gap is compared to that between urban and other schools at lower levels of poverty concentration. This suggests whether, given overall variations by location and poverty concentration, urban high poverty schools are *different than predicted* when compared to other schools.

There are four research questions asked, then, across a wide spectrum of data on student outcomes, family background and afterschool experiences, and school experiences. The word "schools" is meant to refer to students in the schools as well. They are as follows:

- 1) Are urban schools different from suburban or rural schools?

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- 2) Are schools with high poverty concentrations different from those with lower poverty concentrations?
 - 3) When taking school poverty concentration into account, are urban schools different from other schools?
 - 4) Are the indicators in urban high poverty schools at unexpected levels compared to other schools, when considering overall variations by location and poverty concentration? And, are urban high poverty schools different from other high poverty schools?

Chapter 2 presents the results of the analysis for indicators of education outcomes, chapter 3 for indicators of student background and afterschool activities, and chapter 4 for school experience indicators. Each chapter begins with a chart that lists the indicators to be discussed and the essential results of the analysis in a condensed format—charts 2.1, 3.1, and 4.1. The information presented in this report is grouped to the school level, so that schools and students attending schools in each location and level of poverty concentration are compared to each other.

The remainder of this chapter provides the background and context for the three analytical chapters that follow. Previous research is reviewed; then, urban public schools and their students are compared with their suburban and rural counterparts on various demographic, health, and community characteristics. Finally, the analytical approach, sources of data, and definitions used in this report are detailed.

Previous Research on School Location and Poverty Concentration

Explaining differences between schools has been a long-standing topic of educational research. This report not only focuses on differences between urban and other schools but also considers how the socioeconomic status (SES) of urban students is related to these differences. Past research has suggested that the SES of students, and the socioeconomic composition of schools and neighborhoods are strongly linked to differences between

urban and other schools. This section reviews research that has focused on socioeconomic as well as other factors at the student, school, and neighborhood level and their relationship to education outcomes.

Student Level

Coleman and associates (1966) found that differences between schools in average achievement were largely related to differences in the socioeconomic backgrounds of the students. Moreover, they found that when these differences were held constant, variations in facilities, curricula, and teacher quality among schools accounted for only a small fraction of the difference in student achievement. Researchers have tested and retested this finding, and have agreed, in general, that schools have only small effects on student learning or on the probability of attending college, once individual background is held constant (Armor 1972; Mayer and Jencks 1989).

Urban schools are more likely to have low income students attending than other schools. For example, 44 percent of urban public school students are eligible to receive free or reduced price school lunch, compared with 23 percent of suburban students and 30 percent of rural students (U.S. Department of Education 1994). Furthermore, urban students are more likely to be disadvantaged by having only one parent; having less educated and/or unemployed parents; having handicapping conditions or learning, emotional, or health disabilities; having difficulty speaking English; or by being homeless (Peng et al. 1992; Hodgkinson 1989). (See the following section for a full discussion of the prevalence of many of these and other conditions in urban versus suburban or rural areas.) Finally, urban children are more likely to have more than one of these attributes, thereby compounding their disadvantage (Peng et al. 1992).

School Level

The Coleman study also found that a student's family background was not the only "outside school" determinant of achievement. According to Coleman et al. (1966, 22), achievement is strongly related to the educational backgrounds and aspirations of other students

in the school. "Children from a given family background, when put in schools of different social composition, will achieve at quite different levels." This composition effect has been corroborated by other researchers, and is found to be particularly strong for low income students. In their assessment of the Chapter 1 compensatory education services program, Kennedy, Jung, and Orland (1986, 22) found that

. . . the relationship between family poverty status and student achievement is not as strong as the relationship between school poverty concentrations and school achievement averages. Non-poor students attending schools with high concentrations of poor students were found to be more likely to fall behind than poor students who attend schools with small proportions of poor students.

A later assessment of the Chapter 1 program, the Prospects study, found that average achievement declines as school poverty concentration increases. On average, students in high poverty schools scored significantly below those who attended low poverty schools (Abt Associates 1993). Pelavin Associates (1993) using a multilevel analysis model (to account for the fact that average correlations are always higher than individual level correlations), with the National Education Longitudinal Study of 1988 (NELS:88), still found a negative effect of poverty concentration on average achievement, above and beyond the effect of family income and prior achievement. In this analysis, each 10 percent increase in school poverty concentration resulted in a small, but significant, decrease in math achievement for the average student. Also using NELS:88, Anderson et al. (1992) found that low income students in schools with small concentrations of such students score higher than their counterparts in schools with high concentrations of low income students. In another analysis, using the High School and Beyond Study, Myers (1985) found that students in high poverty schools had lower achievement than did students in low poverty schools, even after holding family SES constant. Moreover, in a review of research on the effects of school-level SES, Jencks and Mayer (1990) found that school-level SES affects students' chances of graduating as well as how much they learn, after controlling for family background. This research has demonstrated, then, that school poverty concentration has an important relationship to levels of achievement, which

remains even after controlling for individual student family background.

Research on *urban* schools offers further evidence of the importance of the student composition of schools. Some studies have shown no urban effects once student background is held constant (Gamoran 1987; Barro and Kolstad 1987). Others have found that differences in family background did not sufficiently explain gaps in achievement between urban and suburban schools; rather, these gaps were explained by differences in student composition. Urban schools were different, because they were more likely to have concentrations of less advantaged students, which in itself produces special problems (Hoffer 1992). Research suggests that such concentrations may lower the level of engagement, effort, and aspirations of all students (Hoffer 1992; Ralph 1990), and that some peer groups in inner cities may even develop an aversion to academic work and learning (Fordham and Ogbu 1987).

Other characteristics of urban schools besides the SES of their students are often identified as related to urban school problems and poorer student outcomes. For instance, because urban schools are likely to have fewer resources than suburban schools, school level achievement differences may reflect inequities in resources (Panel on High-Risk Youth 1993; Orland 1990). Researchers also suggest that the larger size and often burdensome centralized bureaucracy of urban schools can restrict the independence and collegial support among school staff and create a more impersonal environment for students (Hoffer 1992; Glazer 1992). Finally, it is perceived that violence and disruptions are more prevalent in urban schools. All of these location-specific school characteristics help to reinforce the view that a school's location can influence a student's likelihood of being undereducated (Waggoner 1991).

Neighborhood Level

Research suggests that differences between schools and student outcomes are related to differences in the composition of neighborhoods, even after controlling for family background. Poor neighborhoods, in particular, have been found to negatively affect students' education outcomes. While living in affluent neighborhoods

increases IQ at age 5 for both poor and non-poor children, living in poor neighborhoods raises the odds of a child developing behavior problems, becoming pregnant as a teenager, and dropping out of school (Brooks-Gunn et al. 1993; Duncan et al. 1994; Clarke 1992; Crane 1991; Jencks and Mayer 1990). Most researchers have found that neighborhood characteristics have a smaller effect on school outcomes than do family and school characteristics (Clarke 1992; Coulton and Pandey 1992; Mayer and Jencks 1989).

Urban schools are more likely to serve neighborhoods in which there are high concentrations of poverty (Wilson 1987). The geographic concentration of poverty in cities during the 1970s and 1980s was accompanied by the concentration of undesirable conditions to which children were exposed, such as education failure, violence, crime, welfare dependency, and family disruption (Massey et al. 1994). Moreover, those who live in urban neighborhoods with high proportions of welfare recipients have lower chances of finding well-paying jobs (Jencks and Mayer 1990). Parents in urban high poverty neighborhoods are less likely to be employed or married, and community ties are weaker, negatively affecting parent involvement in the school (Wilson 1987). Researchers have also noted the lack of positive role models and social institutions in these communities to support and encourage positive behaviors in children (Sawhill et al. 1992).

Thus, previous research suggests that both students from schools with high concentrations of low income students and those from urban schools would be expected to have less successful education outcomes, home environments that are less supportive, and less positive school experiences than students from other schools. This report will continue this vein of research by testing whether data from several nationally representative surveys of schools, students, and young adults replicate these results from smaller, more specialized studies.

The Setting: Urban Schools and Communities

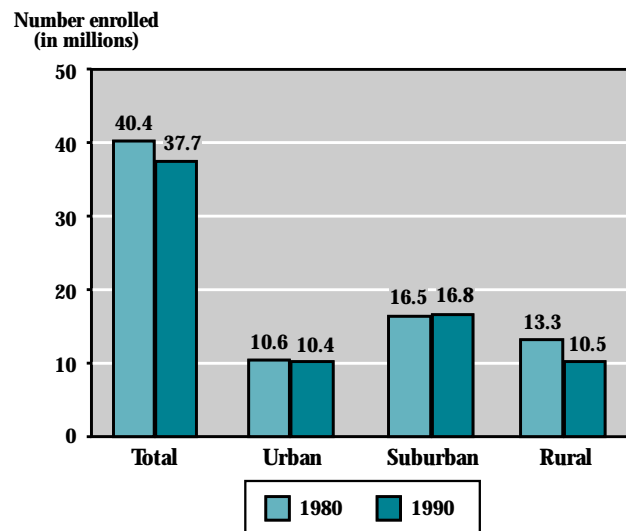
The analysis in the following chapters focuses on students who attended public school during the late 1980s to 1990 (with the exception of a few long-term outcomes

of students who were in school during the late 1970s and early 1980s). This section describes urban public schools and urban communities in comparative perspective during this same time period, drawing from several national surveys.¹

Urban Schools

Between 1980 and 1990, the total number of students enrolled in public schools fell from about 40 million to 38 million (figure 1.1). However, the number of students in urban schools and suburban schools stayed about the same, at about 11 million and 17 million, respectively. The number of students in rural schools declined from about 13 million to less than 11 million.

Figure 1.1
Number of students enrolled in public schools, by urbanicity: 1980 and 1990

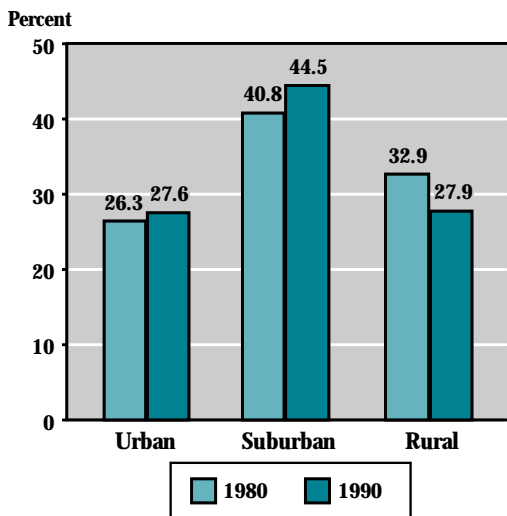


SOURCE: U.S. Bureau of the Census, Current Population Survey, October 1980 and October 1990.

¹This section uses data from the surveys conducted by the National Center for Education Statistics (NCES), the Bureau of the Census, Bureau of Justice Statistics, and the National Center for Health Statistics. This report uses the terms *urban*, *suburban*, and *rural* to denote urbanicity categories for all surveys. These categories correspond to the Bureau of the Census definitions of central city metropolitan, other metropolitan, and nonmetropolitan with the exception of the NCES Schools and Staffing Survey. See the section on definitions and the appendix for a full discussion.

Thus, the percentage distribution of all public school students changed over the decade, with an increase in the proportion attending both urban and suburban schools, and a decrease in the proportion in rural schools (figure 1.2). The proportion of students in urban schools increased from 26 to 28 percent (see appendix table 1.1).

Figure 1.2
Percentage distribution of students enrolled in public schools, by urbanicity: 1980 and 1990



SOURCE: U.S. Bureau of the Census, Current Population Survey, October 1980 and October 1990.

Among students living in urban, suburban, and rural areas, there are differences in the proportions who attend private schools. Since this report presents information only on public school students, the extent to which the data are representative of all students in each area varies. While nationally about 12 percent of all students were in private schools during the 1987–88 school year, in urban areas that percentage approached 17. Thirteen percent of suburban students and 7 percent of rural students attended private schools (see appendix table 1.2).

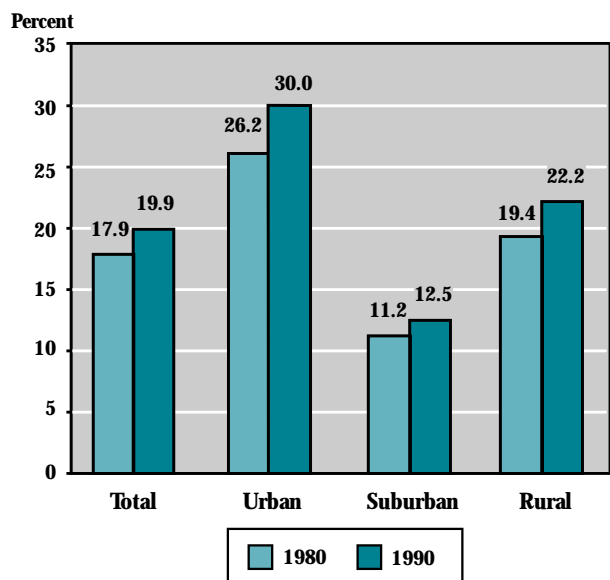
Urban public schools are larger, on average, than suburban or rural schools at every level. The average size of urban elementary schools is 528 students, while that of suburban schools is 492, followed by rural schools with

354 students. At the middle or junior high school level, urban schools enroll 735 students on average, while the average enrollments for suburban and rural schools are 662 and 463, respectively. At the secondary or high school level, the average size of urban schools is more than twice that of rural schools, with 1,313 students compared with 577 students, and it is slightly larger than suburban schools, which have an average of 1,197 students (see appendix table 1.3).

School Poverty Concentration

Poverty rates among children are higher in urban locations than in the surrounding suburban or rural areas, which translates into higher concentrations of poor students in urban public schools. In 1990, 20 percent of children were living in poverty nationwide. However, 30 percent of children in urban locations were living in poverty, more than twice the rate for children living in the surrounding suburbs (13 percent). Among children living in rural areas, 22 percent were poor (see figure 1.3 and appendix table 1.4). Further, the poverty rate among children increased in all three

Figure 1.3
Poverty rates for children under age 18, by urbanicity: 1980 and 1990



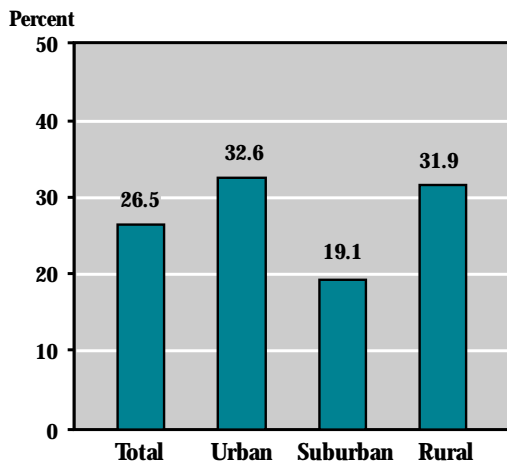
SOURCE: U.S. Bureau of the Census, Current Population Reports, Series P-60, Nos. 181 and 133.

localities between 1980 and 1990, increasing in urban areas from 26 percent in 1980 to 30 percent in 1990.

Another measure of the economic well-being of children is the socioeconomic status (SES) of their families. This is usually a composite measure of the parents' education, occupation, as well as income, and is therefore considered a more complete measure of the resources that a family can contribute to their child. Thirty-three percent of urban 8th graders came from families whose SES was in the lowest quarter nationally in 1988, while this was true for 19 percent of suburban students (see figure 1.4 and appendix table 1.5). In other words, one out of three urban students came from families whose estimated ability to contribute to their child's development was among the poorest in the nation. Rural students were just as likely as urban students to have families whose SES was in the lowest quartile.

Federal programs exist that support low income students by funding their schools to provide them free and reduced price lunches and supplemental education services. The National School Lunch Program administered by the U.S. Department of Agriculture's Food and

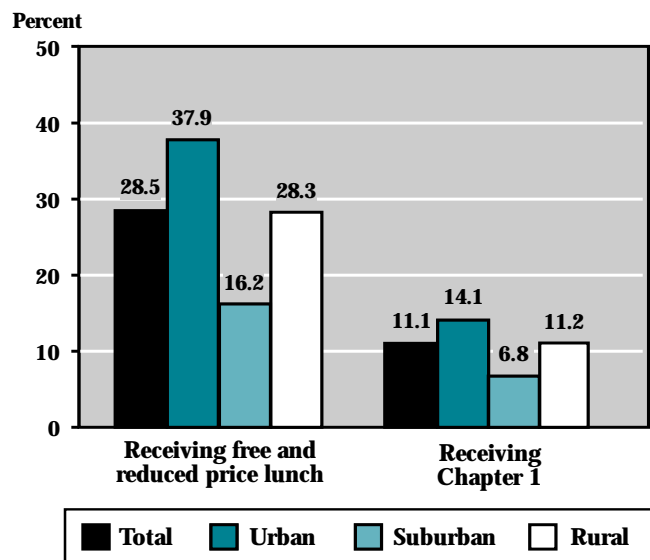
Figure 1.4
Percentage of 8th graders whose family was in the lowest socioeconomic quartile, by urbanicity: 1988



SOURCE: U.S. Department of Education, National Center for Education Statistics, National Education Longitudinal Study of 1988, Base Year Survey.

Consumer Service provides free or reduced price lunches for children from families whose income is below 185 percent of the poverty line for that year (see section below on definitions of poverty). Overall, 28 percent of public students nationally received this service during the 1987–88 school year. In urban schools, 38 percent received free or reduced price lunches (see figure 1.5 and appendix table 1.6), and in suburban and rural schools the percentages were 16 and 28, respectively. More students are eligible to receive school lunches than actually receive them, however, particularly in secondary schools where participation in the program is a source of embarrassment for some students. For the same year, it was estimated that 42 percent of urban students, 18 percent of suburban students, and 31 percent of rural students were eligible for this service (see appendix table 1.6). Thus, higher proportions of urban students are eligible for and receive school lunches than in other locations.

Figure 1.5
Percentage of students in poverty-related programs, by urbanicity: 1987–88



SOURCE: U.S. Department of Education, National Center for Education Statistics, School and Staffing Survey, 1987–88.

Chapter 1 of the Elementary and Secondary Education Act (renamed Title 1 under the 1994 Elementary and Secondary Education Act) provides federal funds for education services for disadvantaged students who are

performing below grade level. Figure 1.5 shows the proportion of students in each locale that participated in the Chapter 1 program during the 1987–88 school year. Fourteen percent of urban students participated, as did about 7 percent of suburban students and 11 percent of rural students. The levels of participation varied by location similarly for both the school lunch and Chapter 1 programs, with participation in the Chapter 1 program lower than participation in the school lunch program in every location.

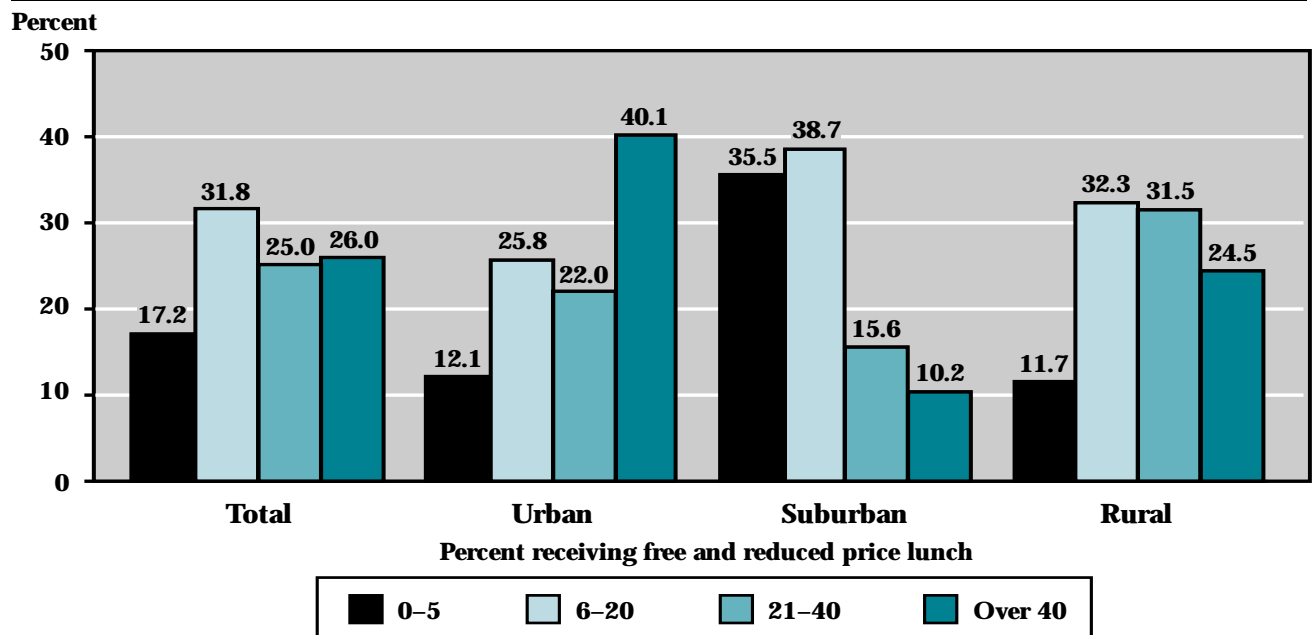
The percentage of students receiving free or reduced price lunch in school is the measure of school poverty concentration that is used in this report, since it is most widely available and comparable nationwide. This measure is not a precise measure of the extent of poverty in schools, however. (See the section on definitions for a full description of this measure.) In this report, students are grouped into four categories corresponding to the approximate quartiles of poverty concentration of a nationally representative sample of public schools. The categories of school poverty concentration are 0–5 percent, 6–20 percent, 21–40 percent, and more than 40 percent of students in poverty. Figure 1.6 and appendix table 1.7

show the distribution of public school students by these four categories of school poverty concentration.

Urban students are more likely than suburban or rural students to be in high poverty schools, those with poverty concentrations of more than 40 percent. In fact, 40 percent of urban students attend these schools, compared with 10 percent of suburban students and 25 percent of rural students. Urban students are much less likely than suburban students to be in low poverty schools, those with 0–5 percent of students in poverty. Only 12 percent of urban students attend low poverty schools, compared with 36 percent of suburban students. Rural students are about as likely as urban students to be in low poverty schools (12 percent).

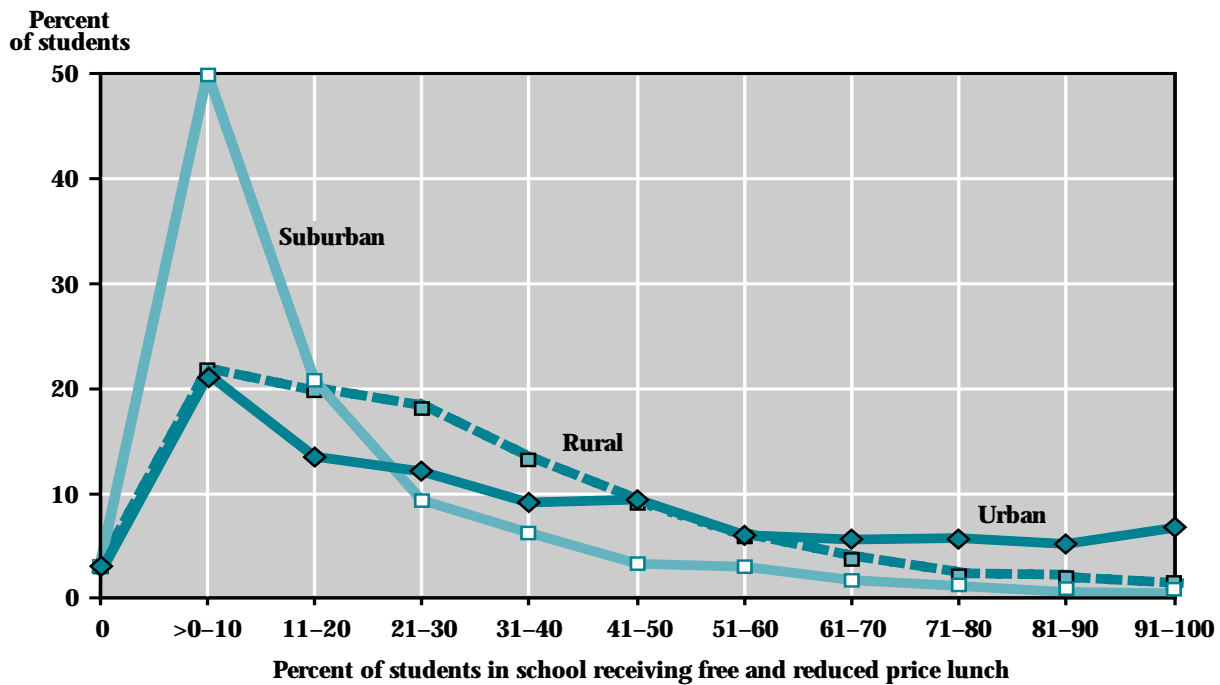
In suburban areas, three out of four students attend schools with a poverty concentration of 20 percent or less. This striking difference between suburban and other schools is illustrated in figure 1.7 and appendix table 1.8: 38 percent of urban students and 44 percent of rural students attend such schools. The distribution of urban students by school poverty concentration is more similar to that of rural students than suburban students.

Figure 1.6
Percentage distribution of students, by school poverty concentration within urbanicity categories: 1987–88



SOURCE: U.S. Department of Education, National Center for Education Statistics, School and Staffing Survey, 1987–88.

Figure 1.7
Percentage distribution of students by school poverty concentration deciles, by urbanicity: 1987–88



SOURCE: U.S. Department of Education, National Center for Education Statistics, School and Staffing Survey, 1987–88.

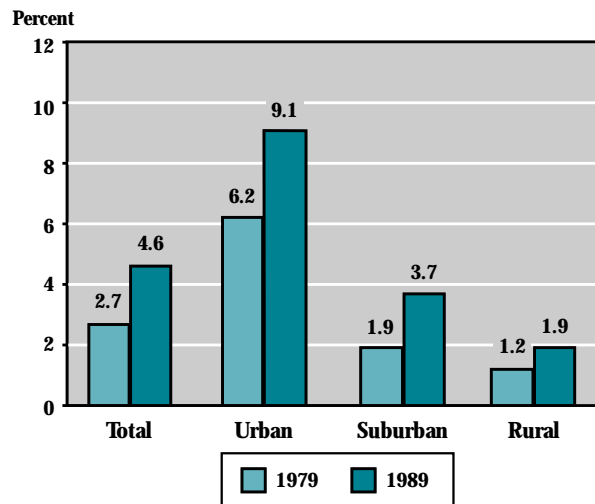
Student Minority Status

Urban public schools are more likely to serve students who have difficulty speaking English or who belong to a racial or ethnic minority.

During the 1980s, the proportion of public school students nationwide who had difficulty speaking English increased from about 3 to 5 percent (see figure 1.8 and appendix table 1.4). In urban schools, this percentage rose from twice the national level in 1979 (6 percent) to 9 percent by 1989. Suburban schools and rural schools had smaller percentages of students who had difficulty speaking English in 1989, 4 percent and 2 percent, respectively.

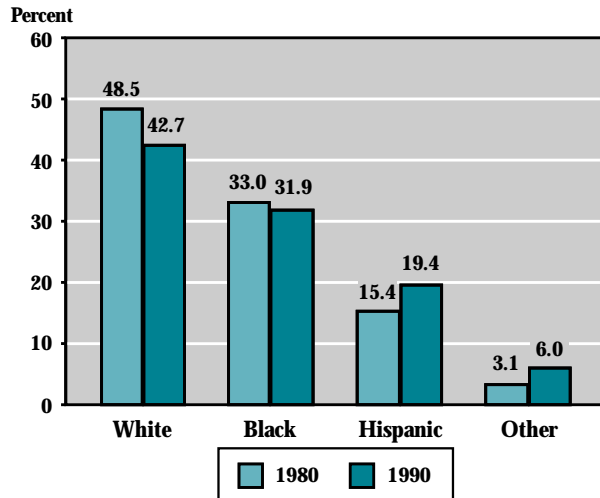
Similarly, the percentage of students in urban public schools who are classified as Hispanic or “other” (which includes Asians and Pacific Islanders) increased over the decade (see figure 1.9 and appendix table 1.9). Hispanics and “other” minorities made up 19 percent

Figure 1.8
Percentage of students with difficulty speaking English, by urbanicity: 1979 and 1989



SOURCE: U.S. Bureau of the Census, Current Population Survey, November 1979 and 1989.

Figure 1.9
Trends in the racial-ethnic distribution of urban students: 1980 and 1990



NOTE: White refers to white, non-Hispanic students. Black refers to black, non-Hispanic students.

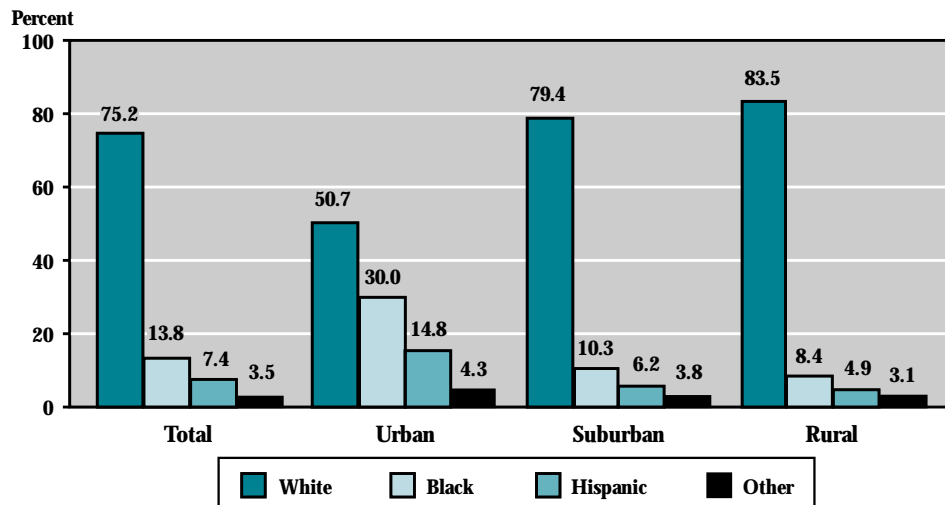
SOURCE: U.S. Bureau of the Census, Current Population Survey, October 1980 and October 1990.

of urban students in 1980, increasing to 25 percent of urban students by 1990. Non-Hispanic whites (henceforth, whites) declined as a percentage of urban students over the decade, while the percentage of students who were black, non-Hispanic (henceforth, blacks) stayed about the same.

During the 1987–88 school year, when the students profiled in this report were in school, urban public schools had markedly smaller percentages of white students and higher percentages of black and Hispanic students than suburban or rural schools (see figure 1.10 and appendix table 1.10). Urban schools had a higher percentage of “other” minorities (including Asian and Pacific Islanders) than rural schools, but about the same proportion as suburban schools. Almost half (49 percent) of urban students belonged to a racial or ethnic minority (black, Hispanic, or “other”) compared with 20 percent of suburban students and 16 percent of rural students (see appendix table 1.11).

This difference in the racial-ethnic composition of schools is particularly noticeable between high and low

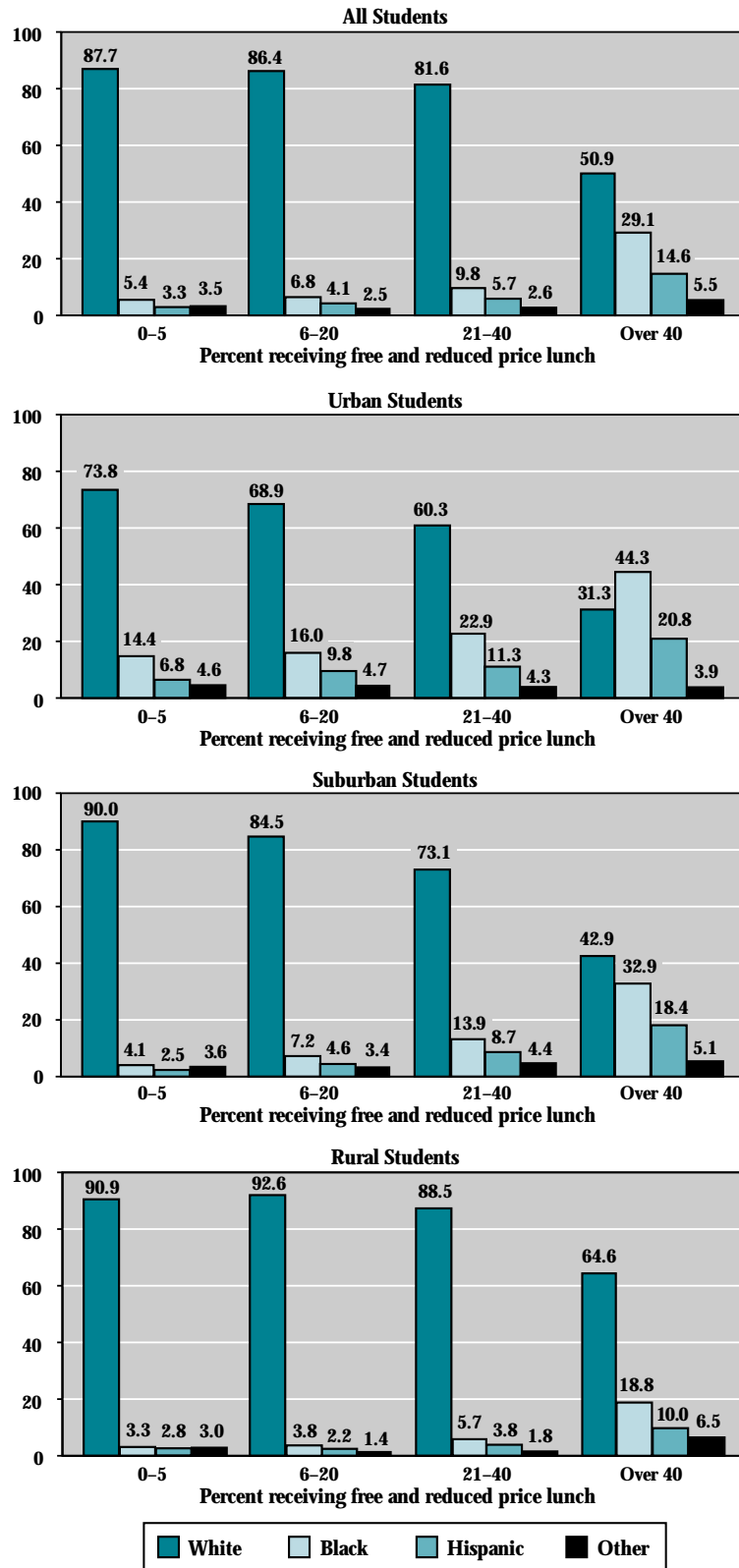
Figure 1.10
Racial-ethnic distribution of students, by urbanicity: 1987–88



NOTE: Percentages do not add to 100 because of missing data. White refers to white, non-Hispanic students. Black refers to black, non-Hispanic students.

SOURCE: U.S. Department of Education, National Center for Education Statistics, School and Staffing Survey, 1987–88.

Figure 1.11
Racial-ethnic distribution of students in schools, by urbanicity and school poverty concentration: 1987–88



NOTE: Percentages do not add to 100 because of missing data. White refers to white, non-Hispanic students. Black refers to black, non-Hispanic students.

SOURCE: U.S. Department of Education, National Center for Education Statistics, School and Staffing Survey, 1987–88.

poverty schools (see figure 1.11 and appendix tables 1.10 and 1.11). High poverty schools in every location have higher enrollments of minorities than low poverty schools, but urban high poverty schools are more likely to enroll minority students than high poverty schools in suburban or rural areas. Among urban schools, 69 percent of students in high poverty schools belonged to a racial or ethnic minority, compared with 26 percent in low poverty schools. Among suburban schools, 56 percent of students in high poverty schools belonged to a minority group compared with 10 percent in low poverty schools. In rural schools, 35 percent of students in high poverty schools belonged to a minority group compared with 9 percent in low poverty schools.

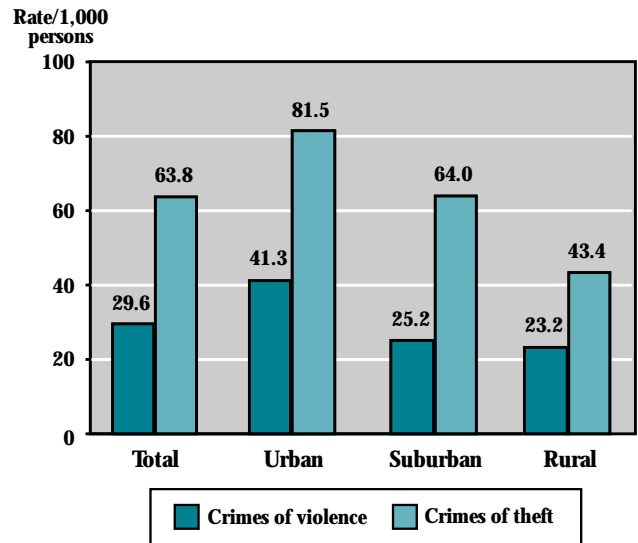
Community Risk Factors

Children who grow up in urban areas are more likely to be exposed to risks that place their health and well-being in jeopardy. These factors may be related to poorer outcomes for students from urban schools.

In particular, urban children face greater risks of living in poverty and being surrounded by poverty, with all its attendant risks. In addition, they are more likely to be exposed to safety and health risks, and have less access to regular medical care than do other children. They are also more likely to engage in risk-taking behavior that can lead to undesirable outcomes, such as teenage pregnancy, which limit their opportunities for education and economic success. The following is a discussion of selected risk factors that indicate some of the areas in which urban students are at a disadvantage compared to other students and that are related to their performance in school. The data refer to circa 1990 to be consistent with data on urban schools and students analyzed in the subsequent chapters.

Youth living in urban communities are more likely to be victimized by crime than those living in other community types (see figure 1.12 and appendix table 1.12). This is true both for crimes of violence and crimes of theft. The rate of victimization from violent crimes for persons ages 12 and above was 41 per 1,000 in urban communities in 1990, compared with 25 per 1,000 in suburban communities and 23 per 1,000 in rural com-

Figure 1.12
Victimization rates for persons ages 12 and over, by type of crime and urbanicity: 1990



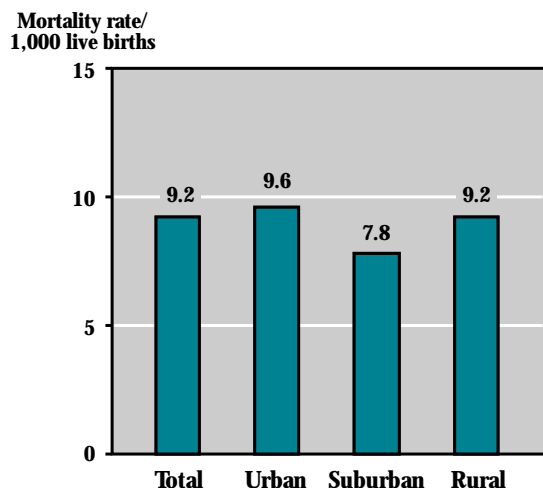
SOURCE: U.S. Department of Justice, Bureau of Justice Statistics, Criminal Victimization in the United States, 1990.

munities. The urban rates of victimization from theft were also higher (82 per 1,000) than suburban (64 per 1,000) or rural areas (43 per 1,000).

Children's health can affect their overall development and education performance. Children who live in urban locations are at higher risk for health problems than other children. The infant mortality rate is considered to be a sensitive summary indicator of neonatal, infant, and child health conditions, since it is highly correlated with other child health indicators. In urban locations, infants have higher mortality rates than in both suburban and rural locations (about 10 per 1,000 compared with about 8 per 1,000 for suburban areas and 9 per 1,000 for rural) (see figure 1.13 and appendix table 1.12).

Access to medical care is more limited for children in urban areas, and is more likely to be on an emergency basis compared with other areas. Urban children are less likely than other children to receive regular attention by a private physician, and instead use a clinic,

Figure 1.13
Infant mortality rates, by urbanicity: 1990



SOURCE: National Center for Health Statistics, Vital Statistics of the United States, 1990, Vol. 2, Mortality, Public Health Service, Washington, D.C., Government Printing Office, 1993.

health center, or hospital emergency room as a regular source of health care (see figure 1.14 and appendix table 1.12). Fully 23 percent of children in urban areas—over twice the proportion of suburban children (11 percent)—receive regular care from these sources. About 16 percent of children in rural areas receive their health care from a clinic, health center, or hospital emergency room.

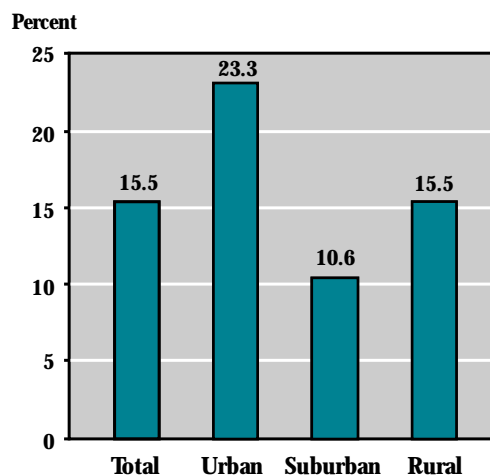
Urban children are also less likely to be covered by health insurance or Medicaid than children in suburban areas, but they are no different from rural children on this measure. Eighty-two percent of urban and rural children are covered, compared with 85 percent of suburban children (appendix table 1.12).

Teenage motherhood can have direct consequences on girls' educational attainment and lifelong earnings potential (Panel on High-Risk Youth 1993). Urban teenage girls are more likely than suburban girls, but not rural girls, to become teenage mothers (see appendix table 1.13). In a survey of girls scheduled to be 12th graders in 1992, about 17 percent either had or were expecting a child in urban areas, compared

with 10 percent in suburban areas and 14 percent in rural areas.

The data presented in this section on urban schools and their settings support the commonly held view that urban public schools either have or are located in areas with a higher incidence of conditions frequently associated with poorer educational outcomes than suburban or rural public schools. Such conditions include larger school size, higher concentrations of poor students and students with difficulty speaking English, and higher levels of risk factors affecting children's health and well-being. These conditions are presented as examples illustrating the different circumstances that face students and educators in urban, suburban, and rural schools as a context from which to consider the results of the analyses that follow. In fact, these conditions are among the many non-poverty attributes of urban locations that contribute to the differences observed between urban and non-urban schools, though they are not explicitly tested for in the analysis. Rather, the analysis tests the effects of two major characteristics of schools—poverty concentration and urbanicity—and the latter

Figure 1.14
Percentage of children 17 years of age and under whose regular source of health care is a clinic, health center, or hospital emergency room, by urbanicity: 1988



SOURCE: U.S. Department of Health and Human Services, National Center for Health Statistics, Vital and Health Statistics, Advance Data, No. 188, October 1, 1990.

can be said to serve as a proxy for all of the attributes of urban settings.

The data presented in this section and the research reviewed in this chapter lead one to expect that urban students would indeed have poorer education outcomes than the students in other schools. Chapter 2 examines this question using the analytical approach, data sources, and definitions described below.

Approach

In addressing the question: Are urban schools different? one might simply report the differences observed between urban and other schools. But since urban schools have higher concentrations of low income students and the relationship between such concentrations and less desirable education outcomes is well-documented (see section on previous research), the question becomes: Are urban schools different after accounting for differences in the concentration of poverty between schools in different locations? Further, if there is a relationship between an urban location and the outcomes separate from the effect of higher poverty concentration, do these two characteristics combine to produce an additional effect, or interaction, for urban schools with the highest poverty concentrations? That is, are conditions and outcomes for students in these schools compared to other schools different than predicted because of a compounding effect of an urban location and high concentrations of low income students in the school?

The basic approach, then, is to take two salient characteristics of schools—location and poverty concentration—and test their independent and joint relationship to indicators of education outcomes in chapter 2, family background and afterschool experiences in chapter 3, and school experiences in chapter 4.

The first area in which urban schools are compared with other schools is education outcomes. This analysis establishes whether there are, in fact, differences between the academic achievement, educational attainment, and economic outcomes of students who attended urban

public schools and other students. Differences in school experiences are believed to have long-term effects on the students' postsecondary and career opportunities, and their ability to maintain a livelihood. In order to capture these effects, longitudinal data are used that follow students who attended secondary school in different locations through their postsecondary and labor market experiences. The outcomes of students are compared not only while they are in school but also at several milestones thereafter. Then, the family background factors and school experiences that might be related to the different outcomes are analyzed, and reported on at the time the students were in school, which for most was during the 1980s.

In conducting the analysis for this report, four basic steps were used, each of which answers a specific question:

- 1) Are urban schools different from other schools? That is, do urban students have different outcomes and experiences than suburban or rural students?
- 2) Are schools with high poverty concentrations different from those with lower poverty concentrations? That is, do students from schools with high poverty concentrations have different outcomes and experiences than students from other schools?
- 3) Are urban schools different from other schools after taking into account the poverty concentration of the school? That is, is an urban school location related to the different outcomes and experiences of students in urban schools, above and beyond the fact that they have higher concentrations of poor students?
- 4) Are urban high poverty schools different than the combination of the effects of an urban location and a high poverty concentration would predict? That is, does the combination of an urban and high poverty setting interact so that the outcomes and experiences of students in those settings are different than predicted? And, are urban high poverty schools different from

other high poverty schools? Is high poverty concentration in an urban setting different than it is in other settings?

Analysis of variance is the primary statistical test used to answer these questions. Although hierarchical linear modeling was considered as a possible basic analytical tool because it has some technical advantages when analyzing data from two levels (student-level and school-level, in the present case), it was decided that analysis of variance was preferable for two reasons. First, results from analysis of variance are more directly linked to the research questions and can be more easily presented to a general audience. Second, even if hierarchical linear modeling had been the analysis of choice, it would have been applicable to some, but not all, of the data sets that are used in the report. It seemed preferable to use a single analytical method throughout the report.

There are four models that correspond to the four research questions stated above (see Appendix B for formulas and notation for the models). Data are presented in three figures for each indicator in the report.

- 1) Model 1 tests the overall effect of urbanicity. If the overall test is statistically significant, it tests the difference between urban and suburban schools, and between urban and rural schools. The data by urbanicity are presented in a bar graph in the first figure of each indicator.
- 2) Model 2 tests the overall effect of poverty concentration. If the overall test is statistically significant, model 2 tests the difference between students in schools with the highest poverty concentration and students in schools at the three other levels of poverty concentration. Data by poverty concentration are presented in a line graph in the second figure for each indicator.
- 3) Model 3 tests the overall effect of urbanicity, controlling for differences in poverty concentration. If the overall test is statistically significant, model 3 tests the difference between urban and

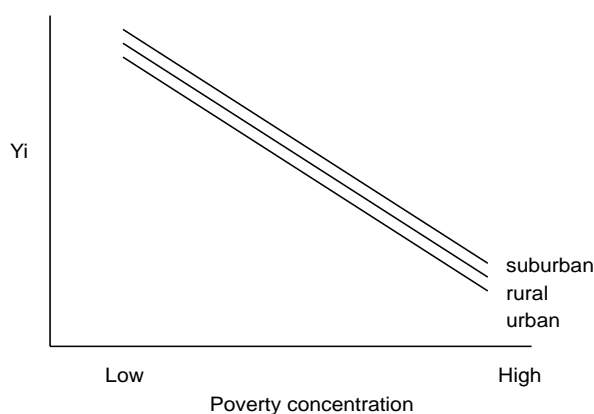
suburban students, controlling for poverty concentration, and the difference between urban and rural students, controlling for poverty concentration.

- 4) Model 4 tests the overall effect of the interaction between urbanicity and poverty concentration. If the overall test is statistically significant, model 4 tests whether the difference between urban and other schools at the highest poverty concentration is the same as the difference between urban and other schools at lower levels of poverty concentration. In addition, the difference between urban high poverty schools and other high poverty schools is tested for significance.

The data on urbanicity by poverty concentration related to models 3 and 4 are represented in the third figure of each indicator. Although there are many possible patterns for this figure, the following sample figures illustrate in simplified terms the way the data would appear if they perfectly represented the effects that this analysis tests. The reader may compare these figures with the actual data presented in the figures of the report.

Figure 1 indicates an effect of poverty concentration but no urbanicity effect when poverty concentration is held constant. That is, the differences between urban and other schools for variable Y are explained by the higher concentration of poor students in urban schools. The difference between urban and other schools with

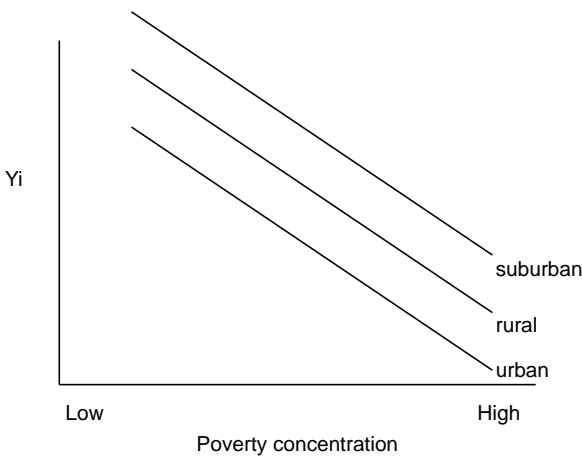
Figure 1



high poverty concentrations is the same as it is at lower poverty concentrations; therefore urban high poverty schools are no different than predicted.

Figure 2 indicates both the effects of poverty concentration and of urbanicity above and beyond the effect of poverty concentration. That is, significant differences between urban and other schools remain after accounting for the higher concentration of poverty in urban schools. The difference between urban high poverty schools and other high poverty schools is similar to the difference

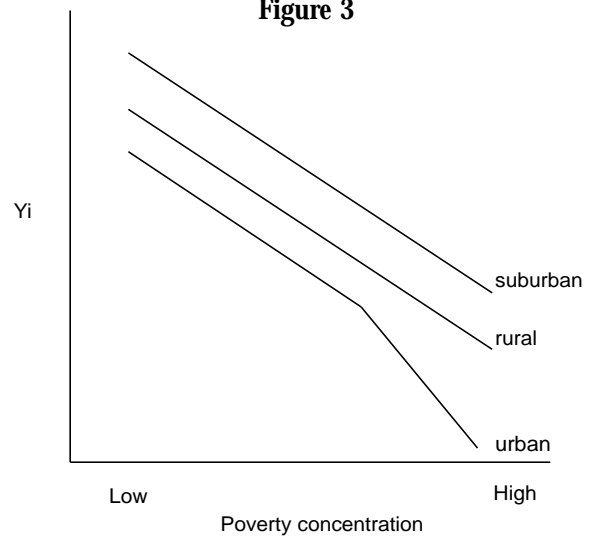
Figure 2



between urban and other schools with lower poverty concentrations; therefore, urban high poverty schools are no different than predicted.

Figure 3 displays an instance in which students in urban schools with a high poverty concentration are at particular risk for less desirable experiences or outcomes. The difference between urban and other schools is wider at higher poverty concentrations than it is at lower poverty concentrations; therefore, urban high poverty schools are different on this indicator than predicted. The combination of an urban and high poverty setting interact to produce unexpectedly high or low levels of the indicator for students in those settings. And, students in urban high poverty schools are different from students in other high poverty schools.

Figure 3

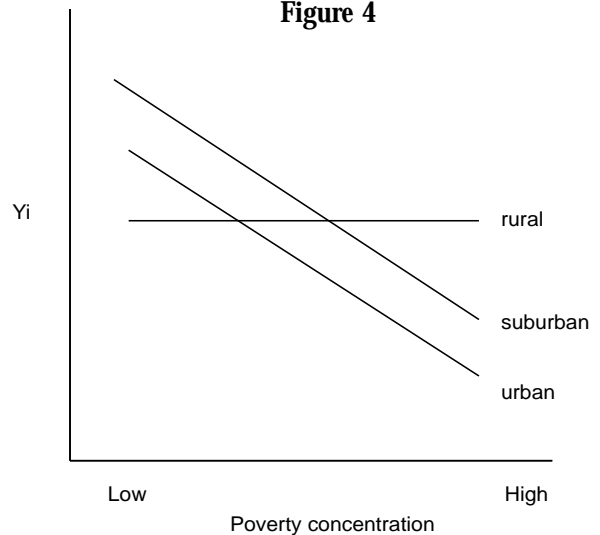


Of course, the actual data do not behave as simply as the data in figures 1, 2, and 3, and the patterns can be quite complicated.

In addition, there is another simple pattern that occurs in the data—one that is not explicitly tested by models 1 through 4. This pattern is shown in figure 4.

In this case, there is an interaction between urbanicity and poverty concentration, but not the one we were

Figure 4



explicitly looking for in model 4. In fact, what is interesting is the lack of an overall effect of poverty concentration on rural schools compared with a quite marked effect for urban and suburban schools. That is, what is of interest here is the overall effect of poverty concentration for rural schools, rather than the simple contrast between high poverty concentration and low poverty concentration schools. A model was developed to test whether the slopes of the lines relating the poverty concentration with the measure of interest in urban, suburban, and rural schools differed from one another, and for rural schools, to test whether it differs from zero.

The above discussion describes the research questions posed in this report and the methodology used to supply the answers. It is important to alert the reader to the limitations of the analysis in this report.

- This report does not control for individual student-level background. Research has often shown that effects attributed to social composition or context often diminish when controls for individual background are added. The measure of school poverty concentration (the percentage of students in the school receiving free or reduced price lunch) is intertwined with a measure of student background, since it is the aggregation of individual students' poverty status. Indicators of family background of students that are related to education outcomes are presented in chapter 3.
- The analysis in this report does not determine the relative strength of the relationship of urbanicity or school poverty concentration to the indicators; it simply tests whether differences by urbanicity remain after taking into account differences in poverty concentration. Further, the analysis does not determine how much of the difference between urban and other schools can be attributed to urbanicity or poverty concentration.
- A finding that school urbanicity or poverty concentration is related to a particular student outcome or experience does not suggest that

these school characteristics caused that outcome or experience. It only suggests that there is a statistical association between urbanicity or poverty concentration and the outcome or experience. If it is found that an urban school location matters, this suggests that the constellation of characteristics that are currently found in urban areas is related to the outcome or experience, not necessarily location itself. "Urban" in this context stands for all the characteristics of urban areas, as is the case for "suburban" and "rural." If it is found that an urban location matters even when accounting for higher urban poverty concentrations, this suggests that there are additional non-poverty attributes of urban areas that are related to the indicator.

- The analysis does not estimate causal relationships between the family background and school experiences of students and their education outcomes. However, the student background and school experiences indicators presented were considered important, both in the research literature and in initial analyses demonstrating important differences by school urbanicity and poverty concentration (see technical notes, appendix C). Further, the analysis does not determine the relative importance of family background compared with school-level factors in affecting student outcomes. Rather, the analysis is primarily descriptive of student outcomes, family background, and school experiences, and how they vary across school locations and levels of school poverty concentration.

Sources

This report describes public school students and their environments, and their educational and economic outcomes in the late 1980s to 1990. The data sources and definitions of poverty and urbanicity for each data set used in this report are described in detail in the appendices and in the introductions to each chapter. The following provides a summary.

The contextual data provided in the section of this chapter entitled “The Setting: Urban Schools and Communities” have been calculated by the authors from the U.S. Bureau of the Census’ Current Population Surveys of March and October 1980 and 1990, and November 1979 and 1989; the National Center for Education Statistics’ 1987–88 Schools and Staffing Survey (SASS), and the National Education Longitudinal Study of 1988 (NELS:88); the U.S. Department of Justice, Bureau of Justice Statistics, National Crime Victimization Survey; and the National Center for Health Statistics, Vital Statistics of the United States 1990, and the 1988 National Health Interview Survey.

The indicators of education outcomes described in chapter 2 are derived from three nationally representative data sets. Achievement data for 8th and 10th graders come from NELS:88, which assessed a sample of 8th graders in 1988 and reassessed them in 1990 when most of them were in the 10th grade. The achievement of 10th graders in 1990 is compared with those in 1980 using a comparable assessment that was part of the High School and Beyond Study (HS&B). The third follow-up survey of HS&B, which surveyed 1980 sophomores in 1986 (4 years after most would have finished high school), is the source of data on high school completion; the 1990 follow-up of the National Longitudinal Survey of Youth (NLSY), which surveyed young adults ages 25–32, is the source of data for post-secondary completion and for all the measures of economic outcomes. Thus, the student outcomes described in chapter 2 refer to data gathered from 1980 to 1990.

Chapters 3 and 4 describe the family, afterschool, and school experiences of students during the same time period. The indicators of family background and afterschool activities that are presented in chapter 3 are derived from the NELS:88 base year survey of 8th graders in 1988 and the first follow-up survey of 10th graders in 1990. The data sources for school experiences in chapter 4 are the same two NELS:88 surveys, as well as the 1987–88 Schools and Staffing Survey. High school transcript data are from the National

Assessment of Educational Progress (NAEP) High School Transcript Study of 1990.

Definitions of Urbanicity and Poverty Concentration

The definitions of urbanicity and poverty concentration vary somewhat across the sources of data. Although every effort was made to use comparable data when possible, some differences should be noted.

The categories used in this report to denote the urbanicity of a school are urban, suburban, and rural. For all surveys except SASS, these correspond to U.S. Bureau of the Census classifications of the school location. Schools classified as urban are located in central cities of Metropolitan Statistical Areas (MSAs); schools classified as suburban are located within the area surrounding a central city within the MSA; and schools classified as rural are outside of an MSA. Urban schools were located in central cities of all sizes, as defined by the Census Bureau. For the 1987–88 SASS, the school administrator was asked to assign one of ten residence categories to his or her school, and these have been collapsed into three categories for this report as follows: urban schools located in cities of 50,000 people or more; suburban schools located in the suburbs of cities of 50,000 or more; and rural schools, including rural or farming communities, towns of less than 50,000 people that are not suburbs of a larger city, and Indian reservations.

Information on school poverty concentration for each survey is obtained from school administrators in which they report the percentage of students in the school who receive free or reduced price lunch (for the NELS, SASS, and NAEP surveys), or report the percentage in the school who are classified as disadvantaged (for the HS&B and NLSY surveys). The term “disadvantaged” was more commonly used at the time students were in high school in the late 1970s and early 1980s when they were surveyed as part of the HS&B and NLSY studies, and can have several interpretations (Natriello et al. 1990; Ralph 1992). School administrators were likely to have interpreted “disadvantaged” to mean students who would be eligible for services under Chapter

1 of the Elementary Secondary Education Act—i.e., students who are economically disadvantaged as well as performing below grade level.

In the more recent surveys used in this report (NELS, SASS, and NAEP), the measure of poverty concentration that is available is the proportion of students receiving free and reduced price lunch. Unlike the concept of disadvantaged discussed above, school performance does not affect eligibility for free or reduced price lunch. Students are eligible to receive free or reduced price school lunch if their family's income is below 185 percent of the poverty guidelines issued by the U.S. Department of Health and Human Services (HHS). These HHS poverty guidelines are based on the poverty thresholds determined annually by the U.S. Bureau of the Census, which are rounded and adjusted for differences in family size. The Census Bureau poverty thresholds, first developed by Mollie Orshansky in 1964 for the Social Security Administration, are based on a multiple (about three times) of the cost of a nutritionally adequate diet for an individual's family. Poverty thresholds differ by family size, number of related children in the family under 18 years old, and by age of householder in one- and two-person households. The thresholds are adjusted annually to the Consumer Price Index (U.S. Bureau of the Census 1993).

When the proportion of students receiving free or reduced price lunch is used as a measure of poverty concentration, the estimates produced of the relationship of poverty to the indicators are conservative, since the student's family can have an income of up to 185 percent of the poverty line to qualify for free or reduced price lunch. Therefore, a portion of these students are actually living above the poverty line. A more accurate measure of poverty may have resulted in sharper differences between low and high poverty schools. Furthermore, the proportion of students who actually receive free or reduced price lunch is less than the proportion who are actually eligible, particularly in middle and high schools, because older students are often embarrassed to sign up for the program. Consequently,

the proportion of students participating in this program is often an underestimation of poverty concentration in the schools in which middle and high school students were surveyed.

As mentioned earlier in this report, schools are grouped into four levels of poverty concentration that correspond to the approximate quartiles of students receiving free or reduced price lunch in a national representative sample of public schools: 0–5 percent, 6–20 percent, 21–40 percent, and more than 40 percent. Throughout the report, the term *low poverty* refers to schools with 0–5 percent poverty concentration, and *high poverty* refers to schools with more than 40 percent poverty concentration.

The Bureau of the Census defines a poverty area in a metropolitan area as a census tract with a poverty rate of 20 percent or more. But evidence from the research literature suggests that a more accurate definition of an area with the type of poverty concentration associated with large metropolitan areas, or ghetto poverty areas, is a neighborhood in a mid- to large-sized city with a poverty rate of 40 percent or more (Ellwood 1988; Sawhill et al. 1992).

The high poverty category has a wide range, from a poverty concentration of more than 40 percent to 100 percent, and also includes a variety of settings. For instance, in the average school included in the high poverty category, 64 percent of the students receive free or reduced price lunch, while urban high poverty schools average 69 percent, suburban high poverty schools 60 percent, and rural high poverty schools 61 percent (1987–88 SASS). In other words, high poverty schools in urban areas have higher average levels of poverty than those in suburban and rural areas. To ensure that categorizing the data in this way did not exaggerate the findings on urban schools, analyses for the indicators were also performed with poverty as a continuous variable in order to confirm the results obtained using poverty concentration categories.