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An Extreme Degree of Difficulty: The Educational Demographics of Urban Neighborhood High Schools

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Despite the growth of a variety of alternatives to the neighborhood high school, most students in big-city school systems still attend large comprehensive high schools that serve a particular residential area. The authors contend that the extreme concentration of educational need at these schools is often overlooked by policymakers, school reform programs, and even district personnel. To illustrate the challenges facing neighborhood high schools, this article examines key academic characteristics of 9th-graders in Philadelphia during the 1999–2000 school year. The authors find that a large percentage of 9th graders at neighborhood high schools have been 9th graders for 2 or more years. Many of the 1st-time 9th graders either are over-age, are 2 or more years below grade level in reading and math, or had weak attendance in 8th grade. These data suggest that large and sustained investments of human and financial capital are desperately needed in the many neighborhood schools that serve primarily, and often almost exclusively, students with multiple risk factors for academic failure.

As school choice within the public sector has become more pervasive, high school students in the nation's largest cities confront an ever-widening array of schools from which they are free to choose, at least in theory (Hassell, 1999; Kane, 2000;

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Witte, 2001). Nevertheless, the majority of high school students in big-city school systems attend large neighborhood schools that serve students living within specific geographic boundaries. In Philadelphia, about 70% of all students in non-charter public high schools are enrolled in neighborhood high schools; in Chicago, the figure is 83%; and in Baltimore, an estimated 67% attend these schools (Balfanz & Legters, 2004; Consortium on Chicago School Research, personal communication, April 16, 2002; Neild, 1999).

It is noteworthy that so many urban students attend neighborhood high schools because these institutions are often characterized by chronic student absenteeism, high dropout rates, widespread course failure, and low academic achievement (Fine, 1994). The worst school dropout rates in America cluster in urban neighborhood high schools (Balfanz & Legters, 2004). Neighborhood high schools in central cities also enroll disproportionate numbers of low-income, minority, and special needs teenagers in comparison to academically selective magnet high schools within the same district (Moore & Davenport, 1990). They are more likely to be staffed by academically underprepared and inexperienced teachers and to experience higher teacher turnover (Chester, Offenberg, & Xu, 2001; Philadelphia Education Fund, 2001). Despite the comparatively greater academic and social needs of their students, neighborhood high schools typically receive substantially less funding per student than those of their surrounding suburban districts (Council of Great City Schools, 1998) and fewer Title I dollars per pupil than urban elementary schools (Alliance for Excellent Education, 2001).

Though there has been some progress in improving achievement at urban elementary schools, until recently urban high schools have been "virtually uncharted reform territory" (Hill, 2000, p. 8). Policymakers, foundation program officers, and researchers have begun to pay more attention to the performance of high schools in general and specifically to those in large cities. The Gates Foundation, the Carnegie Corporation, and the Open Society Foundation, among others, have developed initiatives in support of district-wide high school reform. Several high school reform models, such as Talent Development, are attempting to address in a comprehensive manner the complex web of issues involved in reforming high-poverty high schools (Legters, Balfanz, Jordan, & McPartland, 2002).

For these urban high school reform efforts to succeed, however, they will need to be of sufficient intensity to address the educational challenges that result from the concentration of large numbers of students with multiple risk factors for school failure in neighborhood high schools. Just as a concentration of neighborhood poverty has its own negative effects on social structure and economic opportunity (Wilson, 1987), the concentration of students with substantial educational needs in neighborhood high schools often overwhelms the capacity of the staff to respond. An understanding of the educational demographics of students—for example, their tested grade levels at the start of high school and the percentage who have ever repeated a grade, failed courses in middle school, or received special educa-

tion services—provides critical information about the type, intensity, and distribution of educational challenges faced by urban neighborhood high schools.

We contend that past and present efforts to improve urban high schools have often lacked a deep understanding of the magnitude of the challenge associated with high-poverty neighborhood high schools. The result has been school improvement efforts that (a) do not take into account the weak organizational infrastructure of urban schools (Riehl, Pallas, & Natriello, 1999), (b) introduce curricula that assume stronger academic skills than entering students actually possess, or (c) tackle comprehensive school reform without adequate human and financial resources to create and sustain change in urban schools.

In this article, we look closely at key educational demographics of the ninth-grade students who attended public neighborhood high schools in Philadelphia during the 1999–2000 school year. Two basic research questions guide our analysis:

RQ1: Which characteristics of students' educational backgrounds, discernable from district databases before students enter high school, predict academic trouble during the 1st year of high school—specifically, not earning enough credits to be promoted from ninth grade to 10th grade?

RQ2: What is the concentration of students with these characteristics at the city's public high schools?

We focus on ninth graders for two reasons. By characterizing first-time ninth graders, we highlight the substantial challenges that educators at neighborhood high schools face with each new entering class. In addition, states and school districts are increasingly likely to mandate promotion requirements for ninth graders; these may include earning credits in specific academic courses such as Algebra I and/or passing end-of-course exams (Balfanz, McPartland, & Shaw, 2002). Without serious attention to the challenges that ninth graders who attend urban neighborhood high schools bring with them, standards-based mandates are likely to contribute to a bottleneck in the early high school grades and to an increased dropout rate in central-city high schools (Orfield & Kornhaber, 2001). Further, ninth grade is a notoriously difficult year for urban students (Roderick, 1993; Roderick & Camburn, 1999). Each year in Philadelphia, for example, about 35% of the first-time freshmen in the public schools are not promoted to 10th grade. At some of the most troubled neighborhood high schools, between 45% and 50% of the first-time freshmen are not promoted (Neild, Stoner-Eby, & Furstenberg, 2001).

Our analysis uses only data from district databases to emphasize the value to school districts of maintaining and examining student data as they develop improvement strategies. For some districts, using these data may require developing a culture that appreciates and understands the data already available; for others, it

may mean starting with the basics of creating an infrastructure to support the collection and maintenance of these data sets.

We first briefly analyze the student-level characteristics that increase the probability that a ninth grader will not be promoted to 10th grade, using student record data for the entire population of ninth-grade students in Philadelphia during the 1998–1999 school year. Next, we examine the distribution across the city's high schools of students from the subsequent cohort (those who were ninth graders in 1999–2000) who have one or more of these risk factors for nonpromotion. We conclude the paper with a discussion of implications for high school educators, researchers, and district, state, and federal policymakers.

THE CONTEXT OF THE CITY'S NEIGHBORHOOD HIGH SCHOOLS

The current condition of urban neighborhood high schools is largely the outcome of broader social changes that transformed urban America in the last quarter of the 20th century. Between 1960 and 1987, the national poverty rate for those living in central cities rose from 13.4% to 15.7%, even as it fell by one-half for rural residents and by one-third for suburban residents (Peterson, 1991). By 1991, 43% of Americans with family incomes below the poverty line lived in central cities (Kasarda, 1993). In Philadelphia, the percentage of students living in a distressed neighborhood[1] rose from 6% in 1970 to 32% in 1990 (Annie E. Casey Foundation, 1990).

Urban neighborhood high schools, serving by definition a geographically limited area, felt the full force of these economic and demographic trends as their student populations became poorer and brought with them the academic, health, and social disadvantages associated with concentration of poverty (Brooks-Gunn & Duncan, 1997). Philadelphia's magnet schools, which select students on the basis of previous academic achievement and enroll about 12% of the high school population in the public system, have affected somewhat the composition of the city's 22 neighborhood high schools, particularly in areas with fewer low-income students. In the poorest neighborhoods, however, there are few students whose educational experiences enable them to meet the criteria for admission to magnet schools (Neild, 2004). If students in these neighborhoods enroll in a school other than their local high school, they are more likely to attend one of the city's four vo-

[1]The KIDS Count Data Book, published by the Annie E. Casey Foundation, defines a distressed neighborhood as one that has all of the following characteristics: a high poverty rate (above 24.7%), a high percentage of female-headed families (above 36.8%), a high percentage of males unattached to the labor force (above 45.4%), and a high percentage of families receiving public assistance (above 17.6%). These figures represent one standard deviation above the mean for all census tracts.

cational/technical schools or a neighborhood high school in another part of the city.

Philadelphia is broadly representative of the large urban school districts that contain the majority of the nation's most troubled high schools (Balfanz & Legters, 2004). With just under 200,000 students, the district is ninth largest in the United States. The large proportions of poor and minority students in Philadelphia, the predominance of large neighborhood high schools in the city, and the high course failure and dropout rates at neighborhood high schools parallel those of other large-city school districts, including New York, Chicago, Detroit, Houston, Milwaukee, Washington, DC, and Baltimore. Currently, more than three-quarters of the students in the Philadelphia public schools come from low-income families. About 65% of the students are African American, 15% are Latino, 5% are Asian, and 16% are White. Many of the neighborhood high schools are racially segregated and overwhelmingly poor.

DATA AND METHODS

Our analysis draws on individual-level student record data from the school district for 12,802 first-time freshmen (that is, students who had been eighth graders the previous year) attending Philadelphia public schools during the 1998–1999 school year and 23,423 ninth graders (first-time or repeating) during the 1999–2000 school year.

Our first analysis, using data for the 1998–1999 first-time freshmen, identifies the predictors of nonpromotion to 10th grade.[2] We examine the impact on ninth-grade nonpromotion of factors discernable from district data when students enter high school, and as a result, we include only those students who attended Philadelphia public schools for eighth and ninth grade. In so doing, we capture the characteristics of most of the first-time freshmen, because just 10% of all ninth graders were new to the district during that year. To identify the predictors of nonpromotion, we use logistic regression with the Huber/White estimator of variance, which adjusts for the nonindependence of observations that results from students being clustered by school (White, 1982). Because some observations were excluded due to missing variables, we treat our data set as a sample from a larger population and use standard inferential statistical methods.

[2]We use the 1998–1999 cohort to establish the predictors of nonpromotion to 10th grade because (a) our most complete data on nonpromotion are from that cohort and (b) there were no major initiatives or changes in the district from 1998–1999 to 1999–2000 that would lead us to believe that the predictors had changed in important ways.

Our second set of analyses uses descriptive data from the subsequent freshman cohort (1999–2000) to examine how students with one or more risk factors for nonpromotion were distributed across neighborhood high schools.

Variables

Predictors of nonpromotion among 1998–1999 first-time freshmen. For this analysis, we excluded 7% of the observations from our initial data set of 14,131 students, either because the students had left during the middle of the ninth-grade year (making it impossible to determine promotion status) or had stayed through the year with an unclear promotion status. A multiple imputation technique (MVIS in Stata) was used to impute values for missing observations in age, test scores, the number of courses failed in eighth grade, eighth-grade attendance, and the number of credits attempted in ninth grade. Table 1 shows the mean, standard deviation (where appropriate), and percentage of cases imputed for each variable in the regression. The final data set includes 12,802 students who were first-time freshmen in 1998–1999.

Nonpromotion to ninth grade. For the analysis of risk factors for nonpromotion among first-time 1998–1999 ninth graders, we created a dummy vari-

TABLE 1
Description of Variables Used in Table 2

	Range	*M*	*SD*	*% Imputed*
Demographic Characteristics				
African American	0–1	.64	n/a	0
Asian	0–1	.05	n/a	0
Latino	0–1	.11	n/a	0
White	0–1	.20	n/a	0
Female	0–1	.50	n/a	0
Age 15 or older at the start of school year	0–1	.20	n/a	3.5
8th grade academic characteristics				
Number of courses failed, 8th grade	0–6	.44	1.06	9.6
Percent of days attended, 8th grade	0–100	87.5	13.6	.59
Math equivalent is 7th grade	0–1	.17	n/a	7.6
Math equivalent is 8th grade	0–1	.09	n/a	7.6
Math equivalent is 9th grade	0–1	.28	n/a	7.6
Reading equivalent is 7th grade	0–1	.15	n/a	5.7
Reading equivalent is 8th grade	0–1	.12	n/a	5.7
Reading equivalent is 9th grade	0–1	.31	n/a	5.7
9th grade academic characteristics				
Received special education in 9th grade	0–1	.11	n/a	0
Number of course credits attempted in 9th grade	.25–14.25	6.67	1.53	5.9

able that takes the value of 1 if the student was *not promoted* at the end of the year. To determine promotion status, we examined the grade level for students during the 1998–1999 and 1999–2000 school years; those who were classified as ninth graders during both years were coded as not promoted. For those students who had missing grade levels in the 1999–2000 file (for example, because they dropped out over the summer), we examined the number and type of credits they earned during the 1998–1999 year to determine whether they would have been promoted had they remained in school. If we could not determine their promotion status from credit records, they were excluded from the analysis.

Demographic factors. Student race, gender, and date of birth were obtained from school district records. We created a "dummy variable" that takes the value of 1 if a student is over-age for ninth grade—that is, 15 years or older at the start of the freshman year.

Course failure in eighth grade. To determine whether ninth graders had a history of course failure in middle school, we used the student report card file to create a variable for the number of courses failed in eighth grade. With very few exceptions, students took the same number of courses during eighth grade, so we left the variable as number of courses failed, rather than percentage failed, to aid interpretability of the regression coefficient.

Scores on eighth-grade standardized tests. Reading and math scale scores on the eighth-grade Stanford Achievement Test, 9th edition (SAT-9) were taken from school district records. To model possible nonlinearity of effects, we created four dummy variables for math score and four for reading score corresponding to: (a) scoring at the sixth-grade equivalent or below; (b) scoring at the seventh-grade equivalent; (c) scoring at the eighth-grade equivalent; and (d) scoring at the ninth-grade equivalent or higher.

Eighth-grade attendance rate. To create this variable, we took the total number of days the student attended and divided it by the total number of days he or she was enrolled in the district.

Other variables. Special education status (other than "Mentally Gifted") was obtained from school district records. We also calculated the number of credits attempted in ninth grade, because that could have an impact on credit accumulation and promotion.

Distribution of Risk Factors for Nonpromotion

For this second analysis, we used data from 14,121 first-time freshmen and 9,302 repeating freshmen during the 1999–2000 school year. We examine how four key characteristics of ninth graders—repeater status, and, for first-time freshmen, age, scores on eighth-grade standardized tests, and eighth-grade attendance—distribute across the city's high schools. Missing observations were imputed using a multiple imputation technique: 4.2% of the observations for age, 7.3% of the reading scores, 9% of the math scores, and 1.2% of the observations for eighth-grade attendance were imputed using each of these variables plus scores on the SAT-9 subtests and the number of courses failed in eighth grade as predictors.

RISK FACTORS FOR NONPROMOTION

The regression analysis in Table 2, which includes only students who were first-time freshmen in 1998–1999, indicates a number of factors that increase the

TABLE 2
Predictors of Ninth-Grade Nonpromotion Using Logistic Regression With Robust Standard Errors

	b	*se*	*exp(B)*
Demographic characteristics			
White	–.05	.12	.96
Asian	–.24	.15	.78
Latino	.13	.18	1.14
Native American	–.50	.47	.60
Female	–.26***	.06	.77***
Age at start of school year	.24***	.06	1.27**
8th-grade academic characteristics			
Math grade equivalent is 7th grade	–.32***	.07	.73***
Math grade equivalent is 8th grade	–.52***	.08	.59***
Math grade equivalent is 9th grade or above	–.89***	.09	.42***
Reading grade equivalent is 7th grade	–.14	.08	.87
Reading grade equivalent is 8th grade	–.29**	.09	.75**
Reading grade equivalent is 9th grade or above	–.63***	.09	.53***
Number of courses failed in 8th grade	.15***	.03	1.16***
Percent of days attended in 8th grade	–.05***	.004	.96***
9th-grade academic characteristics			
Received special education in 9th grade	–.21	.11	.81
Number of course credits attempted in 9th grade	–.25***	.04	.78***
Constant	5.44***	.48	
Observations	12,802		
Pseudo R^2	.18		

*$p < .05$; **$p < .01$; ***$p < .001$.

risk of spending a 2nd year as a ninth grader. Coefficients and odds ratios are reported in the results.

There are no statistically significant differences in the odds of nonpromotion between African American students (the reference category) and Whites, Asians, Latinos, or Native Americans. However, females are less likely than males to be in ninth grade for a 2nd year.

Notably, students who are over-age—that is, 15 years old or older when they enter high school— are at greater risk of nonpromotion, even controlling for previous academic achievement and attendance. The odds of nonpromotion are 27% greater for students who are 15 or older than they are for younger students.

Higher-achieving students are considerably less likely to experience nonpromotion in ninth grade. In comparison to students who score at the sixth-grade level or below in mathematics, those who score at the seventh-grade level have odds that are lower by almost a quarter; those at the eighth-grade level have odds of nonpromotion that are lower by 42% in comparison to students at the sixth-grade level or below; and those at the ninth-grade level or above have odds that are lower by almost 60%. A similar phenomenon can be seen with reading scores: Students at the eighth- or ninth-grade levels have decreased odds of nonpromotion in comparison to those at the sixth-grade level or below. However, there is no statistically significant difference between those with seventh-grade reading levels and those who are at sixth grade or below. Notably, math and reading skills have an independent impact on the odds of being promoted.

In addition to standardized test scores, eighth-grade academic characteristics of students also predict nonpromotion. Each additional course failed in eighth grade increases the odds of nonpromotion in ninth grade by 16%, and each one percentage-point increase in the eighth-grade attendance rate decreases the odds of nonpromotion by 4%. The effect for receiving special education services approaches statistical significance ($p = .054$). Even when other academic factors are controlled, special education students have lower odds of nonpromotion. We can only speculate on the reasons for the apparently salutary effect of special education. It may be the case that the difference in academic demands between eighth and ninth grade are not as dramatic for special education students as they are for other students. Perhaps there is a positive effect of small, self-contained classes that operates through students coming to know their teachers well and feeling a greater sense of connectedness to school.

Eighth-grade attendance is a powerful predictor of nonpromotion in ninth grade. Each additional percentage point increase in attendance decreases the odds of repeating ninth grade by 5%. Finally, and not surprisingly, the higher the number of credits a student attempted in ninth grade—essentially, the more classes one took—the lower the odds of not being promoted to 10th grade.

THE DISTRIBUTION OF NINTH GRADERS AT RISK OF NONPROMOTION

Ninth graders with one or more risk factors for nonpromotion are distributed unevenly across the district's high schools. The city's magnet schools, which choose their entering classes on the basis of previous achievement, serve relatively low proportions of students who are at risk for ninth-grade failure. In contrast, freshmen who are over-age, have weak academic skills, have poor eighth-grade attendance, or experience some combination of these characteristics are typically found in neighborhood high schools. Ninth graders with the greatest educational challenges are not simply concentrated in neighborhood high schools; rather, they predominate, often to an astonishing degree.

First-Time Freshmen: Academic Skill Levels

During the 1999–2000 school year, just 44% of the district's first-time ninth graders performed at the seventh-grade level or higher in reading comprehension and mathematics on the SAT-9 given at the end of eighth grade. As demonstrated by the data in Table 2, students who are at the seventh-grade level or above in math or reading have significantly improved odds of being promoted to 10th grade, in comparison to those with lower scores. Among Philadelphia's 1998–1999 first-time freshmen, the nonpromotion rate for students who scored at the seventh-grade level or above on math and reading was 18%, in comparison to 43% among their classmates who scored below that level.

Figure 1 provides more detail on the distribution of mathematics and reading comprehension scores on the eighth-grade SAT-9 test for first-time freshmen attending neighborhood high schools. In reading comprehension, barely a quarter of the incoming freshman class tested at or above grade level (8.7) during eighth grade, and only about 20% were at or above grade level in mathematics. In mathematics, another 26% scored at the upper elementary level (7–8.6), while the largest proportion of students scored at the fifth- and sixth-grade levels.

The reading comprehension levels for students at neighborhood high schools are distributed much more evenly than for mathematics. Although there were more students reading at lower than a fifth-grade level than doing mathematics at that level, there were also more students reading above grade level than doing math above grade level. Nevertheless, almost half of the first-time freshmen had reading comprehension levels at the sixth-grade level or below.

The intense concentration of students with weak academic skills in neighborhood high schools is shown in Figure 2, which depicts the percentage of 1999–2000 first-time freshmen who scored at least at the seventh-grade level in math and reading on the SAT-9. Each school is represented by a column, and the city's magnet, vocational, and neighborhood high schools are included for comparison. Stu-

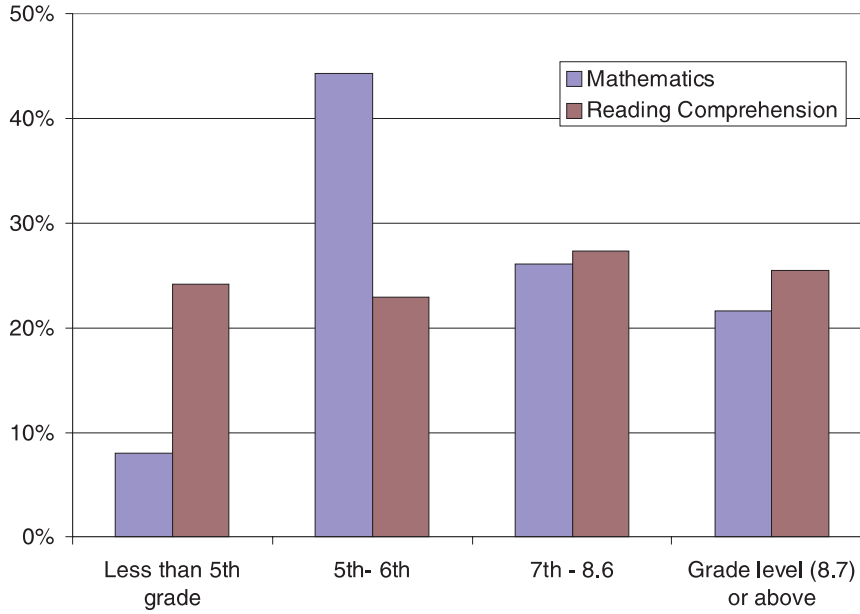

FIGURE 1 Eighth-grade mathematics and reading comprehension grade equivalents (SAT-9): First-time freshmen in neighborhood high schools, 1999 to 2000. *Note.* $n = 14{,}121$.

dents who are in disciplinary schools or schools with other grade configurations—such as a K–12 school— are not included (hence, the smaller *n* in comparison to Figure 1). Magnet schools are represented by darker columns and vocational schools by slashed columns.

Only magnet schools had 80% or more of their first-time freshmen reading and doing math at a seventh-grade minimum. In contrast, the majority of Philadelphia's neighborhood high schools had entering freshman classes in which less than 40% of the students did as well on the eighth-grade reading comprehension and math sections of the SAT-9 as the average seventh grader nationally. Only three of the neighborhood high schools had incoming freshman classes where at least half of the students had grade equivalents at the seventh-grade level or above on math and reading.

In an era of higher standards for promotion and graduation, educators and policymakers need to have a deep understanding of the concentration of students with relatively weak academic skills in neighborhood high schools. If appropriate curricula and supports for students are not included in a reform strategy at these schools, increased standards—particularly in terms of mandated college preparatory courses—will likely result in massive student course failure or else a thwarting of the spirit of the standards movement through dilution of course content. In

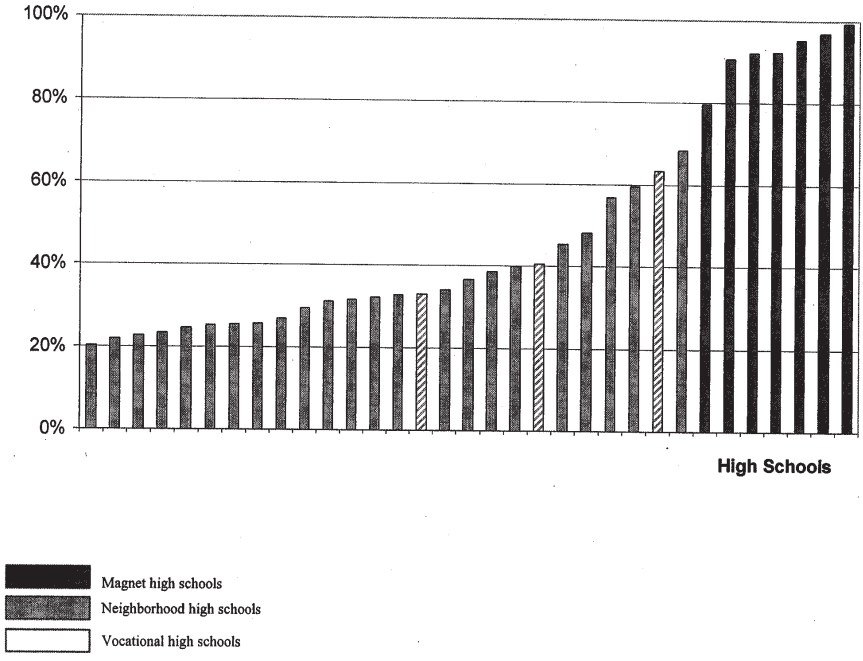

FIGURE 2 Percentage of first-time freshmen with mathematics and reading comprehension scores at or above the seventh-grade level by high school, 1999 to 2000. *Note.* n = 12,891.

mathematics, for example, ninth graders are increasingly placed in introductory algebra classes during the freshman year, despite skill gaps in fundamental arithmetic. These students typically have mastered computation with whole numbers but have difficulty conceptually and computationally with fractions, decimals, and percents. Yet they encounter Algebra 1 textbooks that typically treat these as topics to be reviewed while developing new skills in algebra (Balfanz, McPartland, & Shaw, 2002). The organization of the curriculum often does not make space for students to take courses that would allow them to make "catch up" gains, nor are there many curriculum materials that specifically target the spotty skills of urban ninth graders. The sheer number of students with skill gaps means that any extra attention that teachers can give students having trouble with the ninth-grade curriculum is necessarily diluted among the many who need assistance.

Likewise, students with weak reading comprehension levels have difficulty in a wide spectrum of classes, where they struggle to comprehend high school texts. These students are less likely to be able to relate material to previous knowledge, examine how subtitles and captions structure a passage, or use context clues to understand unfamiliar vocabulary (Balfanz, McPartland, & Shaw, 2002). Their sec-

ondary-certified English teachers are generally unprepared to diagnose specific problems that students encounter with reading or to teach reading comprehension strategies, having been educated instead to teach high school-level literature and composition. Further, students' social studies and science teachers generally are unfamiliar with techniques to help poor readers draw meaning from text.

First Time Freshmen: Age at Entrance to High School

On average, first-time freshmen in Philadelphia's neighborhood high schools were 14.5 years old when they began ninth grade in the 1999–2000 school year. However, 20% of the first-time freshmen at these schools had already turned 15 by the time school opened in September. At many of the neighborhood high schools, fully one-quarter of the first-time freshmen were 15 years old or older at the start of ninth grade. At one school, 33% of the first-time freshmen were at least 15 years old.

These students are usually over-age for grade because they have experienced academic difficulty and been retained in grade at some other point in their schooling. However, as demonstrated in Table 2, age is not simply a proxy for weaker academic skills but has an independent effect on the odds of nonpromotion. Controlling for academic characteristics, older students are more likely to be not promoted at the end of ninth grade. Among the 1998–1999 first-time freshmen, students who were 14 years old and younger at the start of the school year were not promoted at a rate of 29%, a stark contrast to the 47% nonpromotion rate for those who are 15 years old and older.

If the 15-year-old freshmen were to graduate in 4 years, many of them would already be 19 years old by the time they received their diplomas. If they were to follow a pattern typical of many neighborhood high school students and take 5 years to graduate, a large number would be 20 years old by the end of their senior year. By that point, most of their same-age peers nationally would already have finished a few semesters of college or been in the workplace for several years.

First Time Freshmen: Eighth-Grade Attendance

On average, freshmen who entered neighborhood high schools in 1999 –2000 had attended school 86% of the time during eighth grade. Just over half of the students had attended at least 90% of the days they were enrolled. But a substantial minority of the students had extremely spotty attendance. Almost 20% of the students attended at least half the time but less than 80% of the time, meaning that they had missed at least 36 days of school. An additional 3% attended less than half the time in eighth grade. Almost one-quarter of all of the first-time freshmen at neighborhood high schools had missed more than 7 weeks of instruction during the previous year.

On average, freshmen with poor attendance in eighth grade also had weaker academic skills as measured by the SAT-9. For example, the mean reading compre-

hension grade equivalent for those with less than 50% attendance was 5.5, compared to 7.5 for those who came to school at least 90% of the time. Their average age was also higher than the more consistent attendees: Those with less than 50% attendance were about half a year older than those who had 90% attendance.

These data highlight the multiple risk factors for nonpromotion that characterize a segment of the first-time freshmen at neighborhood high schools, underscoring the challenges that neighborhood schools face in meeting the needs of numerous students who have weak academic skills, are over-age, and have a history of inconsistent school attendance. At the same time, the direct effect of poor attendance on nonpromotion (net of other academic characteristics) shown in Table 2 suggests that neighborhood high schools need to pay attention to the subgroup of students with weak attendance in the middle grades, regardless of whether they scored well on tests or passed all their classes in eighth grade.

Ninth-Grade Repeaters

During the 1999–2000 school year, first-time freshmen made up just 60% of the ninth graders in Philadelphia's public high schools. The rest of the ninth graders had been in high school the year before but had not been promoted to 10th grade. Not only do ninth-grade repeaters form a large part of the urban neighborhood high school population, but they also are at elevated risk for nonpromotion. The nonpromotion rate for students repeating ninth grade in 1998–1999 was 69%, almost twice as high as the 35% of first-time freshmen who were not promoted.

The percentage of 1999–2000 ninth graders who were first-time freshmen varied considerably from school to school. At most of the magnet high schools, only a handful of ninth graders were repeaters: Between 90% and 100% of the ninth graders at most of the magnet schools were first-time freshmen. Repeaters made up only a small percentage of the freshman class at magnet schools because magnet students are less likely to earn few credits in the first place and, when they do fail courses, they can be returned to their neighborhood high schools the next year. Vocational schools had larger percentages of ninth-grade repeaters than magnet schools, but no neighborhood high school had a smaller percentage of repeaters than any vocational school. At most neighborhood schools, which do not have the option to shift repeating ninth graders to another institution, first-time freshmen formed just a bare majority of the ninth-grade class. At several schools, first-time freshmen students comprised less than 50% of the ninth graders.

Some of the students who were spending a 2nd year as ninth graders in 1999–2000 barely missed promotion, failing one key required course. But our analysis of credits earned indicates that for most of the repeaters, their previous year in ninth grade was an unmitigated academic disaster. During their 1st year in ninth grade (1998–1999), more than 60% of the repeaters accumulated no more than three credits in a district where most freshmen carried a course load of six credits or

more. More than a third of the repeaters earned a maximum of one credit, meaning that they essentially lost an entire year of high school. Consequently, at the start of the 1999–2000 school year most ninth-grade repeaters had earned very few high school credits.

At the beginning of the 1999–2000 school year, the average ninth-grade repeater in the district was already 16 years old, within sight of the legal school-leaving age of 17. Because most repeaters have relatively few credits, it would probably take them at least 4 more years to earn their high school diploma, even under the most optimistic scenario. If all of the repeaters had graduated in June 2003, 4 years after they had begun ninth grade for the second (or third) time, about 60% would have been 19 or 20 years old at graduation, well past the age of the typical high school senior. Almost one-quarter would have been at least 21 years old when they earned their diplomas.

Academic outcomes for most repeaters do not significantly improve during their additional year in ninth grade. Students repeating ninth grade in 1999–2000 who did not drop out of school passed on average only about 50% of their classes during that year, and those who had earned three or fewer credits during the previous school year fared even worse, passing 40% of the courses in which they were enrolled. In comparison, first-time freshmen during 1999–2000 passed, on average, 75% of their classes.

It is important to keep in mind that the sheer number of ninth grade repeaters in Philadelphia's public schools—and by extension, in other large city school districts— is quite large. Approximately 4,500 of Philadelphia's ninth-grade repeaters—enough to fill three medium-size high schools—had earned no more than three credits during the previous school year, making them prime candidates for taking at least an additional 4 years to graduate.

The Extreme Concentration of Educational Need at Neighborhood High Schools

When some of the factors associated with ninth-grade failure—having already repeated ninth grade, being older at the start of ninth grade, and having weaker academic skills—are aggregated at the school level, the magnitude of the challenge facing educators at urban neighborhood high schools becomes painfully clear. At most of the neighborhood high schools, the proportion of freshmen without any risk factors for nonpromotion is extremely low.

Figure 3 presents this challenge graphically for each of the neighborhood, magnet, and vocational high schools (students who attended disciplinary schools or those whose school could not be determined are not represented in this table). All of the students who were first-time freshmen or repeating ninth graders during the 1999–2000 school year are represented in the graph. Students who were new to the district are not included in this graph because we have no information on their re-

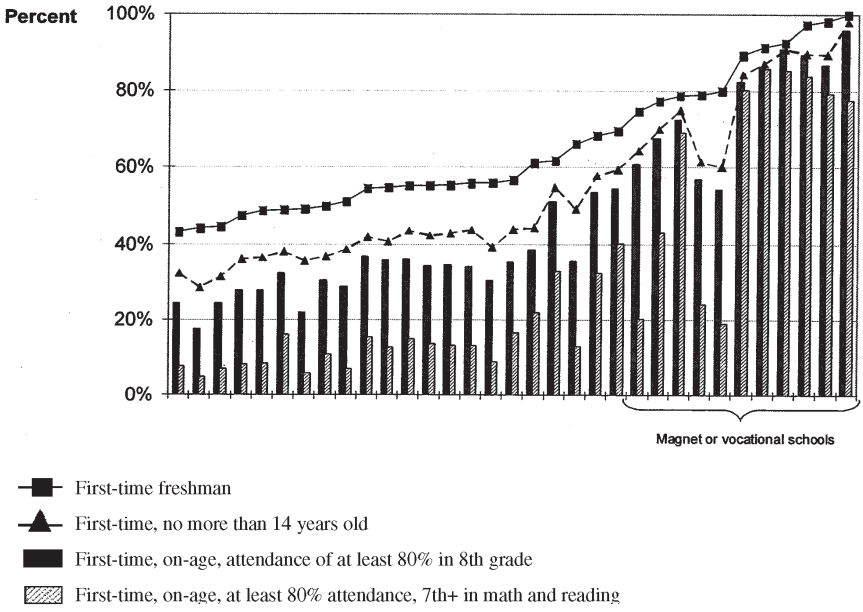

FIGURE 3 Percentages of freshmen with various characteristics by high school, 1999–2000.
Note. $n = 21{,}876$.

peater status or academic skill level. Data for each individual school can be connected with a vertical line. The top horizontal line represents the proportion of students who were first-time freshmen. The second horizontal line indicates the proportion who were first-time freshmen and on-age (that is, no more than 14 years old). The first (black) column for each school indicates the percentage of students who were first-time freshmen, on-age, and had attendance of at least 80% in eighth grade (a low bar for "good" attendance, we argue). The second (slashed) column for each school indicates those who were first-time ninth graders, on-age, had at least 80% attendance in eighth grade, and were at least at the seventh-grade level in math and reading. Had we plotted the percentage of students who were all of the above plus at least on grade level in math and reading, the percentage of these students at most of the neighborhood high schools would be so minuscule as to be barely visible on a graph.

In the magnet schools, students at low risk for ninth-grade academic trouble clearly predominated. In contrast, the majority of the 22 neighborhood high schools had ninth-grade classes in which less than 20% of the ninth graders were first-time freshmen, on-age, and no more than 2 years below grade level in reading and math. At neighborhood high schools with the highest proportions of at-risk

students, only about 10% of the ninth graders were in this relatively lower risk category. Ninth graders who were first-timers, on-age, and no more than 2 years behind grade level in math and reading were represented a small minority at most of the neighborhood high schools.

CONCLUSION

In the past decade, efforts to improve the high school experience for students in big-city school systems have centered on creating alternatives to large neighborhood high schools. Despite the growth of alternatives, the majority of students in large cities conclude their public schooling in large neighborhood high schools, many of which are characterized by dismal academic outcomes. Further, it is very likely that neighborhood high schools will dominate the educational landscape in central cities in the near and medium term. The relatively short reach of small-schools projects suggests that it remains imperative to transform the educational experiences of students who will continue to attend high-poverty neighborhood high schools.

An essential step in transforming that experience is developing a deep understanding of (a) the kinds of academic challenges that students bring with them when they enter high school, (b) how those challenges are concentrated within particular schools, and (c) the level of resources needed for schools that have large proportions of students with one or more characteristics placing them at risk for course failure and high school dropout. In our experience, many high schools, districts, state policymakers, education researchers, and school reform programs have lacked specific knowledge of the scale of need at neighborhood high schools. Without an understanding of the nature of this need, reform proposals are very likely to be insufficient or off target. An example of an insufficient reform would be one that mandates that all ninth graders must pass Algebra I to be promoted to 10th grade but provides no ideas or additional resources for teaching algebra to students who entered with math skills at the fifth- or sixth-grade level. The result of such mandates is likely to be either math classes that are algebra in name only or frustrated teachers and high percentages of students who have failed a required class.

A major reason for the misconceptions about what it takes to improve neighborhood high schools is that a wide range of data at the individual school level is not readily available to policymakers, researchers, or even the principals and teachers who work in these schools. Most of the published federal data on schools use the school district as the lowest level of aggregation. School-level data are available in a report card form in most states, but these reports typically include just a few key accountability measures rather than a detailed analysis of the characteristics of students attending each school. Moreover, urban school districts often lack the infra-

structure to provide their high schools with detailed data on student composition and educational progress on a timely basis. As a result, critical data about the educational demographics of the student population in neighborhood schools—for example, the number of students who have spent 2 or more years in ninth grade, the average reading or mathematics level of entering freshmen, or the number of students who are over-age for their grade—are often only guessed at.

Getting to know the students is a task that must be carried out by each individual high school and district. Although the overwhelming message from this analysis of Philadelphia's neighborhood high schools is one of immense need, there is variation within this group of schools. Some schools have historically had very large percentages of ninth-grade repeaters, some serve students with extremely low skills, and others have students who are not as far behind the national average. A few high schools have large percentages of entering freshmen who have been failing courses for years and would not have been promoted except for a district policy that permits retaining students only once prior to high school. Each of these types of students will require a different strategy to help them succeed in ninth grade, and high schools will need to tailor their strategies to the different groups of students they serve.

Finally, policymakers and researchers need to pay more attention to educational demographics at the school level to understand and then advocate for the level of educational and financial resources necessary to turn around neighborhood high schools. The data that we have presented show that there are numerous high schools in Philadelphia—and by extension, in large cities across the country—where almost every student has one or more risk factor for course failure, nonpromotion, and dropping out. Yet, as a group, these neighborhood high schools receive no special federal resources over and above limited Title I dollars to face educational challenges of almost staggering proportions. To provide all students with the schooling they will require to succeed, large and sustained investments of human and financial capital must be made in schools that serve primarily, and often almost exclusively, students with multiple risk factors for failure. Identifying these schools and detailing the scale and scope of their needs is just the first step in the long-overdue task of improving the educational experience of the vast majority of urban high school students.

REFERENCES

Alliance for Excellent Education. (2001). *Investing in excellence: Making Title I work for all children*. Washington, DC: Alliance for Excellent Education.

Annie E. Casey Foundation. (1990). *City KIDS COUNT: Data on the well-being of children in large cities*. Baltimore, MD: Author.

Balfanz, R., & Legters, N. (2004). *Locating the dropout crisis*. Baltimore, MD: Center for Research on the Education of Students Placed At Risk, Center for Social Organization of Schools, Johns Hopkins University.

Balfanz, R., McPartland, J., & Shaw, A. (2002). *Re-conceptualizing extra help for high school students in a high standards era*. Paper presented at the Preparing For America's Future High School Symposium, Office of Adult and Vocational Education, U.S. Department of Education, Washington, D.C.

Brooks-Gunn, J., & Duncan, G. (1997). The effects of poverty on children. *The Future of Children, 7*, 55–71.

Chester, M., Offenberg, R., & Xu, M. (2001, April). *Urban teacher transfer: A four year cohort study of the school district of Philadelphia faculty.* Paper presented at the meetings of the American Educational Research Association, Seattle, WA.

Council of Great City Schools. (1998). *Adequate state financing of urban schools: Part I, An analysis of funding to the Philadelphia public schools*. Washington, DC: Author.

Fine, M. (1994). Chartering urban school reform. In M. Fine (Ed.), *Chartering urban school reform* (pp. 5–30). New York: Teachers College Press.

Hassell, B. (1999). *The charter school challenge*. Washington, DC: Brookings.

Hill, P. (2000). *It takes a city: Getting serious about urban school reform*. Washington, DC: Brookings.

Kane, P. R. (2000). The difference between charter schools and charterlike schools. In D. Ravitch & J. Viteritti (Eds.), *City schools: Lessons from New York* (pp. 65–88). Baltimore, MD: Johns Hopkins University Press.

Kasarda, J. (1993). Cities as places where people live and work: Urban change and neighborhood distress. In H. Cisneros (Ed.), *Interwoven destinies: Cities and the nation* (pp. 81–124). New York: W.W. Norton.

Legters, K., Balfanz, R., Jordan, W., & McPartland, J. (2002). *Comprehensive reform for urban high schools: A talent development approach*. New York: Teachers College Press.

Moore, D., & Davenport, S. (1990). School choice: The new improved sorting machine. In W. Boyd & H. Walberg (Eds.), *Choice in education: Potential and problems* (pp. 187–223). Berkeley, CA: McCutchan Press.

Neild, R. (1999). Same difference: School choice and educational access in an urban district. (Doctoral dissertation, University of Pennsylvania). *Dissertation Abstracts International, 60,* 2441.

Neild, R. (2004). The effects of magnet schools on neighborhood high schools: An examination of achievement among entering freshmen. *Journal of Education for Students Placed At Risk, 9,* 1–21.

Neild, R. C., Stoner-Eby, S., & Furstenberg, F. (2001, January). *Connecting entrance and departure: The ninth grade transition and high school dropout*. Paper presented at the Dropouts in America conference, Harvard University.

Orfield, G., & Kornhaber, M. L. (Eds.). (2001). *Raising standards or raising barriers?: Inequality and high-stakes testing in public education.* New York: Century Foundation Press.

Peterson, P. (1991). The urban underclass and the poverty paradox. In C. Jencks & P. Peterson (Eds.), *The urban underclass* (pp. 3–27). Washington, DC: Brookings.

Philadelphia Education Fund. (2001). *Teacher staffing in the school district of Philadelphia: A report to the community.* Philadelphia: The Philadelphia Education Fund.

Riehl, C., Pallas, A., & Natriello, G. (1999). Rites and wrongs: Institutional explanations for the student course-scheduling process in urban high schools. *American Journal of Education, 107,* 116–154.

Roderick, M. (1993). *The path to dropping out: Evidence for intervention.* Westport, CT: Auburn House.

Roderick, M., & Camburn, E. (1999). Risk and recovery from course failure in the early years of high school. *American Educational Research Journal, 36,* 303–343.

White, H. (1982). Maximum likelihood estimation of misspecified models. *Econometrica, 50,* 1–25.

Wilson, W. J. (1987). *The truly disadvantaged*. Chicago: University of Chicago Press.

Witte, J. (2001). *The market approach to education: An analysis of America's first voucher program*. Princeton, NJ: Princeton University Press.