

# **LOCATING THE DROPOUT CRISIS**

**Which High Schools Produce the Nation's Dropouts?**

**Where Are They Located?**

**Who Attends Them?**

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## THE CENTER

Every child has the capacity to succeed in school and in life. Yet far too many children fail to meet their potential. Many students, especially those from poor and minority families, are placed at risk by school practices that sort some students into high-quality programs and other students into low-quality education. CRESPAR believes that schools must replace the “sorting paradigm” with a “talent development” model that sets high expectations for all students, and ensures that all students receive a rich and demanding curriculum with appropriate assistance and support.

The mission of the Center for Research on the Education of Students Placed At Risk (CRESPAR) is to conduct the research, development, evaluation, and dissemination needed to transform schooling for students placed at risk. The work of the Center is guided by three central themes—ensuring the success of all students at key development points, building on students’ personal and cultural assets, and scaling up effective programs—and conducted through research and development programs in the areas of early and elementary studies; middle and high school studies; school, family, and community partnerships; and systemic supports for school reform, as well as a program of institutional activities.

CRESPAR is organized as a partnership of Johns Hopkins University and Howard University, and is one of twelve national research and development centers supported by a grant (R117-D40005) from the Institute of Education Sciences (IES, formerly OERI) at the U.S. Department of Education. The centers examine a wide range of specific topics in education including early childhood development and education, student learning and achievement, cultural and linguistic diversity, English language learners, reading and literacy, gifted and talented students, improving low achieving schools, innovation in school reform, and state and local education policy. The overall objective of these centers is to conduct education research that will inform policy makers and practitioners about educational practices and outcomes that contribute to successful school performance.



## EXECUTIVE SUMMARY

Imagine a nation in which all students, from Benton Harbor to Watts, from Akron to Baltimore, from Chicago's South side to rural South Carolina, routinely graduate from high school ready and prepared to succeed in college or advanced post-secondary training. Imagine the social and economic implications of being able to say to any child, in any locale in the United States, "you will be provided with a high school that will educate you, challenge you, care for you, support you, and graduate you ready to compete and succeed in the world."

Fifty years after *Brown vs. the Board of Education*, the image of public high schools providing all youth with equal opportunity to receive a high quality education remains inspiring and compelling. Current reality, however, offers a much more troubled picture. In each of the locations listed above, half or more of high school students do not graduate, let alone leave high school prepared to fully participate in civic life. It is no coincidence that these locales are gripped by high rates of unemployment, crime, ill health, and chronic despair. For many in these and other areas, the only real and lasting pipeline out of poverty in modern America, a solid high school education followed by post secondary schooling or training, is cracked and broken.

Consider the central findings of this study:

- Nearly half of our nation's African American students, nearly 40% of Latino students, and only 11% of white students attend high schools in which graduation is not the norm.
- Between 1993 and 2002, the number of high schools with the lowest levels of success in promoting freshmen to senior status on time (a strong correlate of high dropout and low graduation rates) increased by 75%, compared with only an 8% increase in the total number of high schools.
- There are currently between 900 and 1,000 high schools in the country in which graduating is at best a 50/50 proposition. In 2,000 high schools, a typical freshman class shrinks by 40% or more by the time the students reach their senior year. This represents nearly one in five regular or vocational high schools in the U.S. that enroll 300 or more students.
- A majority minority high school is five times more likely to have weak promoting power (promote 50% or fewer freshmen to senior status on time) than a majority white school.
- Poverty appears to be the key correlate of high schools with weak promoting power. Majority minority high schools with more resources (e.g., selective programs, higher per pupil expenditures, suburban location) successfully promote students to senior status at the same rate as majority white schools.
- The majority of high schools with weak promoting power are located in northern and western cities and throughout the southern states.
- High schools with the worst promoting power are concentrated in a sub-set of states. Nearly 80% of the nation's high schools that produce the highest number of dropouts can

be found in just 15 states (Arizona, California, Georgia, Florida, Illinois, Louisiana, Michigan, Mississippi, New Mexico, New York, North Carolina, Ohio, Pennsylvania, South Carolina, and Texas).

- While only 20% of high schools that enroll more than 300 students are located in large and medium-sized cities, 60% of the nation's high schools with the lowest levels of promoting power are found in these cities.
- Many cities have high concentrations of high schools with weak promoting power. In half of the nation's nearly 100 largest cities, 50% or more of high school students who attend regular or vocational high schools with more than 300 students attend high schools with weak promoting power. In some cities, students have virtually no other choice but to attend a high school with weak promoting power.
- More than half of African American students in Illinois, Ohio, Michigan, New York, and Pennsylvania attend high schools in which the majority of students do not graduate on time, if at all. African American students in these states are up to 10 times more likely to attend a high school with very weak promoting power, high dropout and low graduation rates than white students.
- Five southern states—Georgia, South Carolina, North Carolina, Florida, and Texas—collectively lead the nation in both total number and level of concentration of high schools with weak promoting power.

These findings are a chilling reminder of how much further we need to go to truly realize the vision of Brown. They are also a call to action. We must no longer tolerate the squandered potential, limited life chances, and social malaise that result from poorly educating our nation's youth. Increasing momentum for high school reform is a promising development but must not become a passing fad. With sustained commitment and judicious use of resources, transforming the American high school will be a powerful vehicle to achieving a more just and prosperous society.

## **ACKNOWLEDGMENTS**

The work of Carolyn Henry Barber, our chief research assistant on the project, has been invaluable. Her mastery of the data set and speed with which she was able to process our many requests was phenomenal. We would also like to thank Chris West, Barbara Colton, and Gregg Howell for their assistance in putting this report together. We would like to thank the Harvard Civil Rights Project for helping to shepherd this research through its many phases and helping it make a difference. Finally, we would like to acknowledge the teachers and students whose daily struggle to provide and receive a good high school education inspired us to conduct this research in the first place.





# INTRODUCTION

It is hard to find a critical social or economic issue that does not ultimately intersect with the American High School. It is central to long-term health of the U.S. economy. It is vital to Justice O'Connor's hope that the need for affirmative action will recede within 25 years. It is paramount to meeting the 50-year-old promise of *Brown vs. the Board of Education* to provide equal educational opportunity to all. It is the missing cornerstone of central city renewal and a potentially powerful tool in reducing crime and promoting positive youth development.<sup>1</sup>

To see this, indulge in a brief thought experiment. Imagine a nation in which all students, from Benton Harbor to Los Angeles, from Akron to San Antonio, from Chicago's south side to rural South Carolina, routinely graduate from high school ready and prepared to succeed in college or advanced post-secondary training. Imagine the social and economic implications of being able to say to any child, in any locale in the United States, "you will be provided with a high school that will educate you, challenge you, care for you, support you, and graduate you ready to compete and succeed in the world."

Now, flash back to cold reality. In each of the locations listed above, close to half of the high school students do not graduate, let alone leave high school prepared to fully participate in civic life. It is no coincidence that these locales are gripped by high rates of unemployment, crime, ill health, and chronic despair. For many in these and other areas, the only real and lasting pipeline out of poverty in modern America, a solid high school education followed by post secondary schooling or training, is cracked and broken.

Recognition of the importance of the American high school to the economic and social well being of the nation has been building over the past decade. Since the mid 1990s, public and private investment in transforming high schools has grown, and a spate of reports and conferences has amplified the need for reform.<sup>2</sup> The newfound attention to high schools is long overdue. High schools have been the orphans of school improvement efforts, as states and districts have chosen to invest the too few dollars available for low-performing schools in schools serving younger children. High schools still receive only 5% of federal funds available for low-performing schools (Alliance for Excellent Education, 2004). Policymakers and education decision makers are now realizing that support for preschoolers and elementary school students must be sustained through the secondary grades to keep achievement and attainment gains from fading as students face the academic and social challenges of their middle and high school years.

The emerging high school reform movement is at risk, however, of achieving only superficial impact if reform experiments are not successfully brought to scale. Worse, current reform investments could result in wider achievement gaps if they do not tackle head-on, with systematic focus and adequate resources, the high schools that are producing the greatest number of the nation's dropouts. Failing to address these schools and the students who attend (and then do not

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<sup>1</sup> The economic benefits of a solid high school education have most recently been detailed in Carnevale and Desrochers, 2004. The social benefits can be seen in Wald and Losen, 2003.

<sup>2</sup> Fall 2003 saw an unprecedented number of conferences and meetings of national, state, and district education policymakers focused on the needs of adolescents and the unique challenges of high school reform (Harvey and Housman, 2004); the US Department of Education recently launched a High School Initiative designed to spread and support effective reform practices; and the National Association of Secondary Schools Principals recently released *Breaking Ranks II: Strategies for Leading High School Reform* (NASSP, 2004).

attend) them is tantamount to treating a chronic illness with a manicure—pleasant, but ultimately pointless.

Recent reports reveal, however, that there is much confusion among policymakers and the lay public about the scale and scope of the dropout problem. Researchers from major research institutes that span the political spectrum have shown that federal dropout statistics underestimate the number of students who dropout of high school (Greene, 2002; Swanson, 2004). Others have shown that state and school level reporting of graduation rates under No Child Left Behind is subject to significant error (Education Trust, 2004; Orfield et al., 2004). One reason for this is that the most widely used method to calculate graduation rates for NCLB, the graduation rate formula developed by the National Center for Education Statistics (NCES), is ultimately dependent on high schools accurately self reporting how many students dropout (Swanson, 2003). Recent investigations into dropout reporting in New York City and Houston indicate how difficult this is to do.

As a result, there is no ready understanding of how many high schools have high dropout and low graduation rates, where they are concentrated, or the extent to which they dominate the educational opportunities provided to different groups of students. It is not known, for example, the extent to which all states and large cities have significant numbers of high schools that produce large numbers of dropouts, or if the problem is concentrated in a sub-set of states and cities.

The first step to stemming the tide of our nation’s dropouts and reclaiming their squandered potential is to target the high schools and school systems that are producing them. The aim of the present study is to locate the dropout crisis—to determine its scale and scope by identifying the number of high schools with severe dropout problems, detailing the states, cities, and locales where they are concentrated, and establishing who attends them.

## **Promoting Power as an Indicator of High Schools with High Dropout and Low Graduation Rates**

Currently there is no available direct and common measure of high school dropout or graduation rates at the school level. Available federal measures can provide estimates at the state and district level only (Kaufman, 2001). Under NCLB, states are allowed to use different graduation measures, so it is not even possible to use common state level measures to identify which high schools have high dropout rates nationwide.

Fortunately, available federal data can be used to develop an indirect measure. The Common Core of Data (CCD) compiled by the federal government’s National Center for Education Statistics provides enrollment rates by grade for every public high school in the United States. We have used this to develop a measure we call promoting power, which compares the number of freshmen at a high school to the number of seniors four years later (or the number of tenth graders to seniors three years later in schools with a 10-12 grade span). Ideally, we would compare freshmen to the number of graduates four years later but currently the CCD does not provide data on the number of graduates at individual high schools.<sup>3</sup>

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<sup>3</sup> It does provide it at the district level and this data has been used by a number of scholars (Greene 2002, Warren 2003, Swanson 2004, and Haney et al 2004) to develop indirect common measures of graduation rates at the state and district levels.

Using the ratio of freshmen to seniors four years later we argue does provide a reliable indicator of the extent to which a high school is succeeding in its core mission of graduating the students who enter its doors. The underlying assumption of the promoting power measure is that high schools in which the number of seniors closely approximates the number of freshmen four years earlier will have high graduation rates and low dropout rates because most students will have remained in school, been promoted in a timely fashion, and are on course to graduate. Conversely, a high school where there are half as many seniors as freshmen is likely to be a school where on-time graduation is not the norm. We make no claim that promoting power equals the graduation or dropout rate in the schools we identify. In the technical appendix we discuss several reasons why this will not be the case. We do believe, however, that the cumulative evidence on in-direct measures of the graduation rate that use students enrollments, most notably the work of Christopher Swanson and John Warren, supports the efficacy and accuracy of using promoting power to identify high schools with high dropout and low graduation rates. Further details about the promoting power measure and its reliability as an indicator of graduation and dropout rates are detailed in the technical appendix of this report.

In our analysis of high schools across the country, we use two cut-points to identify those that have high dropout and low graduation rates. The first cut point is high schools in which there are 50% or fewer seniors than freshmen four years earlier. We classify these high schools as those with the worst promoting power in the U.S. because in these schools students have less than a 50/50 chance of graduating on time, if at all. The second cut point we use is high schools in which there are 60% or fewer seniors than freshmen. We added this second cut point because analysis of the data revealed a large number of high schools with promoting power between 50% and 60%. We believe it is analytically useful to isolate the high schools with the worst promoting power but also identify all high schools in which graduation is likely not the norm. Identifying high schools with promoting power of 60% or less provides a good estimate of the number of high schools with severe dropout rates and thus can be used to locate the high schools which produce the majority of the nation's dropouts.

## FINDINGS

### HOW MANY HIGH SCHOOLS HAVE WEAK PROMOTING POWER?

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***One in five high schools in the U.S. have weak promoting power, indicating unacceptably low graduation rates and high dropout rates.***

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In the United States there are currently between 900 and 1,000 high schools in which graduation is at best a 50/50 proposition. In these high schools, which represent about 8% of all regular and vocational high schools with enrollments of 300 or more students, the senior class has half or less the number of students than the freshman class four years earlier. If the standard used to classify a school as having weak promoting power is relaxed slightly to include high schools with 60% or fewer seniors than freshmen, the number of chronically low-performing schools doubles to 2000. This represents nearly one in five (18%) regular and vocational schools that enroll 300 or more students. These high schools collectively educate more than 2,600,000 students.

***The number of high schools with weak promoting power grew substantially during the 1990s.***

Comparing the class of 2002 to the classes of 1993, 1996, and 1999 indicates that the number of high schools with weak promoting power grew substantially during the 1990s. This can be seen in Table 1. Between 1993 and 2002 the number of high schools with the lowest rates of promoting power increased by 75% and overall the number of high schools with weak promoting power increased by 60%. This stands in contrast to only an 8% increase in the total number of schools.<sup>4</sup>

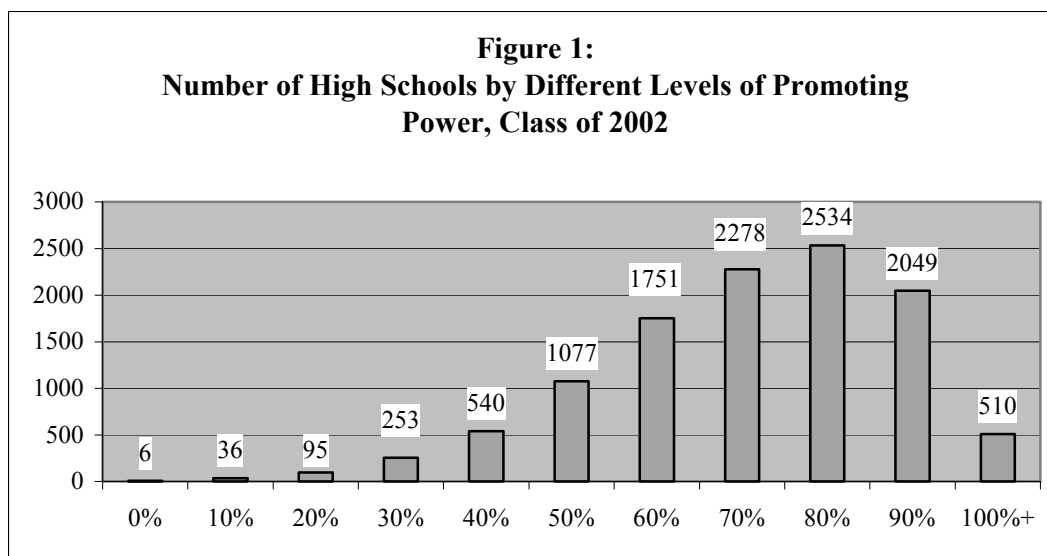
**Table 1:  
Number of schools with weak promoting power in the United States,  
Class of 2002**

Class	Total # of High Schools*	< 50% Promoting Power		< 60% Promoting Power	
		# of High Schools	% of High Schools	# of High Schools	% of High Schools
2002	11,129	930	8%	2007	18%
1999	10,915	903	8%	1968	18%
1996	10,709	783	7%	1717	16%
1993	10,296	530	5%	1254	12%

\* Regular and vocational high schools with more than 300 students.

***The gap between promoting power for high schools with the weakest promoting power and the national norm is a striking 40 to 60 percentage points.***

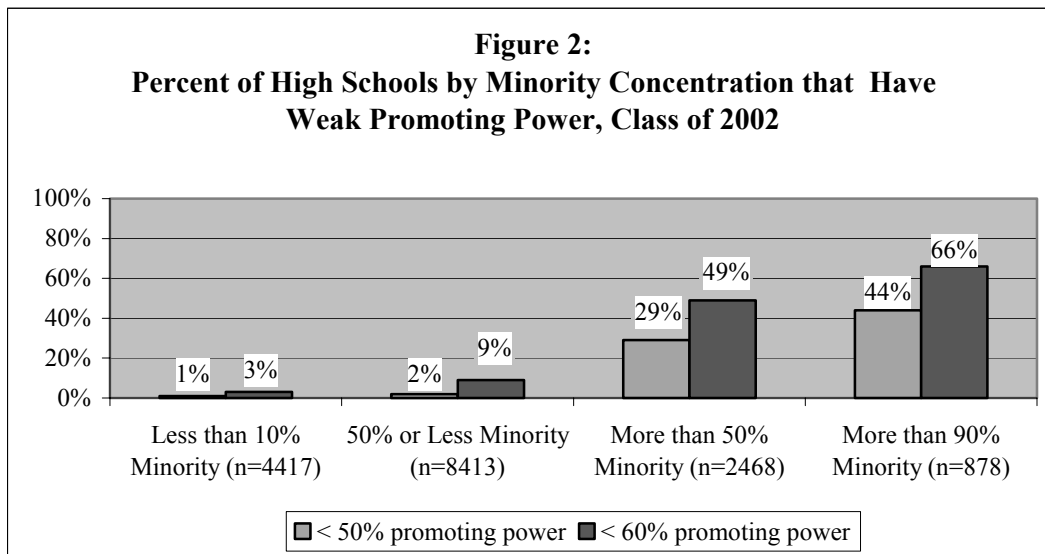
Promoting power of 80% or higher is the norm for regular and vocational high schools in the U.S. This can be seen in Figure 1. Promoting power is 40 to 60 percentage points lower in the 930 high schools with the worst promoting power (50% or less).



## WHO ATTENDS HIGH SCHOOLS THAT PRODUCE THE NATION'S DROPOUTS?

***High schools with weak promoting power are overwhelmingly majority minority. A majority minority high school is five times more likely to have weak promoting power than a majority white school.***

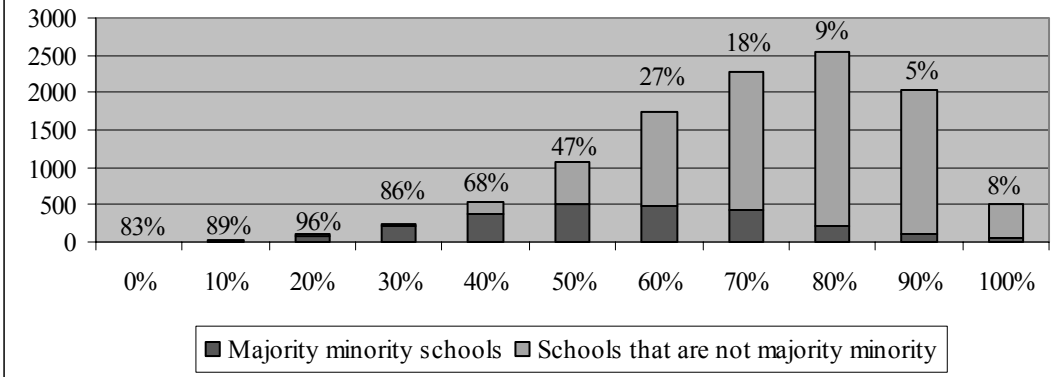
It is rare for a high school that is predominately attended by white students to have weak promoting power. The nation's dropout factories are overwhelmingly the province of minority students. This can be seen in Figure 2. In 2002, there were 4,417 high schools with enrollments of 300 or more that were composed of 90% or more white students. Only 27, or 1%, of these schools had 50% or fewer seniors than freshmen. In contrast 29% of the nation's majority minority high schools (712 out of 2,468) have senior classes with 50% fewer seniors than freshmen. When the comparison is made at the 60% level of promoting power the contrast is even starker. Only 3% of high schools in the United States that enroll 90% or more white students have weak promoting power compared to 49% of majority minority schools, and a stunning 66% of high schools that enroll 90% or more minority students.



The most telling comparison is seen in Figure 3, which shows the percent of high schools at each level of promoting power that are majority minority. Figure 3 clearly reveals that the lower the level of promoting power, the greater the concentration of majority minority schools. Overall, a majority minority school is five times more likely to have weak promoting power than a majority white school.

<sup>4</sup> Both Haney (2004) and Warren (2003) find that the graduation rate declined at the state level during the 1990s as well.

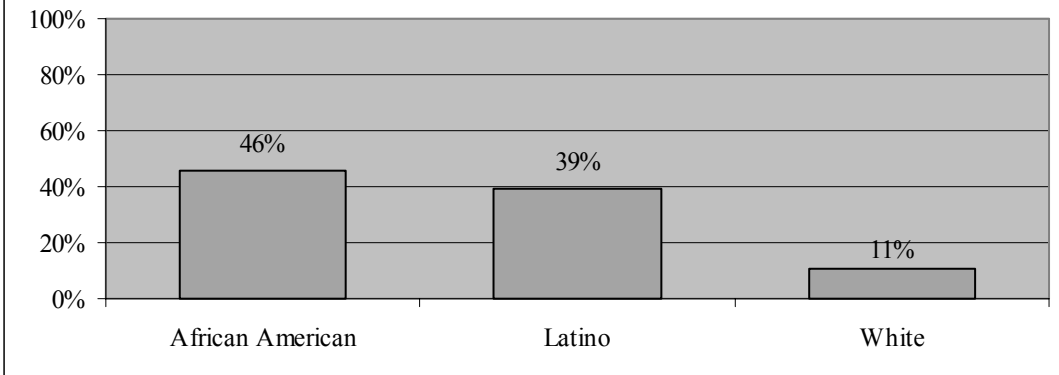
**Figure 3:  
Percent of High Schools by Promoting Power Level  
that are Majority Minority, Class of 2002**



*Fifty years after the Brown vs. Board of Education decision, nearly half of the nation's African American students, nearly 40% of its Latino students, and only 11% of white students attend high schools in which graduation is not the norm.*

The prevalence of weak promoting power among majority minority schools when combined with the continuing segregation or resegregation of schools in many locales (Orfield & Chungmei, 2004) means that 50 years after Brown vs. the Board of Education approximately 46% of the nation's African American and 39% of its Latino students attend high schools in which graduation is not the norm. This compares to only 11% of White students (Figure 4). Separate and unequal high schools are unfortunately alive and well in our nation. Table 1 in Appendix A shows the percent of students from different minority groups and White students by state that attend high schools with weak promoting power.

**Figure 4:  
Percentage of the nation's minority student populations in low  
promoting power high schools**



***Two exceptions to the rule: Selective high schools and high schools in affluent suburbs.***

Not all majority minority high schools have weak promoting power. In many of the nation's major cities there are selective high schools that rank among the nation's best. These high schools often educate predominately minority students and have strong promoting power. This is illustrated in Table 2, which shows minority concentration and promoting power in selective high schools located in New York City, Newark, and Philadelphia.

**Table 2:  
Promoting Power in Selective Admissions High Schools in New York City, Philadelphia,  
and Newark, Class of 2001**

<b>District</b>	<b>School</b>	<b>Percent Minority</b>	<b>Promoting Power for Class of 2001</b>
New York City	Bronx HS of Science	63%	82%
	Stuyvesant HS	57%	98%
Newark	University HS	100%	101%
	Arts HS	95%	75%
	Technology HS	92%	74%
	Science HS	81%	76%
Philadelphia	Central HS	60%	85%
	Girls HS	77%	87%
	Creative Arts HS	52%	93%

Another exception, at least in the New York metropolitan area, are high schools located in affluent suburbs. Table 3 compares promoting power in the 14 majority minority high schools found in four affluent counties near New York City to promoting power in the majority white schools in these areas. Overall in these counties majority minority schools have the same high level of promoting power as majority white schools.

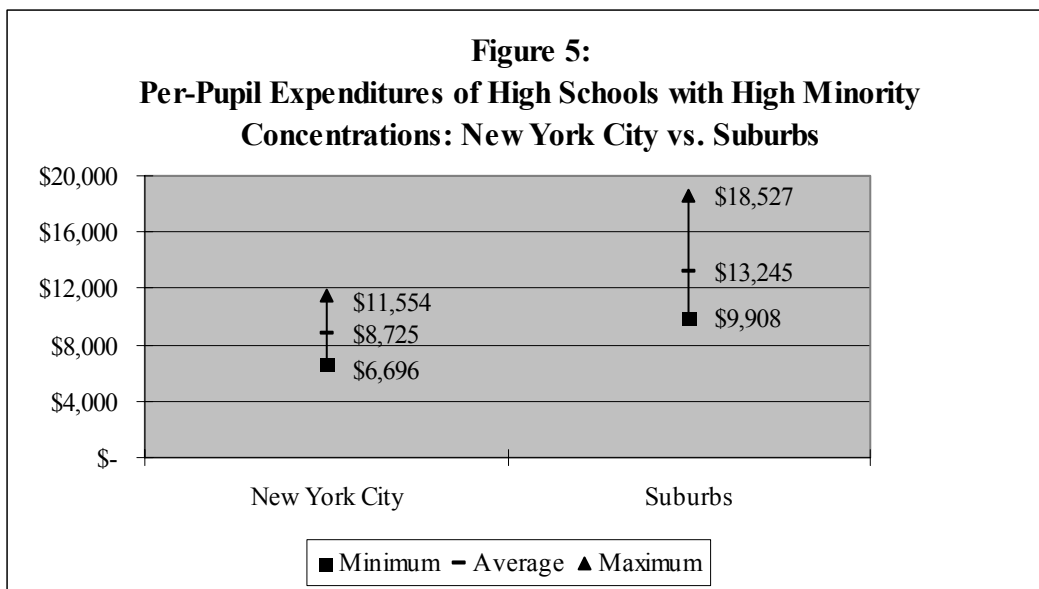
**Table 3:  
Promoting Power by High School Minority Concentration in Bucks County PA,  
Somerset County NJ, Fairfield County CT<sup>a</sup>, and Westchester County NY<sup>b</sup>  
High Schools, Class of 2001**

<b>Concentration of Minority Students</b>	<b>Number of Schools</b>	<b>Total # of 9th Grade Students in 1997-98<sup>c</sup></b>	<b>Total # of 12th Grade Students in 2000-01</b>	<b>Ratio of 2000-01 12th Graders to 1997-98 9th Graders</b>
50% or more minorities	14	4,526	4,151	92%
Less than 50%	70	18,729	16,944	90%
Total	84	23,255	21,095	91%

<sup>a</sup> Excludes Bridgeport School District

<sup>b</sup> Excludes Yonkers City School District

<sup>c</sup> For 10-12 schools in the sample, this number corresponds to the number of 1998-99 10th graders.



One striking difference between the majority minority high schools with strong promoting power in the affluent suburbs of the greater New York Metropolitan area and majority minority high schools with weak promoting power in New York City is the amount of funding available to provide quality education. Figure 5 compares per pupil spending in the 30 majority minority high schools with the lowest levels of promoting power in New York City to district per pupil spending in the 14 majority minority schools located in New York metropolitan area suburbs. Average per pupil spending is \$4,500 per pupil higher in suburban majority minority high schools than in New York City, and the lowest spending suburban district spends more than the average per pupil in the New York City High schools.

#### **WHERE ARE HIGH SCHOOLS WITH WEAK PROMOTING POWER LOCATED?**

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***The majority of weak promoting power high schools are located in northern and western cities and throughout the southern states.***

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There are two key points regarding the location of the high schools that produce the majority of the nation's dropouts. First, the high schools with the worst promoting power are concentrated within a relatively small sub-set of cities and states. Second, when the standard for low promoting power is raised from the 50% to 60% fewer seniors than freshmen the location of weak promoting power schools becomes more diffuse. At this level a weak promoting power high school can be found in every state except North Dakota. However, the majority of weak promoting power schools remain located in northern and western cities and throughout the southern states.

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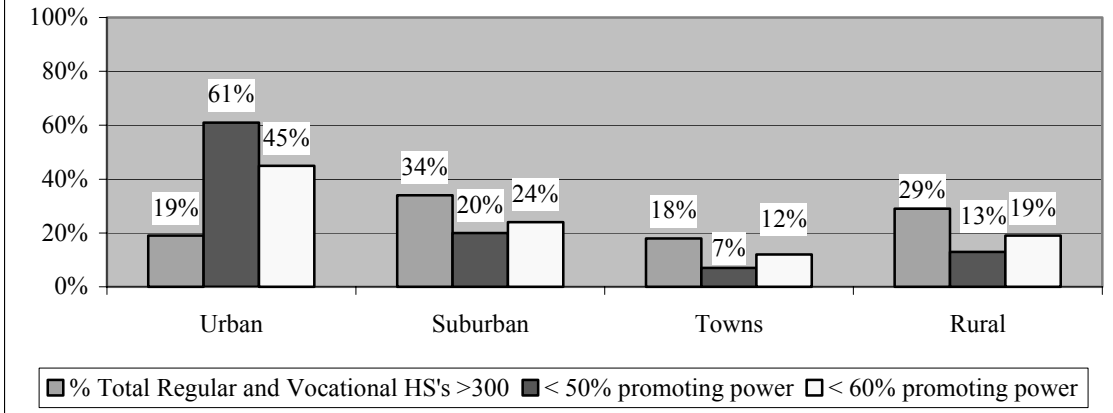
***High schools with the worst promoting power are concentrated in a sub-set of the nation's cities.***

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The high schools with the worst promoting power (50% or less) are primarily found in the nation's cities. This can be seen in Figure 6. Only 20% of high schools that enroll more than 300 students are located in large and medium sized cities. Yet among them are 60% of the nation's high schools with the lowest levels of promoting power.

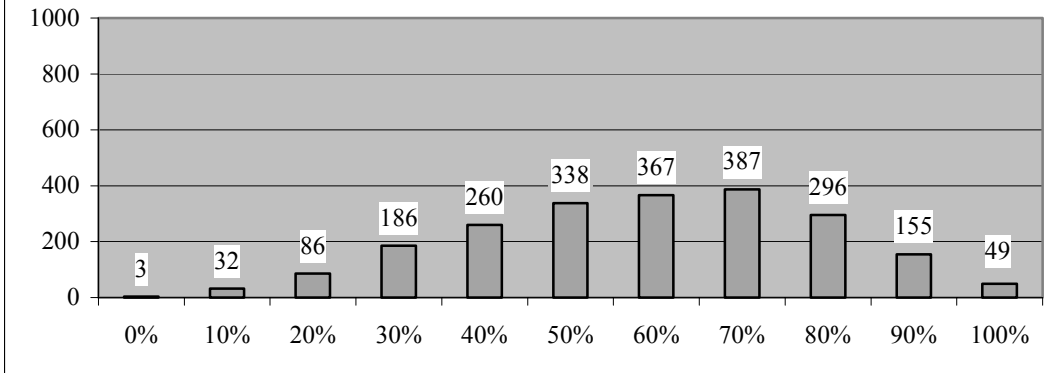


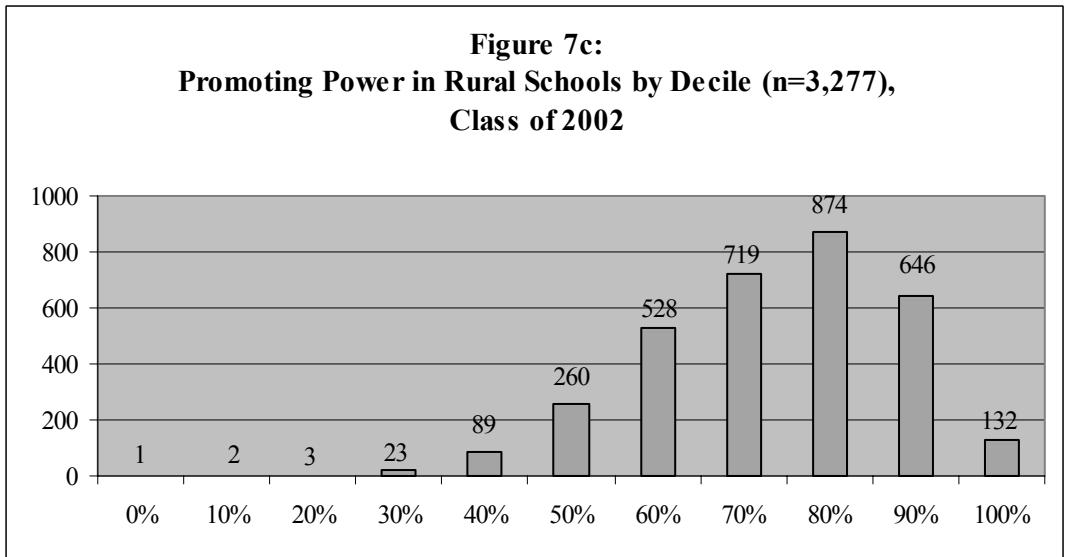
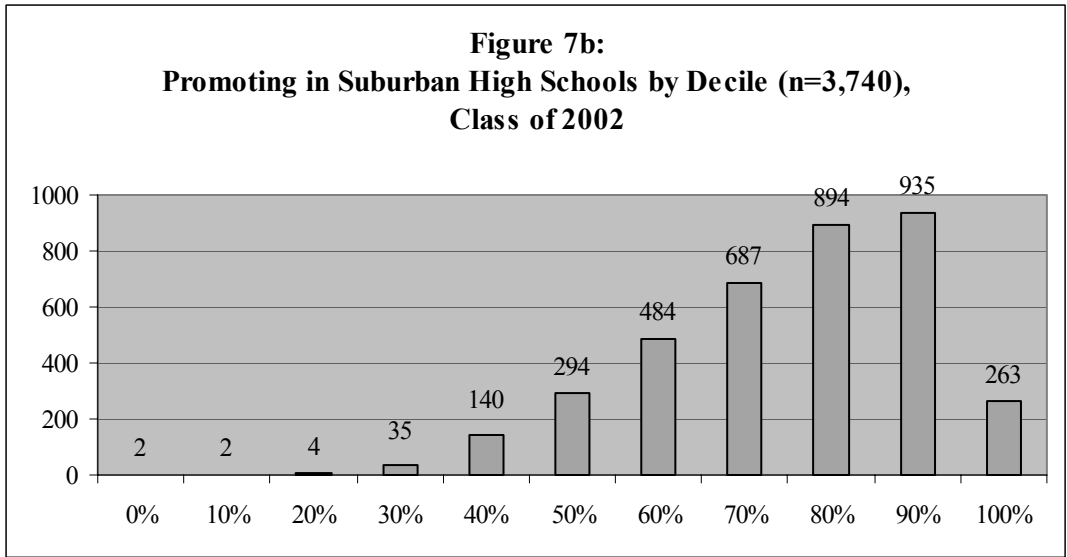
**Figure 6:  
Percentage of Weak-Promoting Schools by Locale, Class of 2002**



Urban areas, moreover, not only contain the majority of low-performing high schools but have weaker promoting power altogether. This is seen in Figures 7a, b, and c, which show the distribution of promoting power in the nation's urban, suburban, and rural areas. In suburban schools the modal pattern is promoting power in the 90s, in rural schools it's in the 80s, and urban schools it's in the 70s.

**Figure 7a:  
Promoting Power in Urban High Schools by Decile (n=2,159),  
Class of 2002**





All cities, however, are not the same. Fifteen of the nation’s largest cities have no high schools with weak promoting power (See Appendix A, Table 2). These are primarily western cities, and in 10 of the 15 cities minority students do not make up the majority of students in the school system. Long Beach and Anaheim, California stand out as exceptions. They are the only two urban school districts in which minority students equal two thirds or more of the student population that have no weak promoting power high schools.

At the other end of the spectrum there are 10 cities that educate primarily minority students and have 10 or more high schools with very weak promoting power. They include the nation’s three largest cities (New York, Los Angeles, and Chicago) and collectively these ten cities contain nearly one third (29%) of the nation’s high schools with the lowest levels of promoting power. These cities are listed in Table 4.

**Table 4:  
10 Cities with the Greatest Number of Weak Promoting Power  
High Schools, Class of 2002**

City	Population rank	< 50% Promoting Power		< 60% Promoting Power	
		# of High Schools in City	% of High Schools in City	# of High Schools in City	% of High Schools in City
New York	1	92	68%	110	81%
Chicago	3	31	50%	42	68%
Los Angeles	2	26	46%	39	68%
Philadelphia	4	20	61%	20	61%
Houston	8	18	72%	20	80%
Dallas	9	18	69%	21	81%
Detroit	10	18	69%	19	73%
Jacksonville (Duval)	13	12	63%	15	79%
Cleveland	36	12	86%	12	86%
Milwaukee	22	10	67%	13	87%
Total		257		311	

Thirty-four cities have four or more high schools with promoting power of 50% or less. This accounts for 86% of the high schools in the 100 largest cities and 43% of high schools in the nation in which the senior class has half as many or fewer students than the freshman class four years earlier.

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***In some cities, students have virtually no other choice but to attend a high school with weak promoting power.***

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What is most significant about promoting power in many of the nation's largest cities, however, is not the number of weak promoting power high schools but their concentration. In half of these cities, 50% or more of high school students who attend regular or vocational high schools with more than 300 students attend high schools with weak promoting power. In 21 cities, this climbs to 75% of high school students and, for the Class of 2002, it reaches an incredible 100% in St. Louis and Indianapolis. In these cities, attending high schools where graduation is not the norm, is the norm. Table 5 lists the cities with the highest concentrations of weak promoting power high schools and organizes them by region.

**Table 5:**  
**Cities in which 50% of High Schools or more have weak promoting power,**  
**Class of 2002**

<b>&lt; 60% Promoting Power</b>			
<b>Region</b>	<b>City</b>	<b>% of High Schools in City</b>	<b># of High Schools</b>
North	St. Louis	100%	8
	Indianapolis	100%	5
	Milwaukee	87%	13
	Cleveland	86%	12
	Kansas City	86%	6
	Rochester	83%	5
	New York	81%	110
	Akron	75%	6
	Detroit	73%	19
	Toledo	71%	5
	Chicago	68%	42
	Cincinnati	67%	6
	Baltimore	65%	11
	Pittsburgh	64%	7
	Philadelphia	61%	20
	Jersey City	60%	3
	Minneapolis	57%	4
	Columbus	53%	9
	Newark	50%	5
	Yonkers	50%	2
South	Atlanta	91%	10
	Shreveport (Caddo)	80%	8
	Norfolk	80%	4
	Jacksonville (Duval)	79%	15
	Augusta (Richmond)	70%	7
	Louisville (Jefferson)	70%	14
	St. Petersburg (Pinellas)	69%	11
	Tampa (Hillsborough)	68%	13
	Richmond	67%	4
	Nashville (Davidson)	53%	8

**Table 5 (continued)**

		<b>&lt; 60% Promoting Power</b>	
<b>Region</b>	<b>City</b>	<b>% of High Schools in City</b>	<b># of High Schools</b>
Southwest	San Antonio	88%	7
	Dallas	81%	21
	Houston	80%	20
	Austin	80%	8
	Oklahoma City	78%	7
	Fort Worth	75%	9
	Albuquerque	64%	7
	Arlington	60%	3
	Corpus Christi	60%	3
	Tulsa	56%	5
	El Paso	50%	5
	Tucson	50%	5
	Phoenix	50%	4
	West	Stockton	100%
Oakland		83%	5
Tacoma		80%	4
Santa Ana		75%	3
Denver		73%	8
Los Angeles		68%	39
Fresno		63%	5

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~ SPOTLIGHT ON NEW YORK CITY ~

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**N**EW YORK CITY DWARFS ALL OTHER city school districts in size. With more than a million students, its student population is four times greater than Philadelphia's and more than ten times greater than most major cities. Given this, the fact that New York City has the greatest number of low-performing high schools is no surprise. With more than 100 weak promoting power high schools, however, the scale of the city's reform challenge is daunting. What stands out in New York City is not only the sheer concentration of poorly performing high schools, but how low promoting power is in many of its schools. For the class of 2002, there were more than 30 high schools in which the senior class was less than one-third the size of the freshman class four years earlier. The challenge of the reform task in New York City can be seen in Table 6. It shows that, on average, in the high schools with the worst promoting power in New York City more than a third of entering ninth graders are over-age, and less than 20% have met eighth-grade standards in English and math. Average attendance rates are in the 70s. This great need is clearly not being met with enhanced resources. In addition to the relatively low per pupil expenditures cited earlier, on average one in five teachers in these schools is not certified and two in five teachers have less than five years experience. Moreover, the typical low-performing high school in New York City with very weak promoting power is overcapacity.

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**Table 6:  
Characteristics of High-Minority (90% or More), Low-Promoting Power (30% or Less) New York City High Schools**

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	<u>Range</u>		
	<u>Average</u>	<u>Min</u>	<u>Max</u>
Percent of Entering 9th Graders			
Over-age for Grade	35.0%	11.0%	78.0%
Meeting Standards in English	17.9%	0.0%	41.9%
Meeting Standards in Math	8.9%	0.0%	29.1%
Attendance Rate for 2001	78.0%	67.0%	90.0%
Percent Fully Licensed/Permanently Assigned Teachers in 2001	80.0%	49.0%	97.0%
Percent Teachers With Less Than 5 Years Teaching Experience in 2001	39.0%	15.0%	71.0%
School Capacity 2001	107.0%	76.0%	174.0%

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***High schools with the worst promoting power are also concentrated in a sub-set of states.***

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More than two thirds of the high schools with the lowest promoting power (50% or less) are located in just 11 states (Georgia, Florida, Texas, South Carolina, North Carolina, New York, Ohio, Illinois, Michigan, Pennsylvania, and California). If four more southern and southwestern states are included (Mississippi, Louisiana, New Mexico, and Arizona) nearly 80% of the nation's high schools that produce the highest number of dropouts can be found.

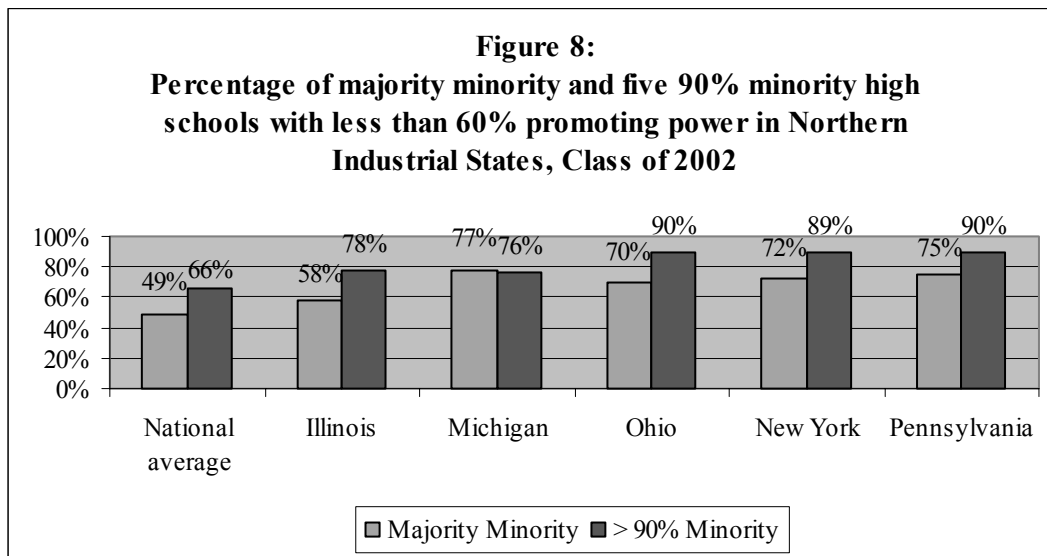
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***In the Northern Industrial States (Rust Belt) weak promoting power schools are overwhelmingly attended by minority students and located in large and medium sized cities.***

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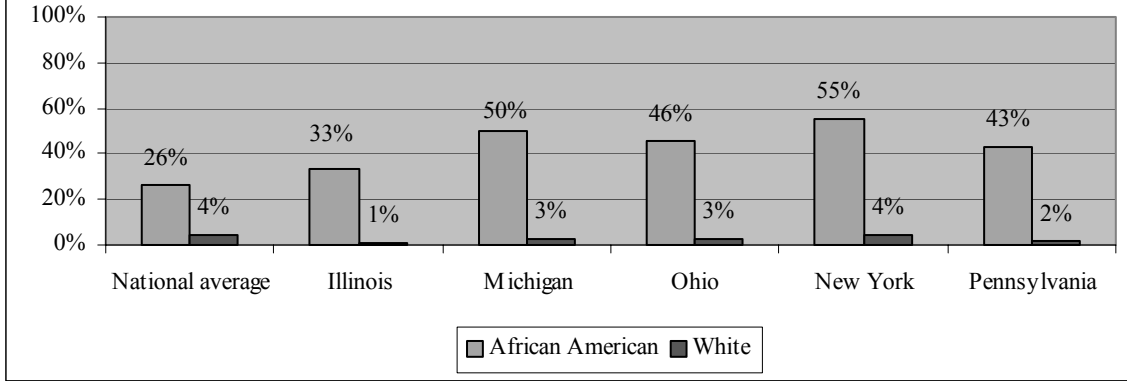
More than one quarter (28%, n=263) of the high schools with the worst promoting power is located in five northern industrial states (Ohio, Michigan, Illinois, Pennsylvania, and New York). These high schools are located almost entirely (89%, n=233) in the large and medium-sized cities of these states, and are overwhelmingly attended by minority students. Ninety percent (n=237) of the high schools with the worst promoting power in these states are majority minority.

While these states are at about the national average for the percent of all high schools with weak promoting power, they are well above the national average for percent of minority students attending weak promoting power schools. When the standard for weak promoting power is set at the 60% level in four of the states (Ohio, Michigan, Pennsylvania, and New York) more than 70% of all majority minority schools have weak promoting power. This can be seen in Figure 8.



More than half the African American students in Illinois, Ohio, Michigan, New York, and Pennsylvania attend high schools in which the majority of students do not graduate on time, if at all. By contrast the percent of White students attending weak promoting power high schools in these states is below the national average. As a result, African American students in these states are up to 10 times more likely to attend a high school with very low graduation rates than White students. Even more striking gaps can be found by looking at the high schools with the worst promoting power in Illinois, Ohio, Michigan, New York and Pennsylvania. As Figure 9 shows, very few White students in these states attend these high schools but between one-third and one-half of African American students do.

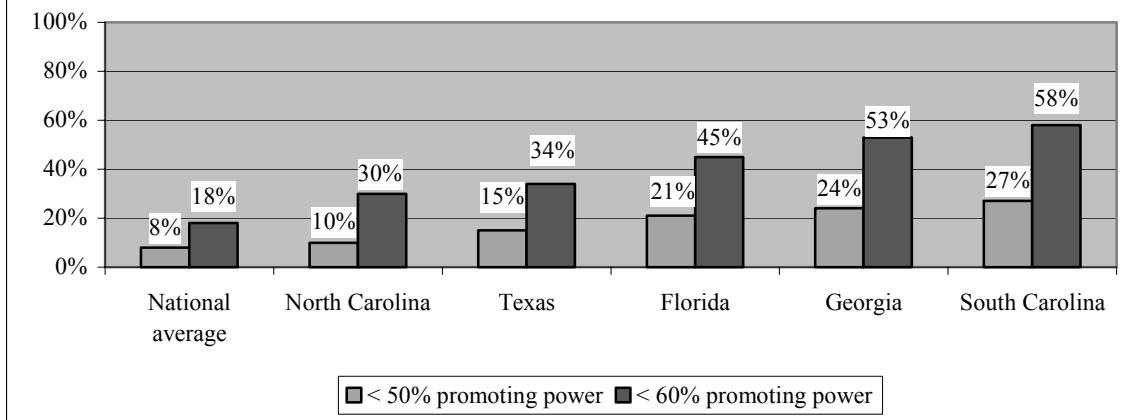
**Figure 9:**  
**Percentage of African American and White Students attending a high school with very weak promoting power (50% or less) in five Northern Industrial States, Class of 2002**



***In the South, weak promoting power high schools can be found in high numbers throughout the states.***

Weak promoting power high schools are not limited to northern industrial states. In fact, in terms of both total number and level of concentration five southern states—Georgia, South Carolina, North Carolina, Florida, and Texas—lead the nation. More than one third (n=765) of high schools with weak promoting power can be found in these five states. Across these five states, as seen in Figure 10, the percent of regular and vocational high schools with weak promoting power (at the 60% level) ranges from 34% in North Carolina and Texas to a stunning 53% in Georgia and 58% in South Carolina.

**Figure 10:**  
**Percentage of regular and vocational High Schools enrolling more than 300 students with weak promoting power in five Southern States, Class of 2002**





One result of the pervasiveness of weak promoting power high schools in these states is that across all minority groups (Native American, Asian, Hispanic and Black), as well as among white students, the percent of students who attend a weak promoting power high school is above the national average (Table 7).

**Table 7:**  
**Percentage of students attending High Schools with Weak Promoting Power (60% or less) in five Southern States by race/ethnicity, Class of 2002**

	<b>Black</b>	<b>Hispanic</b>	<b>Asian</b>	<b>Native American</b>	<b>White</b>
Texas	52%	52%	25%	27%	20%
Georgia	68%	57%	38%	41%	37%
South Carolina	65%	58%	39%	55%	46%
North Carolina	47%	36%	27%	65%	24%
Florida	52%	39%	40%	39%	41%
National average	46%	39%	19%	26%	11%

It is only in the South that large numbers of White students attend high schools in which on-time graduation is not the norm. In some states, this appears to be partly a function of rural poverty. In North and South Carolina, as seen in Table 8, most of the high schools with weak promoting power are located in small towns or rural areas. In these areas, which are typically one high school counties, there are about equal numbers of majority White and majority minority high schools with weak promoting power. In Georgia and Florida, however, weak promoting power high schools are pervasive in both rural and urban areas.

**Table 8:**  
**Number of Weak Promoting Power (60% or less) High Schools by Locale in five Southern States, Class of 2002**

<b>State</b>	<b>Total</b>	<b>Locale</b>			
		<b>Cities</b>	<b>Urban Fringe</b>	<b>Towns</b>	<b>Rural</b>
North Carolina	106	16	24	18	48
South Carolina	101	10	28	15	48
Georgia	156	34	44	41	37
Florida	162	51	61	15	35
Texas	240	134	46	36	24
<b>Total</b>	<b>765</b>	<b>245</b>	<b>203</b>	<b>125</b>	<b>192</b>

~ SPOTLIGHT ON TEXAS ~

**T**EXAS IS DIFFERENT. In many respects, Texas’s distribution of weak promoting power high schools more closely resembles a northern industrial state than a southern state. As seen in Table 8, the majority of weak promoting power high schools in Texas are found in urban areas and they are almost exclusively majority minority high schools. More than half of the state’s 240 high schools with weak promoting power are located in cities; 91% of these high schools are minority majority and 56% are more than 90% minority (Figure 11).

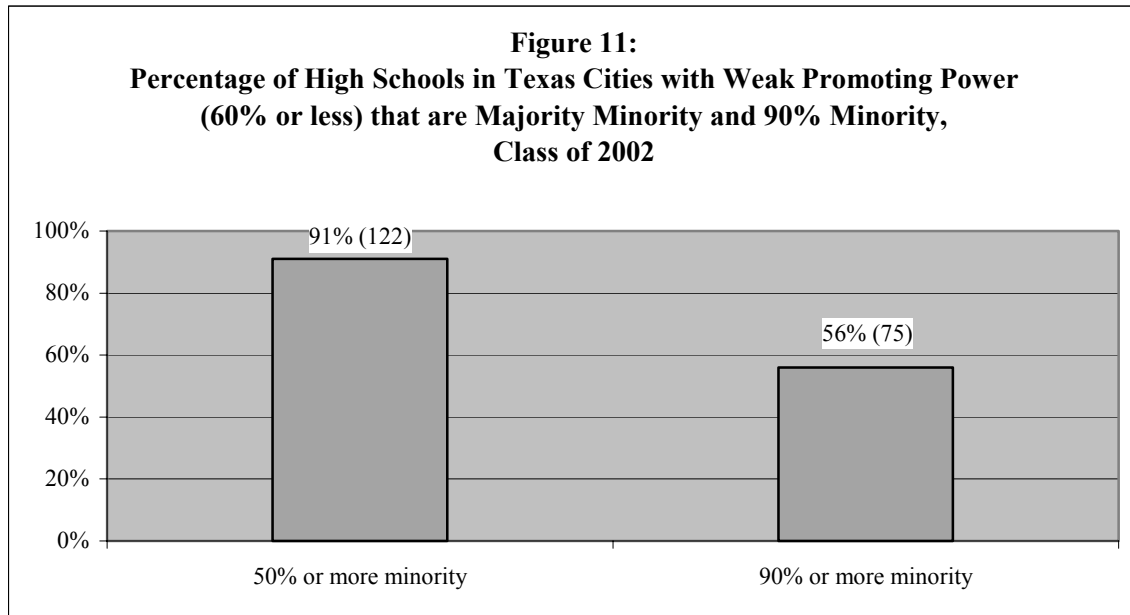


Table 9 shows that in most of Texas’ central city school districts, which educate predominately minority students, three fourths or more of the high schools have weak promoting power. In these districts, students have few opportunities to attend a high school in which graduating is the norm.

**Table 9:  
Minority Concentration of High Schools with Weak Promoting  
Power (less than 60%) in Major Texan Cities, Class of 2002**

City	# of High Schools with Weak PP	% of High Schools with Weak PP	% of School District Students that are Minority
Dallas	21	81%	88%
Houston	20	80%	86%
Austin	8	80%	58%
San Antonio	7	88%	95%
Fort Worth	7	75%	71%
El Paso	5	50%	81%
Corpus Christi	3	60%	73%



## **The Rest of the Nation**

Details on the number of high schools with weak promoting power, their concentration, locale, and the extent to which they are attended by minority students can be found in Appendix A for each state and the 100 largest cities.

There are only five states, all with small minority populations, (Maine, New Hampshire, North Dakota, Idaho, and Wyoming) in which high schools with weak promoting power are rare. In these states 90% or more of all students, regardless of majority or minority status attend high schools with good promoting power. Montana, Utah, and West Virginia stand out as states in which all groups attend high schools with decent promoting power at high rates except for Native Americans. In each of these states roughly one in five Native Americans attends a high school in which graduation is not the norm. This is still considerably better, however, than in Arizona, New Mexico, South Dakota, and North Carolina, states with large Native American populations, where nearly half or more of all Native American high school students attend a high school with weak promoting power.

Delaware and Rhode Island stand out as two small states, in which students across all groups attend high schools with weak promoting power at relatively high rates. New Mexico and Colorado share that distinction among larger states.

## **POLICY IMPLICATIONS**

This study locates the nation's dropout crisis in approximately 2,000 high schools. These high schools are found in nearly every state, but are concentrated in northern and some western cities, southern and southwestern states and three mega-districts—New York City, Chicago, and Los Angeles. Currently, close to one in five students attends a high school with weak promoting power. Among minorities, the rate approaches one in two. There are cities and rural counties where students have virtually no choice but to attend a public high school in which graduation is not the norm.

Until the nation's dropout factories are reformed or replaced, the promise of the American High School as an engine of economic growth and social transformation will not be met. Indeed, given their fierce concentration in areas populated by large numbers of poor and minority youth, these high schools not only deny many the promise of equal educational opportunity; they act as a wedge driving the country further apart.

Transforming high schools that produce the majority of the nation's dropouts is a daunting challenge that current reform efforts have not even begun to confront. Traditional approaches to school reform have applied a "pipeline" approach to improving education achievement and attainment, favoring investment in the early grades with minimal direct intervention in high schools themselves. Recent findings from Chicago, however, show that this approach, in itself, is not enough. In Chicago, targeting reform resources to the elementary grades, ending social promotion with an eighth-grade gateway exam, expanding summer school and other extra help structures, implementing high stakes accountability and assessments for students, teachers and administrators, and providing just general technical assistance to high schools did not lead to substantial improvements in the graduation rate (Allensworth, 2004). The message from Chicago is clear—low-performing high schools cannot be fundamentally improved by attempts to "inocu-

late” children early and encouraging high school teachers and students to work harder at existing practices within the traditional organizational structure of large, non-selective neighborhood high schools (Lee, 2002). High schools with high dropout rates need to be directly targeted and radically re-invented if they are going to see substantial improvement.

Similarly, current federal policy and programs provide necessary but insufficient guidance and resources for the systemic overhaul needed to improve national graduation rates. Recent reports by Education Trust (2004) and the Harvard Civil Rights Project (2004) demonstrate that No Child Left Behind (NCLB) has no real teeth at the high school level. States have been allowed to adopt minimal improvement targets for graduation rates and most have done just that. Throw in the lack of a uniform measurement standard for graduation rates and it becomes clear that NCLB, in its current form, will neither accurately identify the nation’s dropout factories nor prod many of them to improve.

The U.S. Department of Education currently funds two initiatives that provide some direct funding for high school reform—the Comprehensive School Reform (CSR) and the Small Learning Communities (SLC) grants program. Both fight annually for their survival and provide neither enough funding nor guidance to reform the nation’s most troubled high schools. Each, for example, only provides funds for three years, not long enough to see even one class through to graduation. The U.S. Department of Education is also seeking additional funds to provide instructional supports to students who enter high school unprepared for high standards high school work. This too is welcome, but its initial goal is very modest—to support demonstration programs in a small number of districts. As a result it does not come close to providing sufficient support to assist all high schools with severe dropout rates.

Other advocates of increased attention to high school reform are also aiming too low to effectively solve the problem of high schools with weak promoting power. There are bills before Congress, for example, which call for a literacy coach to be placed in every low-performing high school. This would clearly be beneficial, especially if coaching was connected to curriculum specifically designed to support the skill development of adolescent learners. The strategy entirely ignores mathematics, however. Failing ninth-grade Algebra is the reason many students are left back in ninth grade, which in turn is the greatest risk factor for dropping out.

Three high school reform approaches promise to promote fundamental change to the traditional organizational structure of large, non-selective neighborhood high schools—the creation of new small schools, the creation of new medium-to-large theme-based schools, and converting large high schools into multiple small learning communities that operate with varying amounts of autonomy within the larger school building. Evidence from this and other studies strongly suggests, however, that an exclusive emphasis on any one of these strategies will fall far short of resolving the nation’s dropout crisis. To point:

**New Small School Creation.** A substantial amount of local and private foundation resources currently supports a movement to replace large comprehensive high schools with small high schools of typically 300 or fewer students. The hope here is that the creation of new, small high schools will provide students with an energized faculty and a higher degree of personalized attention and instruction which, in turn, will lead to substantially greater graduation rates. While based on a compelling and largely research-based theory, this movement’s singular focus on new school creation is its Achilles heel in the face of the number, concentration, and location of high schools with weak promoting power revealed in this report. Among the 50 cities in which half or

more of the student population attends high schools with weak promoting power, there are 39 with five or more weak promoting power high schools. To replace these high schools with small schools would require starting, staffing, and sustaining between 25 to 50 high schools in most of these cities, with many more than 100 new high schools needed in the largest cities. The question that remains to be addressed is the extent to which the financial, human, and social capital exists to accomplish this overwhelming task. In cities and rural counties hard pressed by shrinking middle class populations and tax bases, as well as shortages of skilled principals, and near continual churn of superintendents and CEOs, will it be possible to find and sustain the civic capacity and investment in personnel development needed to equitably create, successfully run, and manage 25, 50, or 100 plus new high schools?

**New Medium-to-Large School Creation.** In some cities, efforts are underway to create somewhat larger new high schools serving from 600 to 800 students. While the economies of scale afforded by these schools make them a potentially more feasible option for school systems with limited resources, early anecdotal evidence suggests caution. The dual pressures of a high standards environment and expectations of private and local funders (typically present when schools require new buildings or major renovations to existing buildings) can result in the shunting of equity concerns as new school leaders scramble to implement rigorous curriculum and achieve dramatic results in a short time period. In one such school that replaced a declining neighborhood high school, the new school remained non-selective but adopted an open-enrollment system to attract students from across the city interested in its technology focus. The school's brand new curriculum and energized teachers were not prepared, however, to meet the needs of the substantial number of students coming in two or more grade levels behind in basic literacy and mathematics skills. As a consequence, the school has a significantly higher transfer rate than other high schools in the city. Just as telling, the enrollment slots reserved for students from the surrounding neighborhood now go unfilled; neighborhood families have concluded that the school is for "other people's children" (read White and privileged).

**Existing High School Conversions.** Different approaches to break free from bureaucratic inertia and create smaller, more personalized and flexible learning environments, such as converting large schools into multiple small learning communities, face different challenges. First, not all low-performing high schools are good candidates for conversion. Some (we estimate perhaps from 1% to 5% of the 2,000) are such demoralized environments so lacking in leadership, teaching capacity, and community support that any effort to turn them around would be quixotic at best. Second, attention to the process of conversion is very important to its outcome. Evidence is emerging that high schools that pursue a phased-in or voluntary approach to converting into multiple small learning communities or schools-within-a-school can produce marked inequities. The first smaller units to be developed typically attract the strongest teachers, entrepreneurial leaders, most motivated students, and community resources, leaving subsequent efforts to struggle with fewer resources. Striking images are emerging of large low-performing high schools in which a section has been turned into a new better resourced small high school, where the fortunate few are provided with access to a better education under the daily gaze of the unfortunate majority still stuck attending a marginally smaller dropout factory. The alternative, converting an entire school at the same time, is an extremely intensive experience requiring substantial technical expertise and commitment to working through difficult staffing, curriculum, facilities, and scheduling challenges.

## **Transforming the Nation's Dropout Factories: What Would It Take?**

Despite growing interest in high school reform and an increasing number of reform experiments, nothing close to a systematic plan to transform the nearly 2,000 high schools with low graduation rates and high dropout rates currently exists. Such a plan must be forged, however, if we are going to overcome the feasibility, equity, and quality challenges that current reform efforts are facing. Failure to do so runs the risk that current attempts to reform high schools will fall so short of the mark in transforming the high schools that produce the majority of the nation's dropouts, that the energy behind the reform movement may dissipate before substantial progress can be made.

Enough is known about reforming low-performing, high-poverty, neighborhood high schools to transform them. Working models and success stories exist.<sup>5</sup> The challenge is to develop the capacity, know-how and will to implement what is known to work in all the high schools in need. First and foremost, it needs to be recognized that truly comprehensive reform is required. A dominant focus on one or even several levers of improvement will not be enough. Increased personalization and student outreach, high standards, intensive instructional programs to close achievement gaps, improved teacher quality, professional development, and teacher supports, engaging school programs, and strengthened connections between high schools and colleges and employers are all needed in large, sustained, and coordinated measures. To date, however, this has rarely occurred because schools and districts have lacked the energy, know-how, and resources to do all that is needed. Instead districts and schools focus on one or two areas of needed reform and then become disappointed and frustrated when the results are not sufficient.

The findings in this report, however, are hopeful in this regard. They show it is possible to identify the number and location of high schools that produce the majority of the nation's dropouts. This means that reforms and resources can be targeted. Transforming 2,000 high schools, moreover, is not beyond the bounds of human agency. Especially, when the payoff is potentially so large economically, educationally, and socially. In order to get the energy needed to sustain this effort it will be important to bring into the high school reform movement all who stand to benefit from the demise of the nation's dropout factories—groups interested in economic growth, social justice, youth development, crime reduction, rural prosperity, and urban renaissance at the local, state, and national levels. In order to get the know-how needed to the high schools in need it will be necessary to invest in the development of technical assistance groups who can shepherd school systems and schools through an effective reform process, and join them to networks of reformed and reforming high schools. In order to gather and distribute the financial resources necessary to fundamentally change high schools with weak promoting power a federal commitment to raise the budgets of 2,000 high schools by 10% or more will be needed. Because of the tight correlation between weak promoting power and poverty, this could be accomplished by funding Title I to its authorized levels, using the increase to provide high schools with their fair and proportional share of Title I funding. In return for the additional funding, high schools could be required to implement proven reforms. In order to develop, support, and sustain the human resources needed to bring about major improvements in teaching and learning it will be necessary for states and school districts to make a commitment to put a high quality teacher in every classroom in every high school with weak promoting power and sustain them with ongoing professional development.

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<sup>5</sup> See, for example, Legters, et al, 2002; Toch, 2003; NASSP, 2004

In addition to human and financial resources, a pragmatic approach will be required. No single reform strategy or set of comprehensive reforms will work for all high schools and all locations. In large cities with multiple high schools in need of reform a mix of strategies will likely be the most productive and efficient. In other words, a combination of new small high schools, middle schools transformed into high schools, and existing high schools broken up into both several small high schools and converted into wall-to-wall small learning communities with a common principal but clearly defined separate spaces, teaching staffs, and student bodies. It will also need to be recognized that the same strategy that works in Detroit, might not be the most effective in rural South Carolina. In fact, the data in the report on the location of high schools with weak promoting power make clear that three very different strategies might be needed. A district strategy for cities in which half or more of the students attend a high school with weak promoting power, a state strategy for southern and southwestern states where weak promoting power schools can be found throughout the state, and a school-level strategy for states and school districts in which weak promoting power schools exist but are not the norm.

Finally, a middle grades connection cannot be overlooked. Every high school with weak promoting power is fed by one or more low-performing middle grades schools. The major reason students repeat the ninth grade and enter the dropout track is that they fail too many ninth grade courses. Ninth grade course failure in turn, is in good part driven by students' lack of intermediate academic skills, weak reading comprehension and fluency abilities, and underdeveloped mathematical knowledge. In short, the academic outcomes of a good middle grades education. The connection between a poor middle school education and weak promoting power high schools can vividly be seen in the fact that the very areas which have the highest concentration of weak promoting power high schools, the urban North and the South, are also the areas with the lowest eighth-grade NAEP scores, particularly among minorities (Flanagan & Grissmer, 2002). Hence, high school reform must ultimately be seen as part of a broader secondary school reform movement.

## CONCLUSION

There are about 2,000 high schools in the United States where graduation is not the norm. These are high schools in which the senior class routinely shrinks to 60% or less, often much less, of the freshman class that entered four years earlier. These high schools are located throughout the nation, but are concentrated in about 50 large cities and 15 primarily southern and southwestern states. High schools with weak promoting power are overwhelmingly attended by minority students. Outside of the rural South, it is rare to find White students in appreciable numbers attending high schools with the high dropout and low graduation rates signaled by weak promoting power. Consequently, high schools with weak promoting power are the engines driving the low national graduation rate for minority students, and the growing number of dispossessed young adults who are neither employed nor in school. These high schools must be specifically targeted for reform if the American High School is to fulfill its pivotal role as the means by which children who grow up in poverty can become adults who lead the nation. Transforming the nation's dropout factories into high schools that prepare all their students for post-secondary schooling or training and successful adulthood should thus be an urgent national priority. The promoting power indicator allows us to identify the number and location of the high schools that produce the bulk of the nation's dropouts. We now know where these schools are. It is time to go about the hard work of fixing them.

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**Appendix A**  
**ADDITIONAL TABLES**

**Table 1: Percent of Minority Students in Weak-Promoting Schools**

State	60% Promoting Power Cutoff				
	Native American	Asian	Hispanic	Black	White
Alabama	20%	22%	20%	33%	17%
Alaska	37%	15%	17%	22%	21%
Arizona	55%	16%	37%	8%	12%
Arkansas	1%	0%	1%	15%	1%
California	14%	13%	31%	35%	8%
Colorado	27%	25%	47%	41%	14%
Connecticut	6%	7%	37%	34%	3%
Delaware	33%	41%	53%	41%	29%
District of Columbia	0%	18%	50%	8%	1%
Florida	39%	40%	39%	52%	41%
Georgia	41%	38%	57%	68%	37%
Hawaii	14%	21%	15%	12%	11%
Idaho	1%	1%	2%	0%	2%
Illinois	15%	8%	35%	52%	5%
Indiana	12%	11%	57%	39%	7%
Iowa	4%	11%	11%	25%	4%
Kansas	13%	11%	25%	22%	6%
Kentucky	14%	18%	28%	42%	17%
Louisiana	34%	26%	47%	38%	23%
Maine	2%	1%	3%	2%	3%
Maryland	11%	2%	21%	20%	4%
Massachusetts	7%	22%	34%	21%	7%
Michigan	18%	17%	39%	64%	9%
Minnesota	20%	11%	4%	24%	1%
Mississippi	16%	16%	21%	36%	21%
Missouri	4%	12%	16%	40%	3%
Montana	22%	0%	0%	0%	0%
Nebraska	20%	9%	17%	48%	7%
Nevada	11%	11%	24%	35%	12%
New Hampshire	9%	1%	1%	2%	4%
New Jersey	20%	6%	22%	39%	1%
New Mexico	45%	38%	51%	46%	32%
New York	24%	49%	68%	68%	8%
North Carolina	65%	27%	36%	47%	24%
North Dakota	0%	0%	0%	0%	0%
Ohio	22%	13%	24%	60%	7%

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Table 1: Percent of Minority Students in Weak-Promoting Schools

State	60% Promoting Power Cutoff				
	Native American	Asian	Hispanic	Black	White
Oklahoma	9%	17%	38%	40%	9%
Oregon	8%	6%	9%	23%	4%
Pennsylvania	14%	24%	48%	63%	4%
Rhode Island	34%	35%	55%	45%	13%
South Carolina	55%	39%	58%	65%	46%
South Dakota	52%	15%	22%	15%	11%
Texas	27%	25%	52%	52%	20%
Utah	21%	0%	0%	0%	0%
Vermont	1%	15%	15%	20%	7%
Virginia	7%	4%	7%	23%	5%
Washington	22%	19%	29%	30%	13%
West Virginia	21%	8%	8%	5%	7%
Wisconsin	17%	11%	32%	59%	2%
Wyoming	3%	6%	4%	2%	6%
Total	26%	19%	39%	46%	11%

**Table 2: 1993-2002 Promoting Power in Largest U.S Cities—60% Cutoff**

City	Minority	1993		1996		1999		2002	
		n	%	n	%	n	%	n	%
Santa Ana	97%	4	100%	3	75%	2	50%	3	75%
Washington DC	97%	5	33%	9	56%	6	38%	2	13%
Detroit	96%	19	86%	18	72%	19	73%	19	73%
Atlanta	95%	5	42%	7	64%	9	90%	10	91%
New Orleans	95%	7	37%	7	37%	6	32%	6	32%
Oakland	95%	4	67%	4	67%	4	67%	5	83%
Richmond	95%	3	60%	3	50%	1	17%	4	67%
San Antonio	95%	8	100%	8	100%	6	75%	7	88%
Birmingham	94%	8	80%	8	73%	7	78%	3	33%
Honolulu	94%	2	6%	1	3%	9	26%	6	16%
Memphis	93%	8	30%	10	37%	13	46%	11	41%
Jersey City	92%	3	60%	4	80%	3	60%	3	60%
Newark	90%	3	33%	6	67%	4	40%	5	50%
Chicago	89%	41	69%	46	81%	43	77%	42	68%
Baltimore	88%	11	73%	10	67%	12	75%	11	65%
Dallas	88%	21	88%	21	88%	20	80%	21	81%
Los Angeles	88%	40	80%	40	78%	29	57%	39	68%
San Francisco	88%	4	33%	3	23%	7	54%	4	29%
Houston	86%	19	73%	20	80%	21	81%	20	80%
Stockton	85%	3	100%	3	100%	0	0%	3	100%
New York City	83%	57	51%	83	80%	91	76%	110	81%
Cleveland	82%	14	78%	10	59%	13	87%	12	86%
Kansas City	82%	3	33%	7	70%	2	29%	6	86%
El Paso	81%	6	75%	7	88%	6	60%	5	50%
Boston	80%	0	0%	4	27%	4	27%	5	33%
Rochester	80%	6	86%	5	71%	7	100%	5	83%
St. Louis	80%	7	100%	7	88%	8	100%	8	100%
Philadelphia	79%	16	48%	25	76%	27	82%	26	79%
Long Beach	77%	0	0%	0	0%	0	0%	0	0%
Phoenix	76%	0	0%	0	0%	1	13%	4	50%
San Diego	74%	3	18%	4	22%	3	17%	5	26%
Corpus Christi	73%	0	0%	4	80%	4	80%	3	60%
Fresno	73%	4	57%	6	86%	5	71%	5	63%
Milwaukee	73%	9	60%	14	93%	15	94%	13	87%
Yonkers	73%	0	0%	1	33%	1	33%	2	50%

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Table 2: 1993-2002 Promoting Power in Largest U.S. Cities—60% Cutoff

City	Minority	1993		1996		1999		2002	
		n	%	n	%	n	%	n	%
Aurora	44%	0	0%	0	0%	0	0%	1	25%
Tampa	42%	1	8%	4	29%	5	33%	13	68%
Garland	41%	0	0%	1	20%	1	17%	0	0%
Greensboro	41%	1	8%	2	14%	8	57%	3	38%
Las Vegas	40%	3	23%	0	0%	2	10%	6	25%
Tacoma	40%	2	40%	1	20%	2	40%	4	80%
Arlington	39%	1	25%	0	0%	0	0%	3	60%
Glendale	39%	0	0%	0	0%	0	0%	0	0%
Wichita	39%	0	0%	3	38%	2	25%	0	0%
Chesapeake	37%	0	0%	0	0%	0	0%	0	0%
Omaha	36%	0	0%	1	14%	0	0%	3	43%
Portland	34%	3	30%	3	30%	2	20%	2	20%
Virginia Beach	32%	0	0%	2	22%	2	20%	2	20%
Louisville	31%	5	25%	9	41%	7	33%	14	70%
Raleigh	31%	0	0%	2	17%	1	8%	3	21%
Anchorage	30%	0	0%	0	0%	0	0%	0	0%
Fort Wayne	29%	1	17%	1	17%	3	50%	2	33%
Madison	26%	0	0%	0	0%	1	25%	0	0%
Colorado Springs	25%	0	0%	0	0%	2	40%	1	20%
Lexington	25%	0	0%	2	33%	1	17%	1	20%
Des Moines	24%	0	0%	0	0%	2	40%	2	40%
St. Petersburg	23%	1	7%	12	86%	12	75%	11	69%
Mesa	22%	0	0%	0	0%	1	20%	0	0%
Scottsdale	13%	1	25%	1	25%	1	20%	1	20%
Spokane	13%	0	0%	1	17%	0	0%	0	0%
Lincoln	12%	0	0%	0	0%	0	0%	0	0%

**Table 3: Class of 2002 Promoting Power by State**

State	< 50% Power				< 60% Power			
	Number of schools	% of schools	% low PP	% ur- ban	Number of schools	% of schools	% low PP	% urban
Alabama	21	6%	2%	19%	71	21%	4%	14%
Alaska	5	16%	1%	0%	9	28%	0%	0%
Arizona	19	14%	2%	47%	37	26%	2%	49%
Arkansas	1	1%	0%	0%	5	3%	0%	40%
California	68	8%	7%	66%	129	16%	6%	57%
Colorado	14	9%	2%	57%	32	20%	2%	50%
Connecticut	8	5%	1%	88%	13	9%	1%	85%
Delaware	2	7%	0%	0%	8	28%	0%	13%
District of Columbia	1	7%	0%	100%	2	13%	0%	100%
Florida	74	21%	8%	35%	162	45%	8%	32%
Georgia	72	24%	8%	28%	156	53%	8%	22%
Hawaii	2	5%	0%	100%	6	16%	0%	17%
Idaho	0	0%	0%	0%	2	3%	0%	0%
Illinois	38	9%	4%	92%	63	15%	3%	86%
Indiana	12	4%	1%	83%	30	9%	1%	53%
Iowa	0	0%	0%	0%	4	2%	0%	100%
Kansas	2	2%	0%	50%	9	7%	0%	44%
Kentucky	15	7%	2%	13%	39	19%	2%	15%
Louisiana	22	11%	2%	41%	64	31%	3%	28%
Maine	1	1%	0%	0%	4	5%	0%	0%
Maryland	9	5%	1%	78%	17	10%	1%	65%
Massachusetts	7	2%	1%	71%	24	9%	1%	67%
Michigan	43	9%	5%	70%	79	16%	4%	47%
Minnesota	0	0%	0%	0%	6	2%	0%	67%
Mississippi	16	9%	2%	25%	52	31%	3%	18%
Missouri	15	6%	2%	80%	25	10%	1%	52%
Montana	1	3%	0%	0%	1	3%	0%	0%
Nebraska	1	1%	0%	100%	4	5%	0%	75%
Nevada	3	7%	0%	33%	8	17%	0%	13%
New Hampshire	1	2%	0%	0%	5	8%	0%	0%
New Jersey	10	3%	1%	70%	24	8%	1%	50%
New Mexico	12	19%	1%	33%	27	42%	1%	26%
New York	106	15%	11%	97%	145	20%	7%	88%

Table continued on next page.

Table 3: Class of 2002 Promoting Power by State

State	< 50% Power				< 60% Power			
	Number of schools	% of schools	% low PP	% ur- ban	Number of schools	% of schools	% low PP	% urban
North Carolina	30	10%	3%	23%	106	34%	5%	15%
North Dakota	0	0%	0%	0%	0	0%	0%	0%
Ohio	47	7%	5%	87%	75	12%	4%	69%
Oklahoma	10	7%	1%	90%	15	11%	1%	80%
Oregon	3	2%	0%	67%	7	5%	0%	29%
Pennsylvania	29	5%	3%	93%	48	9%	2%	83%
Rhode Island	3	8%	0%	67%	7	18%	0%	57%
South Carolina	47	27%	5%	13%	101	58%	5%	10%
South Dakota	1	3%	0%	0%	3	10%	0%	33%
Tennessee	25	10%	3%	80%	58	23%	3%	48%
Texas	103	15%	11%	79%	240	34%	12%	56%
Utah	1	1%	0%	0%	1	1%	0%	0%
Vermont	0	0%	0%	0%	3	7%	0%	33%
Virginia	10	4%	1%	80%	26	10%	1%	69%
Washington	10	4%	1%	30%	32	14%	2%	28%
West Virginia	0	0%	0%	0%	6	6%	0%	17%
Wisconsin	10	3%	1%	100%	16	5%	1%	88%
Wyoming	0	0%	0%	0.0%	1	5%	0%	0.0%



**Table 4: Low-Promoting Schools by Locale and State  
—60% Cutoff**

State	Type of location								Total number of schools
	Large city	Mid-size city	Urban fringe large city	Urban fringe mid-size city	Large town	Small town	Rural outside MSA	Rural inside MSA	
Alabama	3	7	6	10	0	14	16	15	71
Alaska	0	0	0	0	2	3	4	0	9
Arizona	16	2	5	1	0	4	7	2	37
Arkansas	0	2	0	0	0	2	1	0	5
California	58	16	43	6	0	1	2	3	129
Colorado	12	4	13	0	0	3	0	0	32
Connecticut	0	11	1	1	0	0	0	0	13
Delaware	0	1	5	1	0	0	1	0	8
District of Columbia	2	0	0	0	0	0	0	0	2
Florida	23	28	29	32	0	15	17	18	162
Georgia	10	24	40	4	2	39	25	12	156
Hawaii	1	0	5	0	0	0	0	0	6
Idaho	0	0	0	0	0	0	2	0	2
Illinois	42	12	7	0	1	1	0	0	63
Indiana	8	8	6	2	0	3	2	1	30
Iowa	0	4	0	0	0	0	0	0	4
Kansas	0	4	1	0	0	3	0	1	9
Kentucky	3	3	13	0	1	5	11	3	39
Louisiana	8	10	14	5	0	9	12	6	64
Maine	0	0	0	1	0	0	3	0	4
Maryland	11	0	4	0	0	1	0	1	17
Massachusetts	5	11	2	4	0	1	1	0	24
Michigan	19	18	24	6	0	1	7	4	79
Minnesota	4	0	0	0	0	0	2	0	6
Mississippi	0	9	2	3	0	17	18	3	52
Missouri	13	0	6	0	0	3	2	1	25
Montana	0	0	0	0	0	0	1	0	1
Nebraska	3	0	0	0	0	1	0	0	4
Nevada	1	0	4	0	0	1	1	1	8
New Hampshire	0	0	1	0	0	2	2	0	5
New Jersey	5	7	12	0	0	0	0	0	24
New Mexico	6	1	4	0	2	7	6	1	27
New York	116	12	8	1	0	2	3	3	145

Table continued on next page.

Table 4: Low-Promoting Schools by Locale and State—60% Cutoff

State	Type of location								Total number of schools
	Large city	Mid-size city	Urban fringe large city	Urban fringe mid-size city	Large town	Small town	Rural outside MSA	Rural inside MSA	
North Carolina	3	13	7	17	2	16	31	17	106
Ohio	32	20	8	2	0	6	7	0	75
Oklahoma	12	0	2	0	1	0	0	0	15
Oregon	2	0	2	0	0	2	1	0	7
Pennsylvania	34	6	5	0	1	1	0	1	48
Rhode Island	0	4	0	3	0	0	0	0	7
South Carolina	0	10	0	28	0	15	29	19	101
South Dakota	0	1	0	1	0	0	1	0	3
Tennessee	19	9	4	5	0	11	7	3	58
Texas	97	37	36	10	1	35	7	17	240
Utah	0	0	0	0	0	0	1	0	1
Vermont	0	1	0	0	0	2	0	0	3
Virginia	6	12	0	2	0	0	6	0	26
Washington	0	9	11	1	1	4	2	4	32
West Virginia	0	1	1	0	0	1	0	3	6
Wisconsin	13	1	0	0	0	1	1	0	16
Wyoming	0	0	0	0	0	1	0	0	1
Total	587	318	331	146	14	233	239	139	2007

**Table 5: Weak-Promoting Schools by Minority Concentration and by State—60% Cutoff (Excludes Tennessee)**

State	Total	Less Than			
		< 10% Minority	Half Minority	Majority Minority	> 90% Minority
Alabama	71	12	43	28	13
Alaska	9	0	6	3	2
Arizona	37	0	6	31	13
Arkansas	5	0	0	5	3
California	129	1	12	117	64
Colorado	32	0	14	18	4
Connecticut	13	0	0	13	6
Delaware	8	0	3	5	0
District of Columbia	2	0	0	2	2
Florida	162	6	116	46	15
Georgia	156	8	67	89	37
Hawaii	6	0	0	6	2
Idaho	2	1	2	0	0
Illinois	63	2	10	53	40
Indiana	30	6	18	12	6
Iowa	4	0	4	0	0
Kansas	9	2	5	4	1
Kentucky	39	20	34	5	0
Louisiana	64	3	28	36	16
Maine	4	4	4	0	0
Maryland	17	1	2	15	9
Massachusetts	24	4	12	12	4
Michigan	79	13	32	47	26
Minnesota	6	0	0	6	2
Mississippi	52	3	16	36	19
Missouri	25	5	8	17	8
Montana	1	0	0	1	1
Nebraska	4	0	3	1	0
Nevada	8	0	3	5	0
New Hampshire	5	5	5	0	0
New Jersey	24	0	1	23	20
New Mexico	27	0	5	22	8
New York	145	8	16	129	81
North Carolina	106	3	51	55	10

Table continued on next page.

Table 5: Weak-Promoting Schools by Minority Concentration and by State—60% Cutoff (Excludes Tennessee)

State	Total	Less Than			
		< 10% Minority	Half Minority	Majority Minority	> 90% Minority
Ohio	75	13	35	40	19
Oklahoma	15	0	4	11	3
Oregon	7	0	5	2	0
Pennsylvania	48	0	10	38	19
Rhode Island	7	2	4	3	1
South Carolina	101	3	51	50	13
South Dakota	3	0	2	1	1
Texas	240	1	59	181	96
Utah	1	0	0	1	1
Vermont	3	2	3	0	0
Virginia	26	2	4	22	6
Washington	32	4	22	10	0
West Virginia	6	4	6	0	0
Wisconsin	16	0	3	13	8
Wyoming	1	1	1	0	0
Total	1949	139	735	1214	579

## Appendix B TECHNICAL NOTES

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### ***What is Promoting Power and How Does it Relate to Other Measures of the Graduation/Dropout Rate?***

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To calculate a high school's promoting power we divide the number of students enrolled in the 12th grade by the number of 9th graders enrolled in the high school four years earlier (if it is a 10-12 senior high school we divide the number of seniors by the number of 10th graders three years earlier). We draw the enrollment numbers from the National Center for Educational Statistics Common Core of Data (CCD). The CCD data is based on state reports on enrollments during the month of October. The reason we compare 12th grade enrollment and not the number of graduates to the number of freshmen four years earlier is that data on the number of graduates for each high school in the United States is currently not available, but 12th grade enrollments are. The underlying assumption of the promoting power measure is that high schools in which the number of seniors closely approximates the number of entering high school students four years earlier will have high graduation and low dropout rates because most students have remained in school, been promoted in a timely fashion, and are on course to graduate.

Promoting Power is conceptually similar to an emerging class of indirect measures of the graduation rate which compare the number of graduates to the number of freshmen four years earlier at the state and district levels (where data on the number of graduates is available in the CCD). Comparing the number of graduates to the number of freshmen four years earlier has been used as a measure of high school success for nearly a century and currently it is being used with increasing frequency in both academic and policy making arenas (Haney et al., 2004). A recent ballot initiative in Michigan, for example, proposed making vouchers available to parents only in school districts where less than two thirds of freshmen graduate within four years (Steinberg, 2000). Green (2002) published a widely read policy paper for the Black Alliance for Education Options and the Manhattan Institute which argues that a comparison of the number of eighth graders or ninth graders in a school district to the number of graduates four or five years later is the best and most straightforward estimate of graduation rates available. Swanson and Chaplin (2003) argue that a Cumulative Promotion Index which compares the number of 9th graders, to the number of 10th graders, to the number of 11th and then 12th graders and finally the number of graduates over a four year period may be the best measure available to states and school districts to meet No Child Left Behind (NCLB) legislation reporting requirements on graduation rates. This is because the NCLB legislation implicitly includes the notion of holding/graduation power in its requirement that graduation rates be calculated by looking at the number of students who graduate from "secondary schools with a regular diploma in the standard number of years."

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### ***Promoting Power is Not a Direct Measure of the Dropout Rate***

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It is important to distinguish promoting power and other indirect measures of the graduation rate from direct measures of a school's dropout rate. An annual dropout rate compares the number of students who dropped out in one year to the total number of students enrolled. A longitudinal cohort drop out rate follows students at the individual level over four or more years and records the number who graduate, transfer, and drop out.

Comparing the number of students in 12th grade to the number of students in the 10th or 9th grade three or four years earlier is susceptible to several biases which makes it unreliable as a direct measure of the dropout rate. Some students may graduate in more than four years. Others may transfer to another school or educational institution from which they eventually graduate. Still others might leave and then return and graduate from high school at a later date or obtain a GED (Kominski, 1990).

The number of ninth grade students reported in the common core data we use will include some combination of first time ninth graders, students repeating the grade, and students who are no longer attending or never attended the school but are still on roll when the official count of ninth graders is made. It also will not include students who entered into the ninth grade after the official count is made typically in later September or early October. The 12th grade numbers will include students who made it to the 12th grade ahead of time, on time, and beyond time. It also will include students who entered the school after the official 12th grade count. Thus a school that has 50% fewer 12th graders than 9th graders four years earlier will not necessarily have a dropout rate of 50%.

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### ***Very Weak Promoting Power, however, Can Signal a Significant Dropout Rate***

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In spite of its biases, we argue that very weak promoting power is a good first order indicator of a school with a significant dropout rate. While promoting power does not provide an exact measure of the dropout rate, schools that have senior classes that are 50% or smaller than the entering class four (or three) years earlier are likely to have high drop out rates or at the very least a combined transfer out/drop out rate that is substantial. This will particularly be the case if the 50% fewer 12th graders than 9th/10th graders ratio is maintained for multiple years. In Baltimore, for example, all eight of the large non-selective high schools have had senior classes that are at least 50% smaller than the entering freshmen class four years earlier throughout the 1990s (BCPSS, 1995,1997). During this era the number of dropouts roughly equaled the number of high school graduates. In 1995-96, for example, 4,096 students dropped out of school in Baltimore and 3,827 students graduated (MSDE, 1997).

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### ***The 9th Grade Bulge, 12th Grade Bubble, and Migration***

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There are two potential sources of bias in graduation/dropout estimates and indicators which compare enrollments in the senior year to enrollments in the freshman year or enrollments in one year to graduates in another that are commonly mentioned in critiques of these measures.

The first is ninth grade repeaters. One potential weakness of using a promoting power measure as a proxy for the dropout rate is that ninth grade enrollments could include a large number of students who are repeating the ninth grade and could, in theory, go on to graduate in large numbers. In some districts and policy circles, allowing students to complete high school in five years is being proposed as a potential solution to enabling students with poor prior academic preparations to meet high standards (Johnston, 2000, Feldman, 2000). While this is theoretically possible, all available evidence indicates that currently students who repeat ninth grade do not go on to graduate in large numbers. In fact, repeating ninth grade is perhaps the strongest risk factor towards dropping out (Roderick et al., 1998; Neild & Balfanz, 2001; Haney et al., 2004). Students who repeat the ninth grade are typically students with very weak

academic skills and poor attendance habits (Roderick & Camburn, 1999; Neild & Balfanz, 2001). Absent a strong and sustained intervention, there is little evidence that students who failed to be promoted to the tenth grade will right themselves by simply being given a second try (Roderick et al., 1998). In Philadelphia, for instance, most ninth grade repeaters during the 1999-2000 school year did not do substantively better on their second try than in their first year. The typical student repeating the ninth grade passed only half of his or her courses, and, for a second time, failed to be promoted (Neild & Balfanz, 2001). A related critique is that students can be counted multiple times in the ninth grade enrollment counts (the year they are a first time student, then each year they repeat) whereas they can only be counted as a graduate one time. This is considerably less of an issue for promoting power which uses 12th grade enrollments because students can and do repeat the 12th grade. In fact, an unpublished analysis of a large northeastern city we found that in the years after promotion requirements were increased the percent of students repeating 12th grade approximated the percent repeating the 9th grade. It is possible, that this 12th grade bubble, in fact causes promoting power to overestimate true graduation rates as it will not capture students who were enrolled in the 12th grade but fail to graduate.

Migration is cited as another possible confounding factor. If a city or school district is steadily losing or gaining population over time this could lead promoting power to under or overestimate true graduation or dropout rates. We have used Census data to examine migration trends between 1995 and 2000 at the county, and where available city level for over 15,000 high schools. We found that less than 2% of these high schools were located in counties where the net in or out migration of 10-15 and 15-19 year olds was greater than 10%. This suggests, that in the main, promoting power measures are not being strongly biased by large migration induced swings in student populations.

Finally, the recent estimates of the cohort dropout rate for Chicago by Consortium on Chicago School Research enables at the district level a direct comparison of holding/graduating power measure and longitudinal cohort dropout rate calculations. Allensworth and Easton (2001) find that depending on the methods and definitions used between 40 and 50% of Chicago's students drop out by age 19. Greene (2002) and Swanson and Chaplin (2003), using different indirect approaches based on enrollment data and the number of graduates estimate the graduation rate for Chicago at 47% and 45%.

Thus it is possible that a large difference between the number of 12th graders and the number of entering 9th/10th graders three or four years earlier in a given school could reflect a shift in enrollment patterns (i.e., the loss of a major employer in a town), the transfer of students between schools within a district, or a large number of students successfully completing high school in five or more years. All available evidence, however, leads us to believe that these will be the exceptions not the rule. Overall the available evidence indicates that promoting power in the vast majority of cases can estimate graduation and dropout rates within plus or minus 5 to 10 percentage points (Warren, 2003; Corvers & Franklin, 2003; Swanson, 2004).

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### ***Data and Methods***

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Analyses in this study are based on data drawn from the National Center for Educational Statistics' Common Core of Data (CCD). The CCD is NCES' primary census database that includes information for the universe of all public elementary and secondary schools, school

districts, and other educational administrative and operating units across the U.S. The CCD contains three types of data: general descriptive information (school location and type); demographic data on students and staff (enrollment by grade, student characteristics, and number of classroom teachers); and fiscal data on revenues and expenditures. Data are submitted to NCES by state education agencies on an annual basis.

In an initial analysis of these data, we focused on two cohorts of high school students—the classes of 1993 and 1996 (Balfanz & Legters, 2001)—and focused on high schools in the 35 largest metropolitan areas in the U.S. A subsequent analysis added the class of 1999 as a third cohort and included an extended analysis on high schools in nearly 100 of the largest metropolitan areas (Balfanz & Legters, 2003). In this study, we have added the class of 2002 to bring the analyses up to date, and have broadened the analysis still further to include high schools throughout the United States.

**Data Filters.** Data were taken from CCD databases from the nine following school years: 1989/90, 1990/91, 1992/93, 1993/94, 1995/96, 1997/98, 1998/99, 1999/2000, and 2001/02. This enabled us to cover four four-year time periods (1989/90–1992/93, 1992/93–1995/96, 1995/96–1998/99, and 1998/99–2001/02) and four three-year time periods (1990/91–1992/93, 1993/94–1995/96, 1996/97–1998/99, and 1999/2000–2001/02). The three-year time periods were necessary to calculate the promoting power of schools with a 10th–12th grade span.

From these data sets, we took only those schools that were listed in the 50 states or the District of Columbia. Schools in U.S. territories, on U.S. military bases, or under the control of the Bureau of Indian Affairs were not included. We further filtered out schools with fewer than 300 enrolled students, schools with alternative or special education identifications, and schools that did not have a grade span of at least 10th–12th grades (e.g., 9th–10th schools and 11th–12th schools). This final filter resulted in the removal of at least one entire school district from the analysis since the district only contained 9th–10th and 11th–12th schools (Plano Independent School District in Texas).

In addition, we discovered that approximately 5% of the schools in any given cohort actually gained students from 9th (or 10th) through 12th grades. An analysis showed that they often represented one of four types of schools—unusual education units such as special career, adult education or technology centers, elite (and often selective) public high schools, elementary or middle schools with a small number of high-school students, or schools that had formerly been 10–12 schools and recently added a small 9th grade class. Other schools may have gained students if a nearby high school closed, or if a significant number of high-school aged students moved into the area. Since the purpose of our study was to get a handle on typical, comprehensive public high schools, we filtered out the unusual education units and elementary/middle schools. The schools that clearly had been 10–12 schools with a recently added 9th grade we treated as 10–12 schools and calculated the promoting power measure accordingly. The remaining sets of schools we retained in the analysis.

The application of our filters resulted in a sample size of 10,296 schools for the class of 1993, 10,709 schools for the class of 1996, 10,915 schools for the class of 1999, and 11,129 schools for the class of 2002. Altogether, 50–60% of all public schools in the 50 states or the District of Columbia with a 10th grade were included in each cohort.



**Variables.** We constructed the promoting power variables by calculating the ratio of 12th grade enrollment in 1992/93 to 9th grade enrollment in 1989/90, 12th grade enrollment in 1995/96 to 9th grade enrollment in 1992/93, 12th grade enrollment in 1998/99 to 9th grade enrollment in 1995/96, and 12th grade enrollment in 2001/02 to 9th grade enrollment in 1998/99. For 10-12 schools, we calculated the ratio of 12th grade enrollment in 1992/93 to 10th grade enrollment in 1990/91, 12th grade enrollment in 1995/96 to 10th grade enrollment in 1993/94, 12th grade enrollment in 1998/99 to 10th grade enrollment in 1996/97, and 12th grade enrollment in 2001/02 to 10th grade enrollment in 1999/2000.

Variables for school size, location, and student enrollment by race/ethnicity and by gender were drawn directly from the Common Core data files. Proportions of students of various races/ethnicities in the total enrollment were calculated by dividing the enrollment of a given ethnic group (Native American, Asian, Hispanic, Black, or White) into the total school enrollment. An additional variable for total school minority concentration was also calculated from the data using the proportion of Native American, Asian, Hispanic, or Black students in the total enrollment. The data used in calculating additional variables and in analysis were taken from the final (12th grade) year of each cohort.

While this information is available for most included schools, the education agencies in Tennessee did not report enrollment figures by race/ethnicity to NCES. Therefore, the schools in this state are not included in analyses of student race/ethnicity or of school minority concentration.