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ABSTRACT

This study examines the conditions of the Baltimore City Public Schools in the 2001-2002 school year, using data from the Maryland State Department of Education and the Baltimore City Public School System. Overall, the Baltimore City Public School system is failing, but it is failing more for some students than others. Students who are poor, non-white, and in schools with large enrollments are more likely to fail. Large enrollments, poorly-qualified and inexperienced teachers, and teachers who are not consistently there for their students are associated with negative student performance. There has been some improvement compared to the 2000-2001 school year. For example, the percentage of uncertified teachers has decreased. However, during the same period, the teacher-student ratio has increased. On a rating of improvement by the Education Commission of the States, Maryland received "does not appear to be on track" in two areas (having a highly qualified teacher in every classroom and having high quality professional development). (Contains 17 tables.) (SM)

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Baltimore City Schools – 2001-2002
A Failing System Riddled with Inequities
NCSC Public School Analysis Series

National Center for Schools & Communities
Graduate Schools of Education and Social Services
Fordham University

February 2003

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NCSC Public School Analysis Series
National Center for Schools & Communities – Graduate Schools of Education and Social Services – Fordham University – February, 2003

Baltimore City Schools – 2001-2002 – A failing system riddled with inequities

The Baltimore school system is experiencing a severe budget crisis. The district carried over a $19 million deficit from the 2001-2002 school year and ended the 2002-2203 first quarter with a further $6 million deficit (Baltimore Sun, 12.12.2002). Such periods of austerity present hard choices. Parents and community groups will have their work cut out to ensure that education funding is maintained at its present level, let alone increased to a level where education equity issues can be addressed. Title V of the No Child Left Behind Act aims to promote informed parental choice in education. It acknowledges that in order to make sound choices regarding their children's education, parents and their advocates require information. In that spirit of informed choice, this study examines the state of the Baltimore City Public School System in 2001-2002: children served, educational resources and academic performance.

A summary of the findings

The Baltimore school system is failing, but it is failing more for some than for others - if you are poor, non-white and in a school with a large enrollment, you are more likely to fail. Our findings concerning the school characteristics associated with failure are in line with research: large enrollments, poorly qualified teachers, inexperienced teachers, and teachers who are not consistently there for their students are associated with negative student performance.

There has been some improvement compared to 2001-2000 - overall, the percentage of uncertified teachers has decreased. However, during the same period, the student to teacher ratio has increased, suggesting a "rob Peter to pay Paul" policy.

The Education Commission of the States (**http://www.ecs.org/**), a group that looks at states' progress towards compliance with the No Child Left Behind Act, rates states in designated improvement areas. The State of Maryland gets a "does not appear to be on track" rating in two areas: " Having a highly qualified teacher in every classroom", and "Having high quality professional development." If this is a problem for Maryland as a whole, it is likely to be a huge problem for Baltimore City.

The Data in this study

The sources of the data for this report are the Baltimore City Public School System and the Maryland State Department of Education. Several schools had missing data on variables we wished to examine, hence the low number of schools included in parts of the analysis. Data on at least one variable were available for 181of 183 schools.

What we looked at

Table 1 presents the frequency of type of school for the 181 schools we investigated.

Table 1. The schools examined in this study

School Type 2001-2002	*Number*	*Percent of schools examined*
Elementary School	111	61.3%
Middle School	27	14.9%
Elementary and Middle School	16	8.8%
Middle and High School	2	1.1%
High School	25	13.8%

Table 2 presents the variables we examined for this report. Most of these variables are self-explanatory. Our poverty indicator was "Percent Free/Reduced Price Meal." Household size and income determine free/reduced price meal eligibility. For example, a child from a family of four will be entitled to a free lunch and, where available, free breakfast and/or free milk if the household's current annual income is below $23,530. If that same family's income is from $23,530 to $33,485, the child will pay 40 cents for a reduced-price lunch and 30 cents for a reduced-price breakfast. We excluded schools with over 10 percent of teachers with unknown degree status in any analyses concerning degree status.

The following are some of our findings:

?? The range of enrollment size is very broad across all school types. High schools have the widest range in enrollment – 69 to 2,318 students.

?? Of 171 schools, an average of 77 percent of children live in poverty, a significant increase from 73 percent in 2000-2001.

?? The Baltimore City Public School System is largely African American. Fewer than ten percent of students are "white". Of the schools examined, 22 have 100 percent non-white enrollments.

?? Close to 30 percent of teachers in the 181 schools are uncertified. Only four schools have no uncertified teachers and in nine schools (one high, five middle, and three elementary) 50 percent or more teachers lack certification.

?? Only 16 out of 154 schools have half or more teachers with Masters degrees.

?? Close to 40 percent of teachers have fewer that five years' experience.

?? We were unable to investigate certain variables as thoroughly as we would have liked due to missing data. For example, 44 percent of schools had missing data on the "annual budget for substitute teachers" variable.

?? High school average daily attendance in Baltimore is low, ranging from 50 percent at Francis M. Wood Alternative to 96 percent at Baltimore School for the Arts. At eleven of 25 high schools average daily attendance is below 80 percent.

?? The Baltimore City Public school system is failing: Fewer than 30 percent of 156 schools' third, fifth, or eight graders tested in either reading or math performed at a satisfactory or higher level in MSPAP tests. The picture for reading is particular troubling: in all 111 elementary schools more than 54 percent of students tested performed unsatisfactorily on the reading test; and in all 44 middle schools over 58 percent of students tested performed unsatisfactorily on the reading test.

Table 2. Description of variables examined in this study

Variable 2001-2202	*N schools with data*	*Minimum*	*Maximum*	*Average*
Total enrollment elementary schools	105	50	981	429
Total enrollment middle schools	27	94	1,192	634
Total enrollment elementary & middle schools	16	111	1,311	614
Total enrollment middle & high schools	2	121	206	60
Total enrollment high schools	24	69	2,318	1,047
Percent free/reduced price meal	171	14.30%	98.60%	77.09%
Percent students non-white	151	12.14%	100%	90.25%
Percent teachers whose certification status is unknown	64	0%	4.76%	0.47%
Percent teachers uncertified	151	0%	71.43%	29.69%
Percent teachers whose degree status is unknown	99	0%	23.08%	3.19%
Percent teachers with BA	151	0%	66.67%	34.59%
Percent teachers with BA plus 30	150	0%	66.67%	30.26%
Percent teachers with MA	154	0%	70.00%	32.15%
Percent teachers with up to 5 years experience	151	0%	75.00%	39.66%
Percent teachers with 6 to 24 years experience	154	0%	70.00%	34.11%
Percent teachers with 25 or more years experience	151	0%	66.67%	25.36%
Students to teacher ratio	151	3.92	65.83	15.85
Short term substitute budget	101	$1,000	$50,629	$11,456
Amount per student spent on short term substitute budget	101	$3.48	$48.72	$19.41
Amount per teacher spent on short term substitute budget	101	$52.63	$701.75	$306.98
Average daily attendance (ADA) – elementary	102	86.70%	98.50%	93.84%
ADA – Middle	27	79.60%	93.40%	86.54%
ADA – Elementary and middle	16	89.70%	96.80%	93.74%
ADA – Middle and high	2	70.00%	80.00%	79.00%
ADA - High	24	50.00%	96.10%	79.18%
Third graders MSPAP tested - Percent unsatisfactory reading performance	111	54.10	100	86.82
Third graders MSPAP tested – Percent unsatisfactory math performance	112	29.70	100	86.68
Fifth graders MSPAP tested – Percent unsatisfactory reading performance	112	40.20	100	81.36
Fifth graders MSPAP tested – Percent unsatisfactory math performance	112	17.70	100	79.56
Eighth graders MSPAP tested – Percent unsatisfactory reading performance	44	58.80	100	87.90
Eighth graders MSPAP tested – Percent unsatisfactory math performance	44	38.90	100	83.46

What are the demographics of Baltimore schools?

We looked at poverty and ethnicity across elementary, middle, and high schools. Our poverty indicator was "Percent Children Receiving free or reduced price lunch". Our ethnicity indicator was "Percent Children Non-White." Baltimore City's population is for the most part white and African American.

Table 3 presents descriptive statistics across Baltimore school types. Free/reduced price lunch eligibility ranges from a high of over 98 percent in two elementary schools to a low of 14 percent in one high school. Analyses of association revealed that non-white students were more likely than whites to be receiving free/reduced price meal, and that progressively smaller percentages of students from elementary school through high school take a free/reduced price meal.

Average non-white representation remains fairly constant across all grades. It ranges from below 12 percent in two elementary schools to 100 percent in 20 elementary and two middle schools. White students are more concentrated in particular schools in elementary schools, with a maximum 88 per cent in one school compared to a maximum white enrollment of 47 percent in one middle school.

Table 3: Characteristics of Baltimore City schools by school type

Characteristic	*Elementary (Number schools)*			*Elementary/Middle (Number schools)*			*Middle (Number schools)*			*High (Number schools)*		
	High	*Low*	*Average*	*High*	*Low*	*Average*	*High*	*Low*	*Average*	*High*	*Low*	*Average*
Percent Free/Reduced price lunch	98.60% (102)	29.30% (102)	84.39% (102)	91.20% (16)	29.70% (16)	61.93% (16)	96.20% (27)	59.70% (27)	81.44% (27)	86.20% (24)	14.30% (24)	50.82% (24)
Percent Non-white	100% (97)	12.14% (97	89.76% (97)	99.44% (3)	79.76% (3)	92.17% (3)	100% (27)	53.35% (27	91.07% (27)	99.64% (24)	49.32% (24)	91.09% (24)

Who gets what educational resources in Baltimore schools?

Research has shown that children's academic performance is better when they have certified teachers with advanced degrees, when their teachers are consistent and reliable, and when they are in smaller schools (Darling-Hammond, 1999, and Cotton, 1966).

The Center looked at the relationships between the distribution of certain education resources (school size, teacher credentials and experience, and amount spent on teacher substitutes) and school demographics (ethnicity and poverty) both in all schools, and in elementary, middle, and high schools in Baltimore City. We were far more likely to see significant relationships when investigating all schools because the number of the schools in a particular analysis affects the likelihood of finding "significant relationships", i.e.

relationships that are more than ninety percent unlikely to have occurred by chance (p=.05).

Tables 4A and 4B in the appendix present the correlation values of the significant relationships. We discovered the following:

In all schools

?? The larger the percentage of low-income children, the smaller the enrollment.

?? The larger the percentage of low-income children, the larger the percentage of uncertified teachers.

?? The larger the percentage of low-income children, the smaller the percentage of teachers with Masters degrees.

?? The larger the percentage of low-income children, the larger the percentage of teachers with fewer than five years experience.

?? The larger the percentage of low-income children, the smaller the amount per teacher spent on short-term substitute teachers.

?? The larger the percentage of non-white students, the larger the enrollment.

?? The larger the percentage of non-white students, the larger the percentage of uncertified teachers.

In elementary schools

?? The larger the percentage of low-income children, the larger the percentage of uncertified teachers.

?? The larger the percentage of low-income children, the smaller the percentage of teachers with Masters degrees.

?? The larger the percentage of low-income children, the lower the percentage of teachers with between 6 and 24 years experience.

?? The larger the percentage of non-white children, the larger the enrollment.

?? The larger the percentage of non-white children, the larger the percentage of uncertified teachers.

?? The higher the enrollment, the higher the amount per teacher spent on substitute teachers.

In middle schools

?? The larger the percentage of low-income children, the larger the percentage of teachers with 6 to 24 years experience.

?? The larger the percentage of non-white children, the larger the enrollment.

?? The larger the percentage of non-white children, the larger the percentage of teachers with 25 years or more experience.

In high schools

?? The larger the percentage of low-income children, the smaller the enrollment size.

?? The larger the percentage of low-income children, the larger the percentage of teachers with a BA degree plus 30 hours.

?? The larger the percentage of non-white children, the larger the percentage of uncertified teachers.

?? The larger the percentage of non-white children, the smaller the percentage of teachers with a Masters degree.

The statistically strongest relationships were in middle and high schools. The strongest relationship of all was between the percentage of non-white children in a high school and the likelihood of having teachers without a Masters degree.

A closer look at schools with high and low low-income enrollments

We examined the available data on the three highest and the three lowest free/reduced price meal enrollments schools in Baltimore's elementary, middle and high schools. Tables 5A, 5B and 5C on the following pages present the findings. We discovered the following:

In these elementary schools

?? The three poorest schools are 100 percent non-white.

?? The school with the highest percentage white enrollment, Medfield Heights, has the lowest percentage of uncertified teachers.

?? The three lowest-income schools have the lowest percentages of teachers with a Masters degree.

?? Half or more of the teachers in two of the lowest-income schools have fewer than five years experience.

In these middle schools

?? The lowest-income school, Harford Heights, has the second highest non-white enrollment, the lowest percentage of uncertified teachers, the highest percentage of teachers with a Masters degree, and the highest percentage of teachers with 6-24 years experience.

?? Compared to elementary schools, the middle schools we examined are more uniformly poor, have higher enrollments, have proportionately more uncertified teachers and fewer teachers with Masters degrees, and have a less experienced teaching staff.

In these high schools

?? The lowest-income school, Claremont, has no uncertified teachers, has the second highest percentage of teachers with Masters degrees, and has the most experienced teaching staff. It is also the smallest school.

?? The least poor school, Baltimore School for the Arts, has the lowest non-white enrollment, and proportionately the most teachers with Masters degrees.

?? There is great disparity in school size.

?? In the highest enrollment low-income school, Southside Academy, only half the teachers are certified, only one quarter have a Masters degree, and well over half have fewer than five years experience.

Table 5A: Comparing educational resources in 3 high free/reduced price lunch and three low free/reduced price meal ELEMENTARY SCHOOLS

School	*Characteristic/ Resource*						
	Percent free/reduced price lunch	Percent non-white	Enrollment	Percent teachers uncertified	Percent teacher with MA or higher	Percent teachers < 5 years experience	Percent teachers 6 to 24 years experience
Mount Washington	29.30%	82.33%	266	10.00%	60.00%	3.00%	55.00%
Medfield Heights	52.90%	28.40%	324	5.26%	36.84%	26.32%	36.84%
Garrett Heights	58.30%	82.86%	492	21.88%	50.00%	34.38%	40.63%
Dr. Rayner Browne	97.60%	100%	229	42.86%	21.43%	57.14%	35.71%
Cecil	98.20%	100%	400	20.00%	28.00%	20.00%	56.00%
Langston Hughes	98.60%	100%	216	38.89%	27.78%	50.00%	16.67%

Table 5B: Comparing educational resources in 3 high free/reduced price lunch and three low free/reduced price meal MIDDLE SCHOOLS

School	*Characteristic/ Resource*						
	Percent free/reduced price lunch	Percent non-white	Enrollment	Percent teachers uncertified	Percent teacher with MA or higher	Percent teachers < 5 years experience	Percent teachers 6 to 24 years experience
Falstaff	59.70%	97.21%	608	58.97%	25.64%	56.41%	17.95%
Highland Town	72.80%	94.21%	985	38.46%	33.85%	44.62%	30.77%
Northeast	73.60%	98.55%	758	36.59%	21.95%	41.46%	34.15%
Diggs-Johnson	91.40%	74.79%	360	39.29%	39.29%	46.43%	32.14%
Paul Laurence Dunbar	93.70%	100%	516	47.06%	35.29%	44.12%	35.29%
Harford Heights	96.20%	99.21%	504	21.43%	39.29%	35.71%	39.29%

Table 5C: Comparing educational resources in 3 high free/reduced price lunch and three low free/reduced price lunch HIGH SCHOOLS

School	*Characteristic/ Resource*						
	Percent free/reduced price lunch	Percent non-white	Enrollment	Percent teachers uncertified	Percent teacher with MA or higher	Percent teachers < 5 years experience	Percent teachers 6 to 24 years experience
Baltimore School for the Arts	14.30%	49.22%	318	11.11%	66.67%	11.11%	44.44%
Baltimore Polytechnic	29.60%	76.79%	1172	17.65%	54.41%	25.00%	36.76%
Northern	32.30%	95.59%	2052	31.63%	43.88%	39.80%	25.53%
Southside Academy	79.00%	98.26%	172	50.00%	25.00%	56.25%	18.75%
Waverly Career Center	84.50%	91.74%	109	17.39%	47.83%	8.70%	43.48%
Claremont	86.20%	81.16%	69	0%	62.50%	0%	62.50%

A closer look at schools with high and low non-white enrollments

We next examined available data on the three highest and the three lowest non-white enrollment schools in Baltimore's elementary, middle and high schools. Tables 6A, 6B and 6C on the following pages present the findings. We discovered the following:

In these elementary schools

?? The 100 percent non-white schools have proportionately more low-income students than the less non-white schools.

?? The 100 percent non-white schools have proportionately more uncertified teachers.

?? The 100 percent non-white schools have proportionately fewer teachers with a Masters degree.

?? At the lowest-income, 100 percent non-white school, Dr. Rayner Browne, close to 43 percent of teachers are uncertified. It has proportionately the least qualified and least experienced teaching staff.

In these middle schools

?? The non-white schools have the highest enrollments.

?? The non-white schools have proportionately the most uncertified teachers.

?? The school with the highest enrollment, William H. Lemmel, is 100 percent non-white and 80 percent low-income, and over half of its teaching staff are uncertified and have fewer than five years experience.

In these high schools

?? There are lower percentages of free/reduced price meal students than in comparable elementary and middle school sets.

?? The enrollments are larger than in the comparable high school low income set.

?? The school with the lowest enrollment, The Baltimore School for the Arts, has proportionately the fewest non-white students, the fewest low-income students, the fewest uncertified teachers, the most teachers with a Masters degree, and the most experienced teaching staff.

?? The school with the largest enrollment, Patterson, has proportionately the most low-income students, the most uncertified teachers, the fewest teachers with a Masters degree, and the least experienced teaching staff.

Table 6A: Comparing educational resources in 3 all non-white enrollment and 3 low non-white enrollment ELEMENTARY SCHOOLS

School	*Characteristic/ Resource*						
	Percent non-white	Percent free/reduced price lunch	Enrollment	Percent teachers uncertified	Percent teacher with MA or higher	Percent teachers < 5 years experience	Percent teachers 6 to 24 years experience
Thomas Jefferson	12.14%	65.50%	387	28.57%	31.43%	65.71%	17.14%
Hampden	12.30%	71.40%	366	8.70%	30.43%	34.78%	34.78%
Medfield Heights	28.40%	52.90%	324	5.26%	36.84%	26.32%	36.84%
Dr. Rayner Browne	100%	97.60%	229	42.86%	21.43%	57.14%	35.71%
Eulaw-Marshburn	100%	89.50/5	444	43.75%	31.25%	43.75%	40.63%
George G. Kelson	100%	83.20%	313	47.62%	23.81%	38.10%	33.33%

Table 6B: Comparing educational resources in 3 low non-white enrollment and 3 low non-white enrollment MIDDLE SCHOOLS

School	*Characteristic/ Resource*						
	Percent non-white	Percent free/reduced price lunch	Enrollment	Percent teachers uncertified	Percent teacher with MA or higher	Percent teachers < 5 years experience	Percent teachers 6 to 24 years experience
Benjamin Franklin	53.35%	74.00%	343	38.46%	26.92%	50.00%	30.77%
Canton	59.05%	85.00%	502	30.30%	39.39%	39.39%	45.45%
Southeast	63.05%	84.50%	479	39.39%	42.42%	57.58%	30.30%
Booker T. Washington	99.81%	99.81%	524	45.16%	25.81%	51.61%	35.48%
William H. Lemmel	100%	79.60%	995	51.67%	31.67%	53.33%	36.67%
Paul Laurence Dunbar	100%	93.70%	516	47.06%	35.29%	44.12%	35.29%

Table 6C: Comparing educational resources in 3 low non-white enrollment and 3 low non-white enrollment HIGH SCHOOLS

School	*Characteristic/ Resource*						
	Percent non-white	Percent free/reduced price lunch	Enrollment	Percent teachers uncertified	Percent teacher with MA or higher	Percent teachers < 5 years experience	Percent teachers 6 to 24 years experience
Baltimore School for the Arts	49.22%	14.30%	318	11.11%	66.67%	11.11%	44.44%
Baltimore Polytechnic	76.79%	29.60%	1172	17.65%	51.47%	25.00%	36.76%
Patterson	78.60%	59.90%	1854	33.02%	38.68%	54.72%	19.81%
Paul Laurence Dunbar	99.44%	43.90%	884	30.00%	44.00%	34.00%	30.00%
Frederick Douglass	99.58%	53.20%	1199	29.85%	37.31%	35.82%	28.36%
Carver Vocational	99.64%	46.90%	1384	16.22%	39.19%	13.51%	39.19%

The relationship between resources and performance

We examined available data to see if there are significant relationships between educational resources (school size and teacher qualifications) and student and teacher performance (state reading and math scores for elementary and middle schools and attendance for high schools, and amount per teacher spent on teacher substitutes, a variable that relates to teacher persistence). Tables 7A, 7B and 7C on pages 14 and 15 present significant findings. We discovered the following:

In elementary schools

?? The higher the percentage of teachers with over 24 years' experience, the more likely third grade students were to perform satisfactorily on the MSPAP Math test.

?? The higher the percentage of uncertified teachers, the more likely fifth grade students were to perform unsatisfactorily on the MSPAP Math test.

?? The higher the percentage of teachers with only a Bachelor's degree, the more likely fifth grade students were to perform unsatisfactorily on the MSPAP Math test.

?? The higher the percentage of teachers with five or fewer years' experience, the more likely fifth grade students were to perform unsatisfactorily on the MSPAP Math test.

?? The higher the percentage of teachers with over 24 years' experience, the more likely fifth grade students were to perform satisfactorily on the MSPAP Math test.

?? The larger the enrollment, the larger the amount per student spent on short-term substitute teachers.

?? The higher the percentage of teachers with only a Bachelor's degree, the higher the amount per student spent on short term substitute teachers.

?? The higher the percentage of teachers with 6 to 24 years' experience, the lower the amount per student spent on short term substitute teachers.

In middle schools

?? The higher the percentage of teachers with a Bachelor's degree plus 30, the more likely eighth grade students were to perform unsatisfactorily on the MSPAP Math test.

?? The higher the percentage of teachers with a Master's degree, the more likely eighth grade students were to perform satisfactorily on the MSPAP Math test.

In high schools

?? The higher the percentage of uncertified teachers, the lower the percentage students absent fewer than five days.

?? The higher the percentage of teachers with only a Bachelor's degree, the lower the percentage students absent fewer than five days.

?? The higher the percentage of teachers with a Master's degree, the higher the percentage students absent fewer than five days.

?? The higher the percentage of teachers with over 24 years' experience, the higher the percentage students absent fewer than five days.

?? The higher the percentage of teachers with a Master's degree, the lower the percentage students absent more than 20 days.

?? The larger the enrollment, the larger the amount per student spent on short-term substitute teachers.

Table 7A: Significant relationships between the distribution of educational resources in ELEMENTARY SCHOOLS and student and teacher performance

Performance indicators	*Elementary School Resources*						
	School size Pearson *r* (Number of schools)	*Percent uncertified teachers* Pearson *r* (Number of schools)	*Percent teachers with BA* Pearson *r* (Number of schools)	*Percent teachers with BA plus 30* Pearson *r* (Number of schools)	*Percent teachers with under 5 years experience* Pearson *r* (Number of schools)	*Percent teachers with 6 – 24 years experience* Pearson *r* (Number of Schools)	*Percent teachers with over 24 years experience* Pearson *r* (Number of Schools)
Grade 3 Math percent students performing unsatisfactorily							-.208* (89)
Grade 5 Math percent students performing unsatisfactorily		.180* (87)	.252** (87)	-.295*** (87)	.230** (87)		-.188* (87)
Amount per teacher spent on short term substitutes	.292** (75)		.246** (75)			-.210* (75)	

*$p \leq .1$, **$p \leq .05$, ***$p \leq .01$,

Table 7B: Significant relationships between the distribution of educational resources in MIDDLE SCHOOLS and student and teacher performance

Performance Indicators	*Middle School Resources*	
	Percent teachers with BA plus 30 Pearson *r* (Number of schools)	*Percent teachers MA or higher* Pearson *r* (Number of schools)
Grade 8 Math percent students performing unsatisfactorily	.435** (23)	-.280* (24)

*$p \leq .1$, **$p \leq .05$,

Table 7C: Significant relationships between the distribution of educational resources in HIGH SCHOOLS and student and teacher performance

Performance indicators	*High School Resources*				
	School size Pearson *r* (Number of schools)	*Percent uncertified teachers* Pearson *r* (Number of schools)	*Percent teachers with BA* Pearson *r* (Number of schools)	*Percent teachers with MA or higher* Pearson *r* (Number of schools)	*Percent teachers with over 24 years experience* Pearson *r* (Number of Schools)
Percent students absent fewer than 5 days		-.416** (24)	-.352* (24)	.536*** (24)	.362* (24)
Percent students absent more than 20 days				-.352* (24)	
Amount per teacher spent on short term substitutes	.448* (18)				

*$p \leq .1$, **$p \leq .05$, ***$p \leq .01$,

Have educational resources improved?

We compared education resources (percent uncertified teachers, percent teachers with a Master's degree, student to teacher ratio and enrollment size) in 2000-2001and 2001-2002 for all schools for which data were available. The key findings are below:

?? Citywide, on average, the percent of uncertified teachers decreased almost significantly from 30.94 percent to 29.67 percent between 2000-2001 and 2001-2002.

?? Citywide, on average, there was no significant difference between the percent of teachers with a Masters degree in 2000-2001 (33.43 percent) and 2001-2002 (32.58 percent).

?? Citywide, on average, there was a significant increase from 14.51 to 15.85 between student to teacher ratios in 2000-2001 and 2001-2002.

?? Citywide, on average, there was no significant difference between enrollment sizes in 2000-2001 (563) and 2001-2002 (557).

We also compared education resources across years in the ten schools with the 2000-2001 highest percentages of uncertified teachers. The data are presented in Table 8 on the following page. The key findings are below:

?? The range of percentages of uncertified teachers was from 52 percent to 62 percent in 2000-2001 and from 25 percent to 71 percent in 2001-2002.

?? On average, the percent of uncertified teachers significantly decreased from 55.74 percent to 44.05 percent between 2000-2001 and 2001-2002.

?? The range of percent teachers with a Masters degree was from 17.40 percent to 33.30 percent in 2000-2001, and from 13.79 percent to 50.00 percent in 2001-2002.

?? On average, there was no significant difference between the percent of teachers with a Masters degree in 2000-2001 (23.90 percent) and 2001-2002 (27.65 percent).

?? The range of student to teacher ratios was from 12.32 to 19.68 in 2000-2001 and from 13.64 to 25.64 in 2001-2002.

?? On average, there was no significant difference between student to teacher ratios in 2000-2001 (15.01) and 2001-2002 (17.52).

?? The range of enrollment size was from 248 to 1109 in 2000-2001 and from 295 to 977 in 2001-2002.

?? On average, there was no significant difference between enrollment sizes in 2000-2001 (574) and 2001-2002 (557).

Table 8: Comparing top ten 2000-2001 schools with highest percentages teachers uncertified with percent teachers uncertified 2001-2002

School	*Characteristic/ Resource*							
School	Percent teachers uncertified 2000-2001	Percent teachers uncertified 2001-2002	Percent teacher with MA or higher 2000-2001	Percent teacher with MA or higher 2001-2002	Student to teacher ratio 2000-2001	Student to teacher ratio 2001-2002	Enrollment 2000-2001	Enrollment 2001-2002
Calverton Middle	62.2%	60.29%	30.5%	29.41%	15.79	14.37	1109	977
Graceland Park Elementary	60.9%	26.32%	17.4%	26.32%	18.09	17.47	346	332
William H. Lemmel Middle	58.9%	51.67%	21.4%	31.67%	16.18	16.58	949	995
Arnett Brown Middle	57.1%	25.00%	19.0%	50.00%	12.71	24.58	279	295
Rosemont Elementary	55.9%	28.57%	20.6%	32.14%	12.32	13.64	393	382
Frankford Intermediate	54.2%	71.43%	++	++	12.54	25.64	248	359
Harlem Park Middle	52.3%	46.55%	25.6%	29.31%	13.53	17.09	1083	991
Booker T. Washington E.	52.2%	45.16%	30.4%	25.81%	14.61	16.90	570	524
Harlem Park Elementary	52.0%	37.93%	20.0%	13.79%	19.68	13.97	445	405
George Kelson Elementary	51.7%	47.62%	20.7%	23.81%	14.62	14.90	314	313

Conclusion and recommendations

The Baltimore school system is failing, but it is failing more for some than for others. With a few exceptions, if you are poor, non-white and in a school with a large enrollment, you are more likely to fail. Our findings concerning the school characteristics associated with failure are in line with research: large enrollments, poorly qualified teachers, inexperienced teachers, and teachers who are not consistently there for their students, are associated with negative student performance.

The Maryland State Department of Education provides information on student demographics and performance. However, information on teacher qualifications, teacher persistence, and extra-curricula offerings is not readily available to Baltimore City parents. The *No Child Left Behind Act* requires that, starting in 2002-2003, the following information will be on school "report cards":

?? Student academic achievement on statewide tests disaggregated by subgroup.

- ?? A comparison of students at basic, proficient, and advanced levels of academic achievement.
- ?? High school graduation rates.
- ?? The number and names of schools identified for improvement.
- ?? The professional qualifications of teachers.
- ?? The percentages of students not tested.

A "School Accountability Report Card", such as that created by the Newark Unified School District in California (see: **http://www.nusd.k12.ca.us/schoolsframe.html**), providing information on school demographics, school resources, school performance and school financing, and averages for the entire school system for like schools, would be an even more useful tool for promoting informed parental choice. When parents can see the extent to which their children are being short-changed on their education, they are more likely to be galvanized into action.

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APPENDIX

Table 4A: Significant relationships between the distribution of educational resources and race, poverty and school size in Baltimore City's public schools

Resources	*All Schools*	
	Percent Children Free/reduced price lunch Pearson *r* (Number of schools)	Percent Children Non-white Pearson *r* (Number of schools)
Size of School (number enrolled)	-.535**[1] (151)	.157* (151)
Percent Uncertified teachers	.290*** (151)	262*** (151)
Percent teachers with an MA degree or higher	-.473*** (151)	
Percent teachers with up to 5 years experience	.328*** (151)	
Percent teachers with 25 years experience or more	-.323*** (151)	
Amount per teacher spent on short term substitutes	-.244** (101)	

*$p \leq .1$, **$p \leq .05$, ***$p \leq .01$

[1] A "minus sign" denotes an inverse relationship, i.e. when the value of one variable decreases the value of the variable with which it is associated increases, and vice versa. In this case, school enrollment decreases as percent of children receiving a free/reduced price meal increases, and vice versa.

Table 4B: Significant relationships between the distribution of educational resources and race and poverty indicators in Baltimore City's public schools by type

Resources	*Elementary School*		*Middle School*		*High School*	
	Percent Children Free/R-priced Lunch Pearson *r* (N schools)	Percent Children Non-white Pearson *r* (N schools)	Percent Children Free/R-priced Lunch Pearson *r* (N schools)	Percent Children Non-white Pearson *r* (N schools)	Percent Children Free/R-priced Lunch Pearson *r* (N schools)	Percent Children Non-white Pearson *r* (N schools)
Size of School (number enrolled)				.459** (27)	-.507** (24)	
Percent Uncertified teachers	358*** (97)	.299*** (97)				.368* (24)
Percent teachers with a BA degree plus 30 hours					.483** (24)	
Percent teachers with an MA degree or higher	-.305*** (97)					-.631*** (24)
Percent teachers with 6 to 24 years experience	-.286*** (97)		.381* (27)			
Percent teachers 25 years experience or more				.340* (23)		

*$p \leq .1$, **$p \leq .05$, ***$p \leq .01$

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