

Milwaukee Longitudinal School Choice Evaluation: Annual School Testing Summary Report

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SCDP Milwaukee Evaluation Report #4

February 2008





The University of Arkansas

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Established as a land grant university, its mandate was threefold: to teach students, conduct research, and perform service and outreach.

The College of Education and Health Professions established the Department of Education Reform in 2005. The department's mission is to advance education and economic development by focusing on the improvement of academic achievement in elementary and secondary schools. It conducts research and demonstration projects in five primary areas of reform: teacher quality, leadership, policy, accountability, and school choice.

The School Choice Demonstration Project (SCDP), based within the Department of Education Reform, is an education research center devoted to the non-partisan study of the effects of school choice policy and is staffed by leading school choice researchers and scholars. Led by Dr. Patrick J. Wolf, Professor of Education Reform and Endowed 21st Century Chair in School Choice, SCDP's national team of researchers, institutional research partners and staff are devoted to the rigorous evaluation of school choice programs and other school improvement efforts across the country. The SCDP is committed to raising and advancing the public's understanding of the strengths and limitations of school choice policies and programs by conducting comprehensive research on what happens to students, families, schools and communities when more parents are allowed to choose their child's school.

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**SCHOOL CHOICE
DEMONSTRATION PROJECT**

School Choice Demonstration Project

Department of Education Reform

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Executive Summary

With the passage of 2005 Wisconsin Act 125, private schools participating in the Milwaukee Parental Choice Program (MPCP) are now required to administer a nationally normed standardized test annually in reading, mathematics, and science to their MPCP (a.k.a. “Choice”) students enrolled in the 4th, 8th, and 10th grades. The law further directs Choice schools to submit copies of the scores from those tests to the School Choice Demonstration Project (SCDP) for processing and reporting to the Legislative Audit Bureau. During the 2006-07 school year, MPCP schools administered either nationally normed tests, such as the Iowa Test of Basic Skills, or the criterion referenced Wisconsin Knowledge and Concepts Examinations (WKCE). The School Choice Demonstration Project received 5,194 nationally normed scores from 66 schools and 1,231 WKCE scores from 40 schools.

The average nationally normed test scores received by the SCDP from the Choice schools ranged from the 28th to near the 39th percentiles, depending on the grade level and subject area. Such relatively low levels of performance are typical for the population of low-income urban students served by the MPCP. Fourth grade students in the MPCP on average scored around or below the lower-third of the performance distribution in all three subject areas. The Choice students tested in 8th grade performed slightly better, but still near the 33rd percentile. The MPCP students tested in 10th grade, on average, performed somewhat higher than their 8th and 4th grade counterparts, from the 34th percentile in math to near the 39th percentile in reading and science.



The performance of the Choice students who took the criterion referenced WKCE can be compared to that of similarly income-disadvantaged students in Milwaukee Public Schools (MPS) who took the same test. The 4th grade MPCP students who took the WKCE on average scored 8 to 13 scale score points (equal to .16 to .29 of a standard deviation) below the average scores of income-disadvantaged 4th graders in MPS. The 8th grade MPCP students who took the WKCE, however, performed better than their MPS counterparts by 6 to 9 scale score points (.14 to .17 of a standard deviation). Only 61 Choice students in 10th grade took the WKCE, too few to generate reliable performance results.

This report provides descriptive data regarding the test scores of Milwaukee Parental Choice Program students in grades 4, 8 and 10 in reading, math and science, as reported to the School Choice Demonstration Project 2006-2007. The tables, graphs, and histograms presented in this report provide a snapshot of these students' percentile scores or scale scores relative to overall national norms or MPS

students. They do not and cannot tell us if MPCP schools are performing better, worse, or the same as MPS schools. Any reliable determination of the effectiveness of a school choice program like the MPCP can only come from a rigorous longitudinal study that follows a representative group of choice students over time and compares their achievement gains to those of a comparable set of public school students. For such an evaluation, we refer readers to the MPCP Longitudinal Educational Growth Study (LEGS) also being conducted by the SCDP.

We do not and cannot present school level information connected to named schools in this or any other SCDP report. This restriction is primarily because of requirements concerning the preservation of anonymity in academic research. In addition, due to student self-sorting among schools, school level information about individually named schools would not be appropriate for evaluating school performance or the effects of the Choice program as a whole.

The comprehensive longitudinal evaluation of the Milwaukee Parental Choice Program, of which this report is a part, is being conducted by the School Choice Demonstration Project at the University of Arkansas in collaboration with researchers at the University of Wisconsin-Madison and Westat. This project is being funded by a diverse set of philanthropies including the Annie E. Casey, Joyce, Kern Family, Lynde and Harry Bradley, Robertson, and Walton Family foundations. We thank them for their generous support and acknowledge that the actual content of this report is solely the responsibility of the authors and does not necessarily reflect any official positions of the various funding organizations, the University of Arkansas, the University of Wisconsin, or Westat, Inc. We also express our gratitude to MPS, the private schools in the MPCP, and the state Department of Public Instruction for willing cooperation, advice, and assistance.¹

Introduction

On March 10, 2006, Wisconsin Governor Jim Doyle signed Wisconsin Act 125 into law. The Act modified several elements of the Milwaukee Parental Choice Program (MPCP), the nation's first and largest urban school voucher program. Participating private schools are now required to administer a nationally normed standardized test annually in reading, mathematics, and science to their MPCP (a.k.a. "Choice") students enrolled in the 4th, 8th, and 10th grades. Beginning in 2006 and extending through 2011, the individual student results of the tests must be provided to the School Choice Demonstration Project (SCDP). Finally, Act 125 requires that:

The [Wisconsin] legislative audit bureau shall review and analyze the standardized test data received from the School Choice Demonstration Project. Based on its review, in 2007 and

¹ We would also like to thank the following advisory board members for their expert guidance regarding this particular report: David E. Campbell, University of Notre Dame; Anneliese Dickman, Milwaukee Public Policy Forum; Laura Hamilton, RAND; Tom Loveless, The Brookings Institution; Thomas Nechyba, Duke University; and Margaret Raymond, The Hoover Institution. We are also grateful to the following staff members who were responsible for the enormous data entry task regarding this project: Levi Foster, Karen Lockhart, Jacqueline Lockhart, and Kim Torres. Any remaining errors are solely the responsibility of the authors.

annually thereafter until 2011, the bureau shall report to the legislature under s. 13.172 (2) the result of the standardized tests administered under subd. 1., the scores of a representative sample of pupils participating in the program under ss. 118.30 and 121.02 (1) (r), and scores of a comparable group of pupils enrolled in the school district operating under this chapter on the tests under ss 118.30 abd 121.02 (1) (r).²

This report describes the results of the student testing conducted by MPCP schools during the 2006-07 academic year. The standardized test scores were collected from participating schools throughout the school year, with most of them arriving at the SCDP in the summer of 2007. The SCDP staff carefully entered these scores into a single database and delivered the data to the Legislative Audit Bureau on December 28, 2007.³

Most of the test scores we received from Choice schools were based on the administration of nationally normed tests such as the Terra Nova or the Iowa Test of Basic Skills (ITBS). These types of tests measure performance relative to other students by including questions meant to produce a full range of scores (i.e. very easy questions ranging to very difficult questions to separate the highest and lowest performing students). In contrast, 40 private schools participating in the MPCP administered the Wisconsin state criterion referenced test—the Wisconsin Knowledge and Concepts Examinations or WKCE (Table 1). Even though the producers of both norm and criterion referenced tests claim that the assessments cover the same subject domain, students likely exhibit different patterns of proficiency on the two types of tests due to differences in framework and item selection. The WKCE is only administered in Wisconsin; therefore, no national distribution exists to make a direct performance comparison with the ITBS and Terra Nova.

To account for these differences, distinct subsections of this report present consolidated results from schools that administered the various nationally standardized tests and separate results from schools that administered the state-specific exam. For reference purposes, the results of the subgroups of Choice students and schools that administered the WKCE are compared with the overall and school-level results on the WKCE of economically disadvantaged Milwaukee Public School (MPS) students participating in the federal lunch program.⁴

2 WI Act 125, Sec. 8, 119.23 (7)(e), 2.

3 The majority of MPCP schools administered the standardized tests late in the spring. The companies that produce the tests then require several months to score them and send test result reports to the schools. Since most schools operate with a minimum staff over the summer, in some cases the test result reports were not compiled and sent to the SCDP until the fall, resulting in an unexpected delay in data input and delivery of the test score database to the Legislative Audit Bureau. In an extreme case, the final complete set of 2006-2007 scores from one MPCP school were not received until January 2008, requiring the research team to compile and deliver to the LAB a second, updated version of the test score database.

4 As a mechanism for comparing MPCP and MPS students, eligibility for the federal lunch program is limited in two ways. First, the family income ceiling for eligibility for the lunch program is 185 percent of the poverty line, which is slightly higher than the income ceiling of 175 percent of poverty for initial eligibility for the MPCP but somewhat below the income ceiling of 220 percent of poverty for renewal of MPCP eligibility. Second, many students who are income-eligible for the federal lunch program choose not to participate. The rate of non-participation tends to increase steadily as students move from the lower grades to the higher grades. Although federal lunch program participation is an

Table 1. Types of Tests Taken by MPCP Schools and Students

	Schools		Students	
	Number	Percentage	Number	Percentage
National Norm	66	62%	5,194	81%
WKCE	40	38%	1,231	19%
Total	106	100%	6,425	100%

The scores received from the MPCP schools are summarized in two results sections below. The first results section describes the aggregate scores for the groups of Choice students in each of the tested grades who took either nationally normed assessments or the WKCE. The second results section describes the distribution of MPCP test scores, by grade and subject matter, at the individual school level.

Although school-level test scores are presented in the second results section, individual schools are not identified by name. Connecting any individual Choice school explicitly to information about its students could enable readers to identify individual participants in the study in violation of the assurances of confidentiality that are required when conducting such research.⁵ The preservation of the anonymity of participants in educational evaluations is so important that the federal statute establishing the evaluation division of the U.S. Department of Education expressly prohibits the naming of individual students, parents, or schools in any of its reports.⁶ Because state law requires the affected MPCP schools to administer tests and submit scores to the SCDP, we do mention by name in this report the schools that did and did not perform those required actions (Appendix A). Because the information thus submitted is to facilitate an education evaluation, however, any subsequent presentation of the data provided by schools and students must remain anonymous. Of the hundreds of statistical studies of school choice programs with which we are familiar, none of them have revealed school-level information directly associated with named schools, for these very reasons.⁷

imperfect measure of family disadvantage, it was the best criterion available to generate approximate comparisons for this particular element of the evaluation. For this and other reasons described in this report, readers are cautioned against drawing any strong conclusions about the relative performance of MPCP and MPS students from the descriptive comparisons provided here.

- 5 As with all academic research with human participants, the SCDP research team had to gain approval of an extensive protocol for protecting the anonymity of participants and the confidentiality of the information that they provide before research on the MPCP could begin. Approvals of our research protocols, which prohibit us from associating any data with named individuals or schools, were obtained from the Institutional Review Boards for Human Subjects Research at the University of Arkansas and Westat.
- 6 "The Director shall ensure that all individually identifiable information about students, their academic achievements, their families, and information with respect to individual schools, shall remain confidential..." See Education Sciences Reform Act of 2002, 20 U.S.C., 1232g, 1232h.
- 7 Many schools in the MPCP provide school-level information by school name voluntarily to parents and organizations to facilitate the school choice process. In Milwaukee and in other major cities around the country, the organization Great Schools Dot Net is spearheading efforts to consolidate such information into comprehensive school choice guides

The MPCP Annual School Testing Summary Report has important strengths and limitations. The main strength of the Report is its ability to provide a data-rich snapshot of the current academic performance of a large number of students from nearly all of the schools participating in the MPCP. Such information on the Choice program has not been available for more than a decade. The limitations of the study stem largely from the fact that the data are cross-sectional, not longitudinal, and the two comparison groups involved are far from ideal. These data show us how well a large group of Choice students is performing academically, but tell us nothing about what has caused them to perform at the level. Since many factors including the backgrounds and home lives of students as well as the quality of their educational experiences likely influence their performance on standardized tests at a given point in time, it would be a mistake for readers to draw conclusions concerning the effectiveness of the MPCP based on these simple annual descriptive statistics.

The Longitudinal Educational Growth Study, also being conducted by the SCDP, will entail a comparison of the achievement gains over time of a representative sample of MPCP students relative to a carefully-matched set of peers in Milwaukee traditional public and charter schools. It will track the performance of the same set of MPCP and MPS students as they progress through their educational experience. The MPCP Annual School Testing Summary Report, in contrast, examines a different set of MPCP students each year at fixed points in their educational experience. It is not a growth or value added comparison against peers in MPS or any other group. This point cannot be stressed enough. Readers who are interested in student performance differences that can be reasonably attributed to the influence of the Choice program itself are advised to follow the progress of the MPCP Longitudinal Educational Growth Study.

Before we present the results of the MPCP student testing for 2006–07, however, we first explain how the MPCP test scores were acquired.

Process for Obtaining MPCP Test Scores

The School Choice Demonstration Project engaged in an extensive set of activities during the 2006 academic year that culminated in this report. In August of 2006 Patrick Wolf, principal investigator of the SCDP, sent a letter to each school participating in the MPCP informing them of the new testing requirements mandated by Wisconsin Act 125 (Exhibit 1). On September 7th, 2006, Dr. Wolf, along with several other members of the SCDP research team, traveled to Milwaukee to attend the first Pupil Assignment Council meeting of the 2006–07 school year. During this meeting Dr. Wolf gave a presentation to the MPCP school administrators again informing them of the accountability testing requirements mandated by Wisconsin Act 125. During the late fall of 2006, Laura Jensen, SCDP Research Associate, contacted each MPCP school to inquire about their testing plans for the 2006–07 school year. In early February 2007, each of the 108 MPCP schools involved in the accountability testing⁸

called “My School Chooser.” Because such efforts are voluntary and are not part of a research evaluation, the prohibition against connecting descriptive information to named schools does not apply to such school choice guides.

8 Only participating schools that serve MPCP students in grades 4, 8, or 10 are required to administer tests under Wisconsin Act 125. Fourteen of the 122 MPCP schools did not enroll any MPCP students in the testing grades in 2006–07 and therefore were not required to participate in the testing program.

was sent a letter informing them of security protocols to be followed when mailing student-level scores to the SCDP (Exhibit 2). The February letter also mentioned that scores from fall 2006 testing should be mailed to the SCDP by March 1st, 2007, and that scores from spring 2007 should be mailed to the SCDP by July 1st, 2007. In late May 2007, a letter was mailed to the MPCP administrators reminding them that all 2006-07 test scores should be mailed to the SCDP as soon as possible (Exhibit 3).

On July 1st, 2007, the SCDP had received 2006-07 test scores from 85 of the 108 affected MPCP schools. Through subsequent contacts with the remaining schools, the SCDP soon received test scores from an additional 16 schools. By mid-September 2007, the SCDP had obtained test scores from all but seven of the MPCP schools required to test.

On September 22, Dr. Wolf informed officials at the Wisconsin Department of Public Instruction (DPI) responsible for overseeing the MPCP of the seven schools that had yet failed to comply with the 2006-07 testing requirements. The schools were subsequently contacted by the DPI and informed that they would not be receiving further voucher payments until they supplied 2006-07 test scores to the SCDP.⁹ Consequently, five of the seven non-complying schools provided the SCDP with 2006-07 test scores for their students. By the conclusion of data collection for this report, the SCDP had received test scores from 106 of the 108 affected schools, a 98 percent response rate (Appendix A).

Use of Percentile Rankings

Because private schools administered several types of tests, as permitted by Act 125, it is necessary to use the standardized version of the student scores in order to combine and compare them. Scale scores often are the preferred metric for reporting test scores because they are produced by applying a complex scoring system, called Item Response Theory (IRT), which draws from the entire pattern of correct and incorrect answers and factors in different levels of difficulty. Scale scores are “vertically equated,” meaning that scores on the same test can be compared across grades. However, scale scores are not “horizontally equated” in any way across different tests. Even for norm-referenced tests such as ITBS and Terra Nova, the scale scores for corresponding national percentiles are drastically different. For example, for the 4th grade test, the corresponding scale score for the 50th percentile on the ITBS is 200. For the 4th grade Terra Nova, the 50th percentile scale score is 637. Clearly, the scale scores are inappropriate for averaging across tests. Therefore, for all nationally-normed standardized tests, the national percentile rank is used in this report. All participating schools from which norm referenced scores were retrieved reported the national percentile ranking for reading, math, and science, so these scores were consolidated to produce the aggregate performance totals provided below.¹⁰

9 Sarah Carr, “Money Withheld from 7 Schools: Researchers Want Test Scores for Voucher Study,” *Milwaukee Journal Sentinel*, September 30, 2007.

10 Although all of these scores are similar in that they describe the student’s performance in comparison with the national sample of students that took the test (i.e. the “norming” population), that national sample can vary somewhat across the tests – another reason why readers are cautioned against drawing strong conclusions from these illustrative data.

In the case of the WKCE, no national norm exists and thus no national percentile exists. Therefore, this report presents the school level data in terms of scale scores for the subset of MPCP schools that administered the WKCE. Because MPS uses the WKCE, we provide information about the performance of income-disadvantaged MPS students to provide a general context in which to interpret the scale score performance levels of the MPCP students and schools that administered the WKCE as their accountability test.

Percentile Results at the Program/Grade/Subject Level

The following tables report the information contained in these data concerning the national percentile rank averages for Choice students in grades 4, 8, and 10 in the subjects of reading, math, and science. Tables 2 through 4 illustrate these scores by grade.

Table 2

Grade 4 National Percentile Summary Statistics

Subject	Mean	Std Dev	Obs	Min	Max
Reading	34.1	25.2	564	1	99
Math	32.3	25.0	572	1	99
Science	28.0	22.7	321	1	97

Table 3

Grade 8 National Percentile Summary Statistics

Subject	Mean	Std Dev	Obs	Min	Max
Reading	35.9	24.6	407	1	99
Math	33.2	26.3	405	1	98
Science	28.6	21.7	291	1	95

Table 4

Grade 10 National Percentile Summary Statistics

Subject	Mean	Std Dev	Obs	Min	Max
Reading	38.4	25.5	463	1	99
Math	34.3	22.9	447	1	98
Science	38.8	25.8	446	1	97



The SCDP received scores produced by 967 4th grade MPCP students.¹¹ Fourth grade students in the MPCP on average scored around or below the lower-third of the national performance distribution in all three subject areas. These results are not surprising. The MPCP is limited to low-income inner-city students, a disadvantaged population that typically exhibits test scores well below the national average. These particular scores do not indicate how well the program serves these students; they merely describe the average performance of an educationally disadvantaged group of students at a particular moment in time relative to the average student in the nation, most of whom are not disadvantaged. To interpret the results, one would say that the Milwaukee Choice students taking a nationally standardized test averaged in the 34th percentile (scored higher than 34 percent) in reading compared to other 4th graders nationwide taking similar tests. They averaged in the 32nd national percentile in math and the 28th national percentile in science.

The MPCP students tested in 8th grade performed slightly higher relative to the 8th graders nationwide as did the MPCP students in 4th grade (Table 3). The SCDP received scores generated by 834 8th graders in the MPCP. Choice students in 8th grade, on average, performed around the lower-third of the national distributions in all three subject areas.

The 546 MPCP students tested in 10th grade scored the highest relative to nation norms of the three grade-cohorts tested (Table 4). The 10th grade Choice students scored near the 34th percentile in math, the 38th percentile in reading, and the 39th percentile in science. Although these descriptive statistics appear to show academic improvement as choice students mature, these grade-cohorts of students are likely to be compositionally different. Readers are cautioned against inferring from these data that the MPCP necessarily is responsible for the difference in performance between 10th grade MPCP students and their 8th and 4th grade counterparts.

Scale Score Results at the Program/Grade/Subject Level

The fact that a subset of MPCP students as well as MPS students took the WKCE criterion referenced test instead of a norm-referenced test allows us to present those results in a different manner. Income-disadvantaged MPS students are likely to be more similar to MPCP students than any national norming population, since both groups of students live in the same city and qualify as low income. Still, because this approximate match is not very precise, and because the subset of MPCP students who took the WKCE is not likely to be representative of all MPCP students, readers are cautioned against drawing conclusions about the effects of the Choice program from this limited snapshot comparison.

Table 5 illustrates the summary statistics for 4th and 8th grade MPCP students who took the WKCE in the fall of 2006 as well as the statistics from similarly income-disadvantaged students in MPS. Only

11 The total number of student test scores by grade reported here and throughout the text are counts of the number of different students for whom at least one test score on a norm-referenced test or the WKCE was provided. That number for each grade is higher than the "Observations" numbers reported in each table because we separate out the WKCE scale scores from the norm-referenced percentile scores and because most but not all of the students produced test scores in all three of the subject areas.

61 MPCP 10th graders took the WKCE last year, making aggregate statistics about that small subgroup insufficiently reliable to present here. These descriptive statistics show 4th graders in the MPCP who took the WKCE performing 8 to 13 scale points below the average levels of income-disadvantaged MPS 4th graders. This achievement difference is equal to .16 to .29 of a standard deviation of the MPS test score distribution.¹² The 8th grade scores illustrate the opposite as the scale scores for the MPCP students on the WKCE are higher in all three subjects, by 6 to 9 scale score points, than those of income-disadvantaged MPS students. This achievement difference at the 8th grade level is equal to .14 to .17 of a standard deviation. For both grades and in all three subjects the differences in the average scale scores of the two groups are relatively modest in size.

Table 5*MPCP and MPS Summary Statistics for WKCE Scaled Scores Student Level*

		MPCP			MPS			Difference		
		Read	Math	Science	Read	Math	Science	Read	Math	Science
4th Grade										
	Obs	338	338	338	4654	4811	4673	-	-	-
	Mean	436	417	264	444	430	273	-8	-13	-9
	Std. Dev.	50	50	31	48	47	31	2	3	1
8th Grade										
	Obs	401	402	399	4834	4917	4779	-	-	-
	Mean	494	503	365	485	497	359	9	6	7
	Std. Dev.	53	44	42	52	47	41	0	-3	1

Performance Distributions at the Individual School Level

This section presents the distribution of results of the 2006-07 MPCP school testing at the individual school level in a series of histograms. The histograms shown illustrate grades 4, 8 and 10 scores in reading, math and science. Figure 1 represents 4th grade, and figure 2 shows 8th grade, in all three subjects. These histograms have a normal distribution overlay, which is depicted by the line in each graph. This normal distribution overlay is relative to the empirical data that underlay it. That means it is appropriately scaled and has the same mean and standard deviation as the data. These histograms allow for slightly more disaggregating among these data. For example, the 4th grade reading percentile mean reported above was 34.1, indicating students on average ranked right around the lower one-third of the distribution. Looking

12 The statistical term "standard deviation" represents an indication of the spread of the data around the average. See William Mendenhall, *Introduction to Probability and Statistics* (Boston, MA: PWS-Kent, 1983). Because standard deviation is a measure of distance around the mean, it is commonly used to determine the size of a difference between two means. In this case, it is simply a way of describing the point differences between the two types of schools. For example, concerning 4th grade math scores, a full standard deviation is 50 points; however, the mean difference between MPS and MPCP is about a quarter (.26) of a standard deviation or 13 points.

at school averages in the 4th grade reading histogram, however, there were 18 MPCP schools whose Choice students averaged higher than the 50th percentile in their test score performance.

These particular histograms use frequency counts of the number of schools with average percentile scores in each decile. For example, in the 4th grade—National Percentile Reading figure, the Choice students in 17 schools had an average national percentile score in Grade 4 reading between the 20th and 30th percentiles. In general, these graphs are intended to indicate the distribution of schools that underlay the overall averages reported in the previous results section.



Figure 1. 4th Grade National Percentile Rank for MPCP Schools

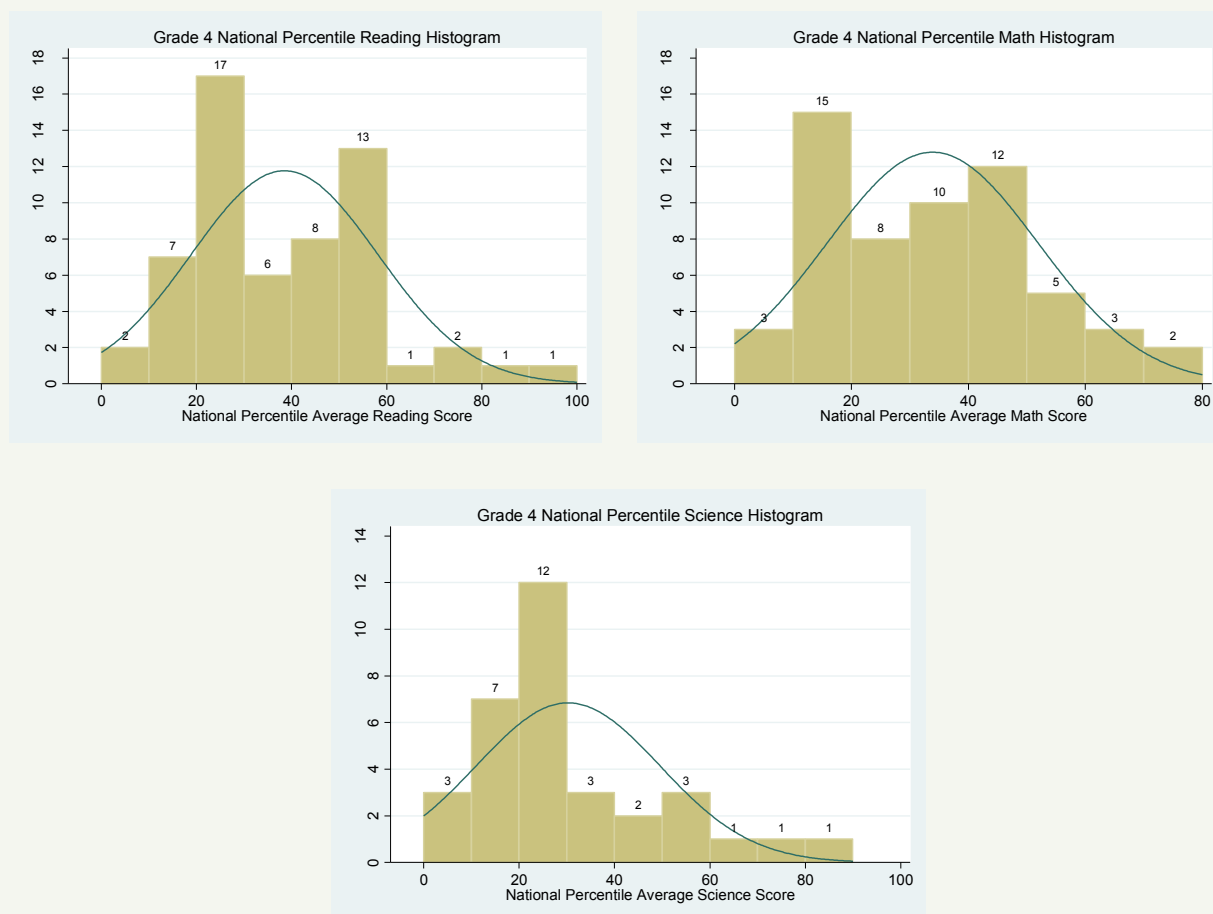
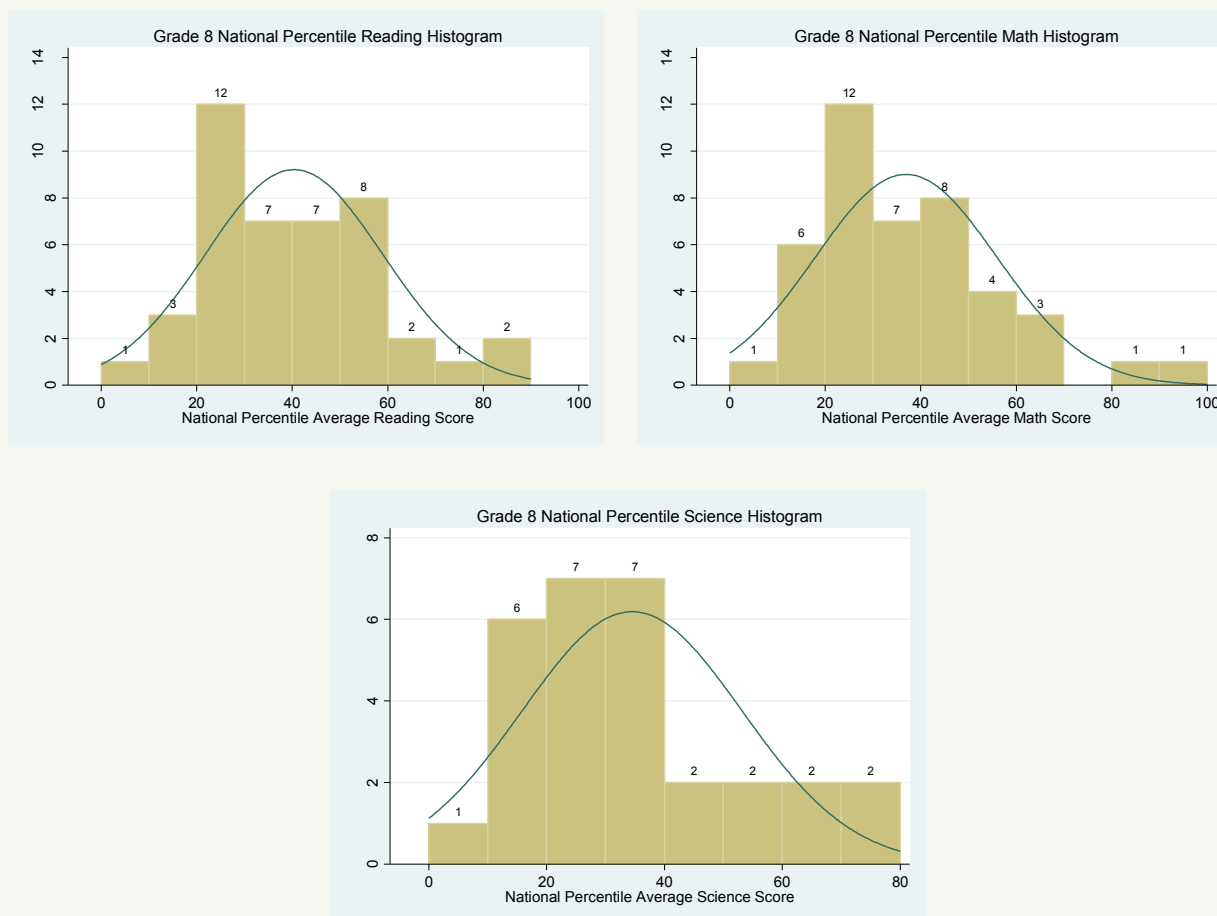


Figure 2. 8th Grade National Percentile Rank for MPCP Schools

The histograms of MPCP school-level test score performance presented above generally show distributions with what is known as a “positive skew.” The school-level performance averages tend to cluster around or below the 40th percentile, with a small group of much higher performing units at the upper tail of the distribution. The positive skew of the distributions lessens somewhat in the upper grades and takes more of the shape of a normal bell-shaped curve. The distributions reveal that some school-level clusters of MPCP students are performing very well relative to national norms; however, most school-level clusters of students performed well below national averages. Because these data merely provide a snapshot of school-level groupings of students, we cannot infer from them that some MPCP schools are much better performing than most MPCP schools, since the results could be due to higher-performing groups of MPCP students gravitating towards particular MPCP schools. In other words, we cannot rule out student self-sorting as the cause of the school-level performance distributions presented above.

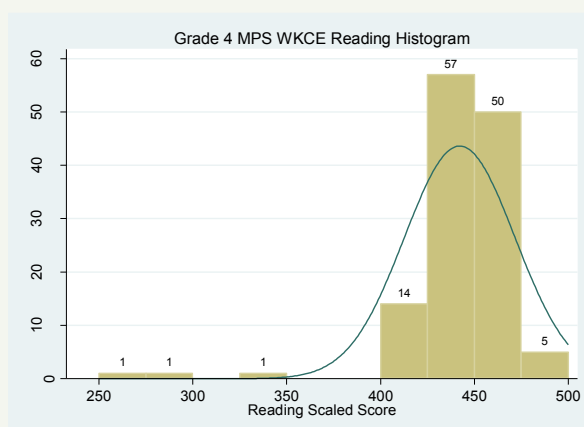
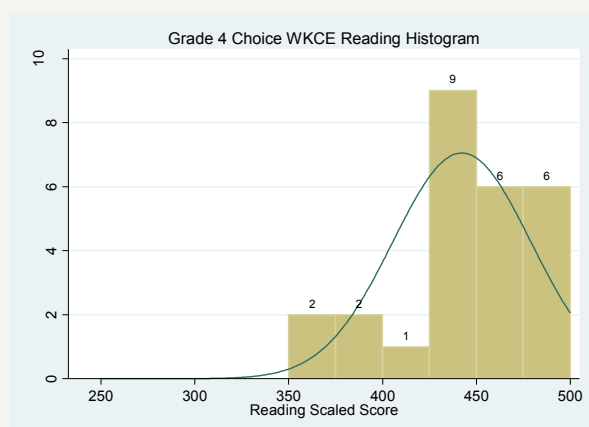
Table 6 illustrates the WKCE scale score data aggregated to the school level. Although similar to table 5, we see how statistics change when test scores are distributed among schools and then averaged at the school level. Under almost all circumstances, the averages of subgroup averages (e.g. performance by

school) will provide different results than taking the total average of the population (e.g. all testers).¹³ Because a small number of MPCP schools have students performing well above both the MPCP and MPS school level averages, the WKCE scores averaged at the school level result in comparisons somewhat more favorable to the MPCP schools than the comparisons based on test-scores at the individual student level. The performance of school-level groupings of 4th grade Choice students is the same as, or very slightly lower than, the performance of school-level groupings of 4th grade income-disadvantaged MPS students. A similar comparison of school-level results in 8th grade shows MPCP school averages that are higher than those of 8th grade income-disadvantaged MPS students by 21 to 27 scale score points (.62 to .82 of a standard deviation).

Table 6*MPCP and MPS Summary Statistics for WKCE Scaled Scores School Level*

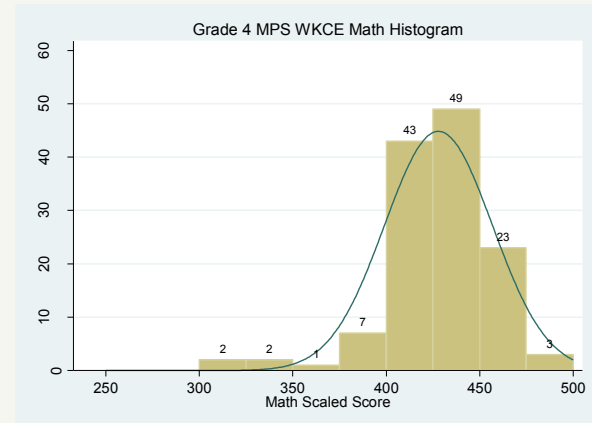
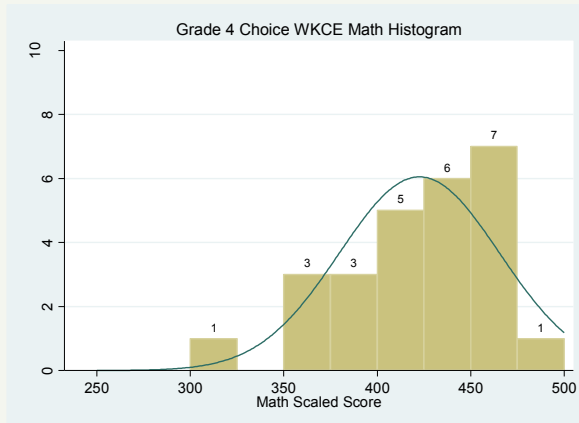
	MPCP			MPS			Difference		
	Read	Math	Science	Read	Math	Science	Read	Math	Science
4th Grade									
Obs	26	26	26	129	130	128	-	-	-
Mean	442	423	270	442	428	272	0	-5	-2
Std. Dev.	37	43	26	30	29	19	7	14	7
8th Grade									
Obs	36	36	36	98	98	98	-	-	-
Mean	509	512	376	481	491	353	27	21	22
Std. Dev.	33	30	36	29	27	30	4	4	7

The following 12 histograms graphically show the Table 6 data for those MPCP schools and the MPS schools taking the WKCE.

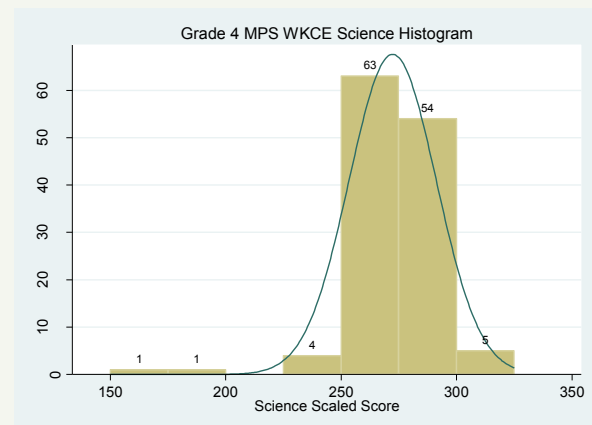
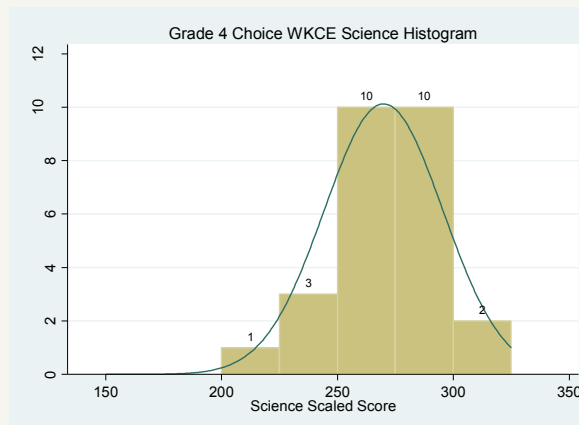


¹³ In statistical parlance, the fact that an average of subgroup averages rarely equals the average of the entire group is called the "ecological inference" phenomenon.

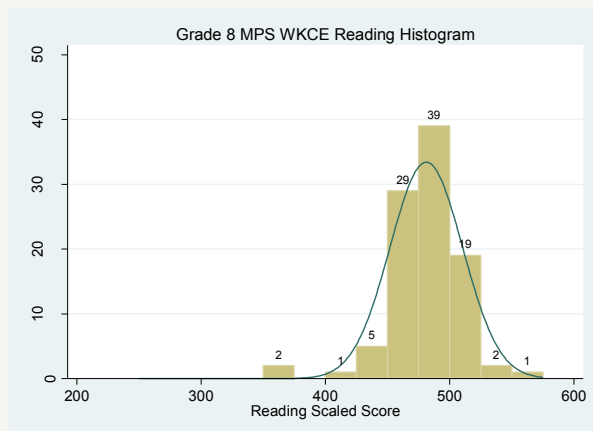
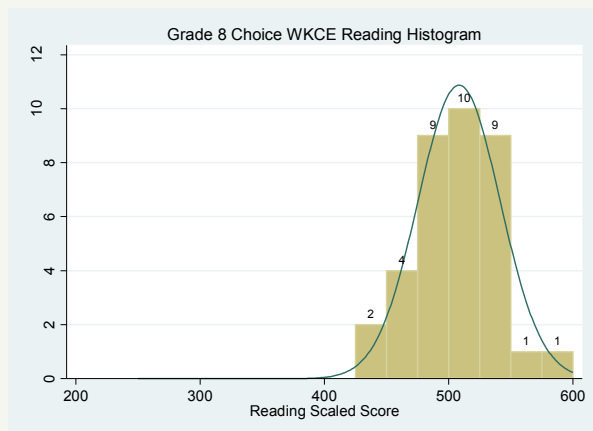
As evidenced in the above two graphs, the means of the two populations are almost identical, but clearly the MPCP group has a higher standard deviation (e.g. greater variation in performance) and has more schools in the upper tail. We would expect a wider variation in school-level achievement among the variegated set of MPCP schools.



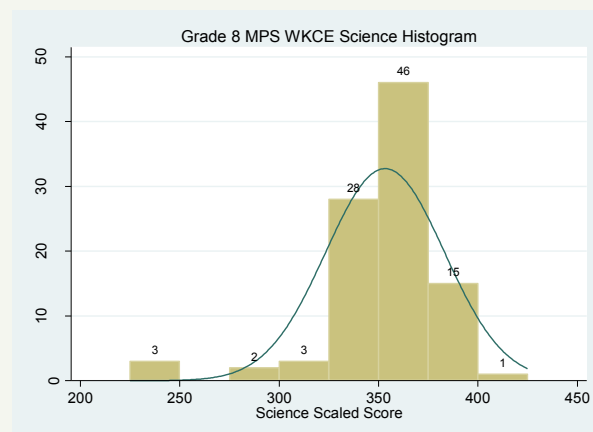
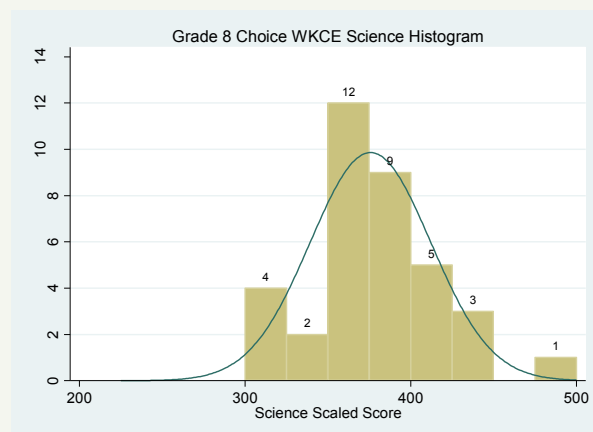
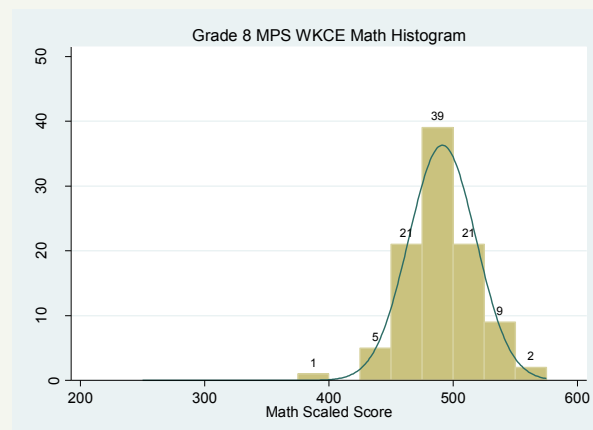
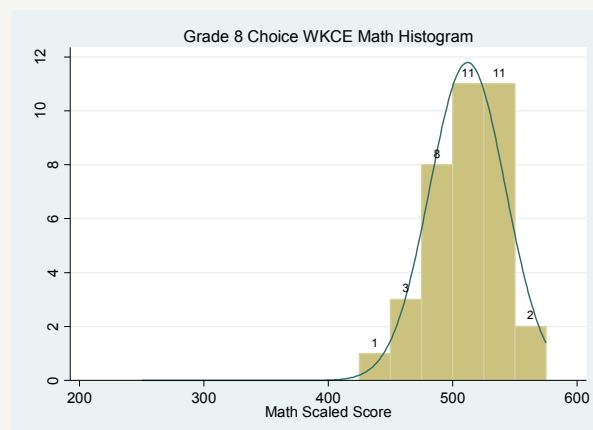
A similar story is true for the math scores; however, the standard deviation is greatest for this 4th grade subject. The mean difference is also greatest between these two groups with MPS schools averaging 5 points higher than the MPCP schools.



The science scores for these two groups appear to be more normally distributed than the other two subjects. However, the standard deviation is again higher for the set of MPCP schools.



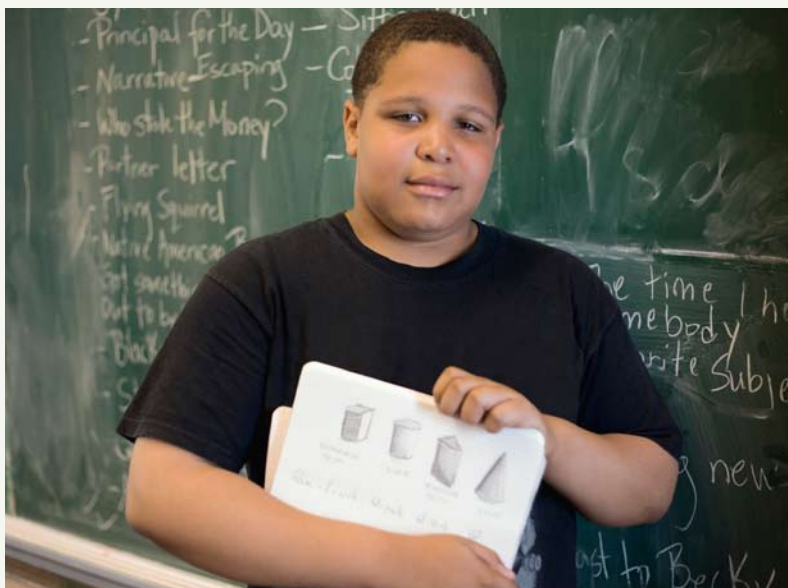
In the case of 8th grade reading, we see a relatively normal distribution for each of the two groups. The MPCP histogram shows a higher mean than the MPS figure, by 21 points, but there are more schools represented in the lower tail of the MPCP distribution than in the upper tail. The school-level distributions for math are roughly similar to those for reading.



The science histograms for 8th grade also show relatively normal distributions for each group. The 8th grade science mean in both groups has been influenced by a spike at that mean. For the MPCP

distribution, it appears more schools are falling in the upper tail; whereas, more schools seem to fall in the lower tail in the MPS distribution.

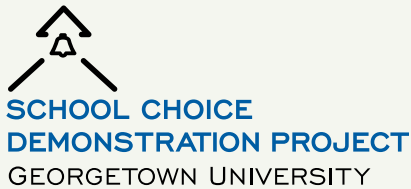
These tables and histograms suggest there are schools in each group (Choice and MPS) in which students are performing well above or well below the city average. These diagrams suggest there is ample variation in both groups. The standard deviations for the MPCP group are higher, which is likely because of the lower number of schools and greater diversity of schools in that group. One should be careful in interpreting these data. The differences across the comparison groups and between the grades cannot necessarily be attributed to the Choice program. The figures are presented here merely to provide a general description of the school-level performance of MPCP students and place that performance in context by making a rough comparison with the school-level performance of income-disadvantaged MPS students.



Summary

The purpose of this report is to provide descriptive data regarding the test scores of Milwaukee Parental Choice Program students in grades 4, 8 and 10 in reading, math and science, as reported to the School Choice Demonstration Project 2006-2007. The above tables, graphs, and histograms provide a snapshot of these students' percentile scores relative to overall national norms, and scale scores on the WKCE relative to income-disadvantaged MPS students. Because national norms are based on students with "average" educational circumstances, and the MPCP exclusively serves low-income inner-city students, the fact that their average levels of performance on norm referenced tests cluster around the lower one-third of the distribution is not surprising and should not be interpreted to indicate that the MPCP in general or MPCP schools in particular are doing a poor job of educating students. The comparison of the scale scores of the Choice students and schools that took the WKCE with the scores of income-disadvantaged MPS students and schools similarly is presented descriptively with no claim that the schools themselves were independently responsible for the various results. Any reliable determination of the effectiveness of a school choice program like the MPCP can only come from a rigorous longitudinal study that follows a representative group of choice students over time and compares their achievement gains to those of a comparable set of public school students. The MPCP Longitudinal Education Growth Study (LEGS) will serve as the proper source for such a determination.

Exhibit 1



School Choice Demonstration Project
3300 Whitehaven Street NW, Suite 5000
Washington, DC 20007
(202) 687-6323
Fax: (202) 687-1515



College of Education and Health Professions
Department of Education Reform
201 Graduate Education Building
Fayetteville, Arkansas 72701
(479) 575-3172
Fax: (479) 575-3196

August 14, 2006

Administrator Name

«School»

Street Address

City, State ZIP

Dear <School Administrator>,

My name is Patrick Wolf. I lead a research team called the School Choice Demonstration Project (SCDP). I am writing to urge you to attend an informational meeting regarding our upcoming evaluation of the Milwaukee Parental Choice Program (MPCP). The session will take place on September 7th at 5 pm at Corpus Christi School, 8545 West Villard Avenue, immediately after the Pupil Assignment Council meeting.

The evaluation of the MPCP is a new undertaking required by state law. Last March, the Legislature passed and the governor signed Wisconsin Act 125, which raised the student cap on the program by 50 percent and called for an evaluation of the program by the SCDP. Private schools participating in the MPCP are now required to:

1. Administer annually a nationally normed standardized test of their choosing in reading, mathematics, and science to all MPCP students in their school in grades 4, 8, and 10;
2. Forward the scores from all standardized tests they administer to the SCDP for analysis.

I want to assure you that your school's test scores will be kept confidential. Test scores will NOT be reported to anyone by student or by individual school. They will only be used to evaluate the performance of the MPCP as a whole and general types of participating schools (e.g. Catholic, Lutheran, independent).

To provide a more rigorous evaluation of the program, we plan to test a representative sample, or “panel,” of MPCP students in grades 3-10 using the WKCE. Our goal is for those students to be tested under conditions that are as similar as possible to those experienced by comparable MPS students when they complete the WKCE. We aim to test the students in the MPCP panel during a regular school day near the end of November in their own schools using school personnel if possible. To do so we will need your help.

The purpose of the meeting on September 7th is for us to discuss in greater detail our plan for handling the evaluation requirements in the new MPCP law and to consider your questions and concerns. Several members of the research team and officials from the Department of Public Instruction will be in attendance. We view it as a great opportunity for a productive dialogue regarding this new requirement of the MPCP.

If you have any questions regarding the session, please call me at 479-575-2084 or James Rahn, SCDP Senior Research Associate, at 414-443-8971. I hope to meet you on the 7th.

Sincerely yours,

Patrick J. Wolf, Ph.D.
Professor and Endowed Chair in School Choice
Principal Investigator, SCDP

Cc: Lisa Geraghty, Department of Public Instruction
Tricia Collins, Department of Public Instruction
James Rahn, Wisconsin Lutheran College and SCDP

Exhibit 2

**SCHOOL CHOICE
DEMONSTRATION PROJECT**
GEORGETOWN UNIVERSITY

School Choice Demonstration Project
3300 Whitehaven Street NW, Suite 5000
Washington, DC 20007
(202) 687-6323
Fax: (202) 687-1515



College of Education and Health Professions
Department of Education Reform
201 Graduate Education Building
Fayetteville, Arkansas 72701
(479) 575-3172
Fax: (479) 575-3196

February 6th, 2007

Administrator Name

«School»

Street Address

City, State ZIP

Dear <School Administrator>,

As our previous correspondence mentioned, one of the major components of the evaluation of the Milwaukee Parental Choice Program (MPCP) mandated by Act 125 requires that all participating schools test their choice students in grades 4, 8, and 10 annually in reading and math and, for grades 4 and 8, also in science. The Act also requires MPCP schools to submit the scores from all standardized tests they administer to the School Choice Demonstration Project (SCDP) at the University of Arkansas. The purpose of this letter is to provide you with guidance regarding how to fulfill these new requirements.

Time Frame & Mailing Address

Results of any fall testing that was administered at your school should be mailed to the SCDP by **March 1st**. Results of any spring testing that your school administered should be mailed to the SCDP by **July 1st**. Test score information should be mailed to the following address:

Laura Jensen
School Choice Demonstration Project
Department of Education Reform
201 Graduate Education Building
Fayetteville, AR 72701
479-575-6345

Format of Scores

A copy of the scores from any standardized test (e.g. Terra Nova, ITBS, WKCE, etc.) administered at your school can be submitted to the SCDP in either electronic or paper format, though electronic format is strongly preferred.

Security Protocols

To protect the confidentiality of your students, it is important certain data protection strategies be implemented. If you are sending an electronic copy of your students' scores, you must password protect the file and burn the file to a CD (see attached sheet with instructions on CD burning). Instructions on how to password protect Microsoft Word, Microsoft Excel, and Acrobat Professional documents can be found below.

Securing a Word or Excel file with a password:

With the file open:

- On the Tools menu, click Options, and then click Security.
- In the Password to open box, type **MPCP2006**, and then click OK.
- In the Reenter password to open box, type **MPCP2006** again, and then click OK.

Securing an Acrobat Professional/PDF file with a password:

With the PDF document open:

- Control D for Document Properties
- Click Security Tab > Change Security Method to Password Security
- Check "Require a password to open the document"
- Enter a password MPCP2006 in the "Document Open Password:" box
- Confirm the password MPCP2006

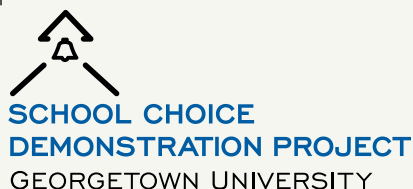
If the electronic file containing your students' scores is not in any of these formats, please check the help menu in the program that fits the file for guidance in how to password protect the file. Another option would be to convert the file from its program format into Excel, which is the most preferred format for transferring data files securely.

If you chose to submit a paper copy of your students' test scores, the package in which your documents are mailed must be sealed with the mailer's signature over a taped seal. When mailing your scores, make sure that you indicate that a signature of the addressee is required at the point of destination (i.e. School Choice Demonstration Project). Paper copies of scores can be mailed securely by Registered U.S. Mail, Federal Express, UPS, etc.

We look forward to receiving your school's test scores. As always, if you have any questions, please call Laura Jensen, SCDP Research Assistant, at 479-575-6345.

Sincerely yours,

Patrick J. Wolf, Ph.D.
Professor and Endowed Chair in School Choice
Principal Investigator, SCDP

Exhibit 3

School Choice Demonstration Project
3300 Whitehaven Street NW, Suite 5000
Washington, DC 20007
(202) 687-6323
Fax: (202) 687-1515



College of Education and Health Professions
Department of Education Reform
201 Graduate Education Building
Fayetteville, Arkansas 72701
(479) 575-3172
Fax: (479) 575-3196

May 24th, 2007

Administrator Name

«School»

Street Address

City, State ZIP

Dear <School Administrator>,

I hope this letter finds you doing well as you are wrapping up the end of what I trust was a successful 2006-07 academic year. I want to begin by thanking you for all your assistance throughout this year as we gathered data for the baseline year of the Longitudinal Evaluation of the Milwaukee Parental Choice Program. We are so pleased with the quick turnaround response we have received each time we have asked for information from you. The participation by the MPCP schools has been exceptional.

There are still some schools that have not mailed us their principal surveys or their fall and/or spring standardized test scores. As a reminder we need a copy of all individual-level test results from ANY standardized testing that your school did during this school year. Please send any outstanding documents to the following address as soon as possible:

Laura Jensen
School Choice Demonstration Project
University of Arkansas
201 Graduate Education Building
Fayetteville, AR 72701

As always, if you have any questions, please do not hesitate to give Laura Jensen a call (479-575-6345). I wish you the best of luck with your end of the school year activities.

Sincerely,

Patrick Wolf, Ph.D.
Principal Investigator
School Choice Demonstration Project

Appendix A:

Schools with MPCP Students in Tested Grades Operating through May 2007

N=108 ; (The 2 schools appearing in *italics* did not provide test scores in 2006-07)

Atlas Preparatory Academy	Excel Learning Academy	Milwaukee Lutheran High School
Atonement Lutheran School	Fairview Lutheran School	Milwaukee Montessori School
Believers in Christ Christian Academy	Family Montessori School	Milwaukee Seventh Day Adventist School
Bessie M. Gray Prep Academy	Garden Homes Lutheran School	Mother of Good Counsel School
Blessed Sacrament School	Gospel Lutheran School	Mount Calvary Lutheran School
Blyden Delany Academy	Greater Holy Temple Christian Center	Mount Lebanon Lutheran
Catholic East Elementary School	Harambee Community School	New Testament Christian Academy
CEO Leadership Academy	Hickman Academy Preparatory School	Noah's Ark Preparatory
Ceria M. Travis Academy, Inc.	Holy Redeemer Christian Academy	Northwest Lutheran School
Christ Memorial Lutheran School	Holy Wisdom Academy	Notre Dame Middle School
Christ St. Peter Lutheran School	Hope Christian School	Nzingha Institute of Creative Learning for Living
Christian Faith Academy of Higher Learning	Hope Middle School	Oklahoma Avenue Lutheran School
Clara Mohammed School	Institute for Career Empowerment Inc.	Our Lady of Good Hope School
Community Vision Academy LTD	Jared C. Bruce Academy	Our Lady of Sorrows School
Concordia University School and Institute for LIGHT	Johnson Christian Academy, Inc.	Our Lady Queen of Peace Parish
Corpus Christi School	Keal Preparatory School, Inc.	Parklawn Christian Leadership Academy
Destiny High School	King's Academy Christian School	Pius XI High School
Divine Savior Holy Angels High School	LaBrew Troopers Military University School	Prince of Peace
Dr. Brenda Noach Choice School	Lutheran Special School & Education Services	Resurrection Christian Academy
Early View Academy of Excellence	Marquette University High School	Risen Savior Lutheran School
Eastbrook Academy	Mary Queen of Martyrs	Saint Adalbert School
Emmaus Lutheran School	Messmer High School	Saint Anthony School
Excel Academy	Messmer Prep Catholic School	Saint Bernadette School
		Saint Catherine of Alexandria

Saint Catherine School	Saint Philip's Lutheran School	Trinity Christian Academy for Nonviolence
Saint Charles Borromeo School	Saint Rafael the Archangel School	Urban Day School
Saint Gregory the Great Parish School	Saint Roman Parish School	<i>Veritas Academy</i>
Saint Joan Antida High School	Saint Rose Catholic Urban Academy	Victory Christian Academy
Saint John Kanty School	Saint Sebastian School	<i>Victory Preparatory Academy</i>
Saint John's Evangelical Lutheran	Saint Thomas Aquinas Academy	Washington DuBois Christian Leadership Academy
Saint Josaphat Parish School	Saint Vincent Pallotti School	Wisconsin Lutheran High School
Saint Leo Catholic Urban Academy	Salam School	Word of Life Evangelical Lutheran School
Saint Marcus Lutheran School	Sharon Junior Academy	Yeshiva Elementary School
Saint Margaret Mary School	Siloah Lutheran School	Young Minds Preparatory School
Saint Martini Lutheran School	Tamarack Community School	
Saint Peter-Immanuel Lutheran School	Teenpreneur #2	
Saint Philip Neri Catholic School	Texas Bufkin Academy	
	The Hope School	
	Travis Technology High School	

MPCP Schools with no MPCP Students in Tested Grades 2006-2007

N=14

Agape Center of Academic Excellence, Inc.	Paige II University School, Inc.
Carter's Christian Academy	Parkside Elementary (Seeds of Health)
CrossTrainers Academy	Sherman Park Lutheran School/Preschool
Family Academy	The AppleCrest Preparatory Leadership Academy
First Steps Christian Learning Academy	Windlake Elementary (Seeds of Health)
Grace Preparatory School of Excellence	
Grandview High School (Seeds of Health)	
Kindergarten Plus	
Malaika Early Learning Center	

Milwaukee Longitudinal School Choice Evaluation: Annual School Testing Summary Report

About the Authors



Nathan L. Gray is a Doctoral Fellow in the Department of Education Reform working on his Ph.D. in Public Policy at the University of Arkansas. He also is a Research Assistant for the School Choice Demonstration Project. Gray received his B.A. in History from Hanover College (Indiana) and his M.A. in Economics from Indiana University – Indianapolis. He is a native of Marshfield, Wisconsin.



Patrick J. Wolf is Professor of Education Reform and 21st Century Endowed Chair in School Choice at the University of Arkansas in Fayetteville. He also is principal investigator of the School Choice Demonstration Project. Wolf has authored, co-authored, or co-edited three books and nearly 30 articles and book chapters on school choice, special education, and public management. A 1987 *summa cum laude* graduate of the University of St. Thomas (St. Paul, MN), he received his Ph.D. in Political Science from Harvard University in 1995.



Laura I. Jensen is a Research Associate in the Department of Education Reform at the University of Arkansas. She coordinates the logistics of the Milwaukee evaluation being conducted by the School Choice Demonstration Project. A former special education teacher, Ms. Jensen previously served as a Project Associate at the National Institute on Out-of-School Time at Wellesley College's Center for Research on Women. She has a B.A. in Psychology from Westminster College and an M.A. in Child Development from Tufts University.



School Choice Demonstration Project

Department of Education Reform

University of Arkansas

201 Graduate Education Building

Fayetteville, AR 72701

479-575-6345

<http://www.uark.edu/ua/der/SCDP/Research.html>