

Evaluation of Charter Schools in the Milwaukee Public Schools

Completed by the Value-Added Research Center
Wisconsin Center for Education Research
University of Wisconsin in Madison

2/2/2010

Project designed and executed by the following VARC researchers:

Sarah Archibald
Brad Carl
Lisa Geraghty
Curtis Jones
Nicholas Mader
Rob Meyer
Hiren Nisar

For information about this report please contact Curtis Jones at cjjones5@wisc.edu

Evaluation of Charter Schools in the Milwaukee Public Schools

Completed by the Value-Added Research Center
University of Wisconsin in Madison

Executive Summary

The Value-Added Research Center (VARC) within the Wisconsin Center of Education Research (WCER) at the University of Wisconsin in Madison and MPS collaborated to complete an evaluation of MPS charter schools to address the following questions:

- What are the characteristics of students attending MPS charter schools?
- How are students in charter schools performing academically compared to traditional schools?
- Within MPS charter schools, are certain governance structures related to better student outcomes?

Results

Student Characteristics

- In elementary grades students in instrumentality charters are more likely to be white, students attending non-instrumentality charters are more likely to be Hispanic, and students in traditional schools are more likely to be black and eligible for free or reduced lunch.
- The characteristics of students in high school charters and traditional high schools did not differ as much as in elementary charters, although non-instrumentality charter high schools had a much higher percentage of Hispanic students and lower percentage of black students than instrumentality or traditional high schools.

School Climate

- Parent, student, and staff reports of school climate suggest that non-instrumentality charters are consistently viewed as safer, most participatory with their decision-making, and more rigorous than instrumentality or traditional schools.
- Staff reports of the participatory structure of school governance were highest in instrumentality charters. Many MPS charters are “teacher-led” in that teachers have a role in the decision-making of the school, and MPS encourages instrumentality charters to involve staff in school administrative decisions.

Attendance and Behavior

- While the unadjusted attendance numbers suggest that non-instrumentality schools do the best job maintaining high attendance and low suspension rates, after adjusting for student differences, no differences were found in the attendance rates of students attending non-instrumentality, instrumentality, and traditional schools. Only, small differences were found in suspension rates.

Achievement

- Overall, students attending charter schools demonstrated smaller reading ($p < .05$) achievement gains in 2006-2007 compared to students in traditional schools but no differences were found in the 2007-2008 and 2008-2009 school years. No statistically significant differences were found in math.
- No statistically significant differences were found in the reading or math achievement gains of students attending non-instrumentality charters compared to students in traditional public schools.
- In the 2006-2007 and 2008-2009 school years, students attending instrumentality charters demonstrated greater math achievement gains compared to students in traditional public schools ($p < .05$). However, in 2006-2007 instrumentality students gained less in reading than did students in traditional public schools.
- In both 2006-2007 and 2007-2008, students attending teacher-led instrumentalities demonstrated greater math achievement gains ($p < .05$) than students in traditional schools. No differences were found between the reading gains of students attending teacher-led instrumentalities and traditional schools.
- Student attending charter schools that were eventually closed did not demonstrate any significant differences between their achievement and that of students in traditional schools. ($p > .05$), but did performed less well than charters that remained open.
- No consistent differences were found in the achievement of students attending new and established charter schools

The results of the evaluation suggest that there is no one type of school that consistently outperforms the others. There is evidence that within any particular school type, there are high performing and low-performing schools. This finding leads us to suggest that an appropriate response to the results of this evaluation would be to implement a performance management system with charter schools that would remove the lowest performing charters, regardless of management structure, and replace them with higher performing charter schools.

Evaluation of Charter Schools in the Milwaukee Public Schools
Completed by the Value-Added Research Center
University of Wisconsin in Madison

In 1996, Milwaukee Public Schools (MPS) awarded its first charter to Highland Community School. Charter schools offer an alternative to traditional schools in that they are freed from certain obligations and statutes to which other public schools are bound. The charter school movement is motivated by the desire to provide students additional public school options by empowering schools to try new and innovative educational methods. Freed from regulation, charter schools are able to tailor their schools, through diverse mechanisms such as extending the regular school day, offering novel combinations of classes, or even requiring additional credits for graduation. Charter schools provide opportunities for persons like teachers or school principals, community groups, and organizations to experiment with innovative educational strategies that may prove to improve outcomes of students.

Since its inception in 1996, the charter school movement has established a firm foothold within MPS. During the 2008-2009 school year, MPS was home to 44 charter schools enrolling over 8,000 students. With nearly 13 years of operation, questions about the efficacy and achievement of the charter school movement in MPS have arisen and in July 2008, the MPS Board of Directors approved an evaluation of the district's charter schools. The Value-Added Research Center (VARC) within the Wisconsin Center of Education Research (WCER) at the University of Wisconsin in Madison and MPS collaborated to complete this evaluation.

Specific questions addressed by this evaluation include:

- What are the characteristics of students attending MPS charter schools?
- How are students in charter schools performing academically compared to traditional schools?
- Within MPS charter schools, are certain governance structures related to better student outcomes?
- Realizing that the effectiveness of charter schools may depend on if they are able to fulfill their mission, what factors impact their ability to fulfill their mission?

This report provides an analysis of charter schools only in MPS. While there are non-MPS charter schools in Milwaukee, data were not available for these schools and thus are not analyzed in the current report. First, we analyze the progress of fully integrating charter schools into MPS. We then analyze demographic trends among charter schools and traditional MPS schools. A discussion of findings related to student achievement follows, along with a brief discussion of other factors that may affect student achievement, such as school climate. Finally, we provide a summary of the qualitative data obtained through interviews with charter school leaders.

Previous Research of MPS Charter Schools

RAND Corporation recently completed a multistate evaluation of charter schools that needs to be specifically addressed in the current study.¹ The RAND charter schools evaluation needs to be specifically addressed since it contains the most rigorous and complete evaluation of Milwaukee Charter Schools undertaken prior to the current study. RAND evaluated the effectiveness, or “value-add”, of charter schools in eight different state or cities, one of which was Milwaukee. In Milwaukee, using achievement data from 2000 to 2006, the authors found that charters had a small positive benefit to the math achievement of students but no reading benefit. They also looked at the age of charters as a potential explanatory factor in their effectiveness. Although they did not find that any particular charter age group outperformed non-charters, a trend in math was found, with students transferring to more established charters achieving more in math than those transferring to newer charters.

Current Study Contributions

Update of RAND study findings with more current data

In the last five years, 33 new charters have been opened by MPS. Since the current study includes achievement data from the 2005-2006 to the 2008-2009 school year, the results will more reflect the current state of MPS charter schools effectiveness than the RAND study.

Broadening of outcomes studied beyond achievement

Nationally, few studies of have looked much beyond student achievement in determining the effectiveness of charter schools. The current study takes a much broader perspective in understanding the potential impact that charter schooling may have on students. In addition to achievement, the current study assesses the impact charter schools have on student attendance, behavior, and perceptions of school climate (teacher, student, and parent). Achievement is a lag indicator of school performance and thus does not always assess the positive changes occurring within schools and students right now. Plus, much of the change in achievement seen in students and schools can often be tied to changes in school climate, student behavior, and attendance. Figure 1 below presents how this process can occur in a charter school. As students experience a more rigorous, supportive, and safe school climate their behavior and attendance improves, which in turn, results in greater achievement gains. Further, the process can become self-perpetuating as students experience academic success and contribute themselves to improved school climate. The current study explores how well MPS charter schools are moving students through each piece of the model.

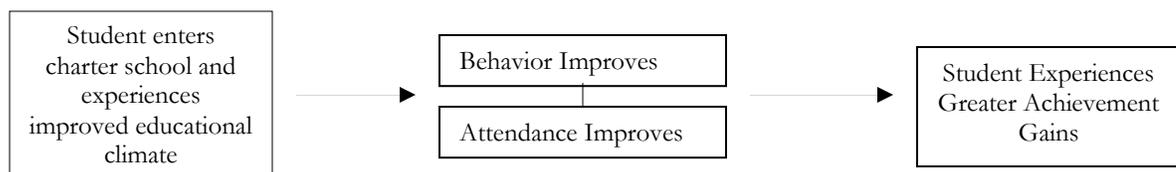


Figure 1: Theory of action for MPS charter school evaluation

¹ Zimmer, R., Gill, B., Booker, K., Levertu, S., Sass, T., Witte, J. (2009). *Charter Schools in Eight States: Effects on Achievement, Attainment, Integration, and Competition*. RAND Corporation.

Analysis of Charter Governance Characteristics

The current study is one of the few studies of charter schools that explores the impact of charters on students according to charter school governance characteristics. The current study compares the impact of charter schools as a function of their governance structures, their age, and whether MPS later closed the school. The aforementioned RAND study found that more established charters in Texas, Ohio, and Chicago were more effective in increasing student achievement than newer charters. However, the RAND study did not find conclusive evidence that this was the case in Milwaukee. The current study will again test the question of if charters perform better as they mature.

Use of mixed-methodology

A final strength of the current study is its use of mixed-methods. The use of both qualitative and quantitative methodologies allows us to dive deep into the issues facing MPS charter schools and contextualize our quantitative findings.

Current Study Design

Research was conducted in collaboration with MPS and the Value-Added Research Center (VARC) in WCER at the University of Wisconsin-Madison. The evaluation of charter schools authorized by MPS employed a mixed-methods approach. Qualitative data were collected using interviews and site visits. The design consisted of semi-structured interviews with principals. Interview data were collected over the phone and in person between April 2009 and December 2009. Qualitative methods were complemented by a quantitative analysis of charter school student performance compared to traditional public schools. WKCE data was primarily used for the quantitative analysis, along with climate survey data, attendance data, suspension data, instructional practice survey data and enrollment data.

The research team at UW-Madison consisted of Nicholas Mader, Sarah Archibald, Brad Carl, Lisa Geraghty, Hiren Nisar, Curtis Jones, and Rob Meyer. Lisa Geraghty, Sarah Archibald, Anne Sontag Karch, and Kate Delaney conducted interviews. The study protocol was approved by the Institutional Review Board at the University of Wisconsin-Madison.

Sample

Staff from Diversified Community Schools, the MPS office that oversees charter schools, sent letters to all charter school administrators notifying them of the ongoing evaluation. Researchers then made attempts to contact every charter school and request an interview. Five non-instrumentality charter schools and 14 instrumentality charter schools opted into the qualitative study. Five of the schools opting into the study were new charter schools (defined by three years of operation or less) and ten were high schools.

Data from all MPS schools were included in the quantitative study. Student demographic, attendance, behavior, and achievement data were obtained through a data sharing agreement between VARC and MPS. School level data on school climate and schools characteristics were obtained from the MPS website.

Qualitative data collection

One-hour interviews were conducted with principals at their charter schools. Principals' responses were captured via hand-written notes by the interviewers. The interviews were conducted over the phone or in the private offices of the principals. Interview notes were electronically transcribed.

Data analysis

Qualitative data analysis consisted of thematic content analysis. First, a coding structure was developed using the themes of the interview guide as a framework. Then, the coding scheme was applied to comments made by charter school administrators. The transcribed interviews were analyzed by coding the content of interviews using the qualitative software package, QSR NVivo[®]. The coding structure consisted of "nodes" which represented defined themes in the analysis. A node structure is a hierarchical arrangement of related categories and sub-categories. When coded, each node holds references to passages of text from the interview data so the researcher can consider issues or themes appearing across several respondents. Quantitative data analyses were conducted using proc mixed in the SAS software package. To isolate the value-added of charters, models included controls for student, school, and peer effects.

Overview of MPS Charter Schools

The first charter school law was passed in Minnesota in 1991. Since then, 40 states and the District of Columbia have passed similar laws, including Wisconsin's charter law which took effect in 1993. A charter school receives funding from the state but operates freed from many of the regulations that the state and district impose on public schools. Flexibilities are diverse, but often include diversified curriculum, staffing, and school schedules that allow for students to attend vocational training or make project-related visits. Charter schools are still bound by the laws of No Child Left Behind (NCLB) and must participate in the statewide assessment system.

Charter schools provide a free alternative for educators, families and communities who may be dissatisfied with options available through traditional schools. Through these alternatives, charter schools increase the competitive pressure on traditional public schools. Although the relaxing of regulations may lead some to believe that charters have an unfair advantage over traditional schools, charter schools are bound by their charter agreements with their authorizing agency as well as by the provisions of NCLB. Charter agreements typically have to be renewed every three or four years, and when up for renewal, it is up to charter schools to provide evidence that they are meeting their goals of improved student performance. If a charter fails to perform, the charter granting entity may revoke the charter and close the school.

In Milwaukee, as of 2008-09, there were 60 charter schools sponsored by four authorizers: MPS, the City of Milwaukee, the University of Wisconsin-Milwaukee, and Milwaukee Area Technical College (MATC), although MATC has not yet exercised its right to charter schools. Within MPS, there are two types of charter schools: "instrumentality" and "non-instrumentality." One of the primary distinctions between instrumentalities and non-instrumentalities is that the teachers and staff at non-instrumentality charter schools are not employees of the school district and thus not in the teachers union. Instrumentality charter staff remain employees of MPS. However, non-instrumentality schools are still accountable to the MPS school board, and students attending non-instrumentalities are considered MPS students. In the beginning of the 2008-09 school year, of the 60 charter schools city-wide, 44 were authorized by MPS. Of these, 30 MPS charters were instrumentalities and 14 were non-instrumentalities.

Table 1: MPS Charters Approved Since 1996

	Number of MPS charters	Number of MPS charters opened	Numbers of MPS charters closed	Net change	% of all MPS Schools as Charter	% of all MPS Enrollment as Instrum Charter	% of all MPS Enrollment as Non-intrum Charter	Avg. Grade Size, Trad. Schools	Avg. Grade Size, MPS Charters	Avg. Grade Size, NI Charters
1996-1997	1	1	0	1	-	-	-	-	-	-
1997-1998	1	0	0	0	-	-	-	-	-	-
1998-1999	1	0	0	0	-	-	-	-	-	-
1999-2000	3	2	0	2	-	-	-	-	-	-
2000-2001	6	3	0	3	-	-	-	-	-	-
2001-2002	16	10	0	10	-	-	-	-	-	-
2002-2003	20	4	0	4	-	-	-	-	-	-
2003-2004	23	4	1	3	6.4%	5.2%	2.4%	39.9	59.4	36.5
2004-2005	34	12	1	11	9.7%	6.0%	3.0%	38.6	58.2	36.2
2005-2006	33	7	8	-1	10.5%	6.8%	3.1%	36.7	51.9	37.7
2006-2007	33	3	3	0	11.8%	7.3%	2.9%	35.6	52.1	36.3
2007-2008	41	8	0	8	21.5%	10.8%	3.5%	49.6	56.7	38.1
2008-2009	41	3	6	-3	20.5%	10.6%	3.7%	48.8	53.0	37.6

Table 1 presents the growth of charter schools in MPS since the first charter school was authorized in 1996. After rapid growth of charter schools between 2000 and 2005, the net growth of charter schools has slowed somewhat. This may be due to a couple factors: the Department of Public Instruction now has more strict guidelines for opening charters, and the number of schools losing their charter has also increased. (The number of charters closed appears in the start of the next year as they are closed after the school year.) At the end of the 2008-09 school year, six charter school contracts were terminated. MPS has been an active player in holding charter schools accountable for their performance.

Table 2 presents charter schools operating during the 2008-09 school year which serve students in elementary and middle school grades. Schools with terminated contracts at the end of the school year are marked with an asterisk (*). The table shows that 12 out of 21 of the elementary and middle school charters have been converted from public or private schools. Nine of the elementary and middle school charters are non-instrumentalities. Four of the elementary and middle schools are teacher led; meaning administrative responsibilities are shared to varying degrees by a team of teachers, rather than by a principal.

Table 2: Charters Operating in 2008-09 Serving Elementary and Middle School Students

<i>Elementary and Middle School Name</i>	<i>Fall of start year</i>	<i>Grade Level</i>	<i>Instrumentality</i>	<i>Direct Instruction</i>	<i>Science and technology</i>	<i>Montessori</i>	<i>At-risk</i>	<i>Bilingual</i>	<i>Creative arts</i>	<i>Converted from MPS</i>	<i>Converted from private</i>	<i>Teacher led</i>	<i>Year-round</i>
Highland Community School	1996	K-8				Y					Y		
Fritsche Middle School	1999	6-8	Y							Y			
Bruce Guadalupe Community School*	2000	K-8									Y		
Wisconsin Career Academy	2000	6-12			Y				Y				
Westside Academy I & II	2000	K-8	Y		Y					Y			
Audubon Technology and Communication Center	2001	6-8	Y		Y					Y			
Milwaukee Leadership Training Center*	2001	5-8					Y						
Whittier Elementary School	2001	K-5	Y							Y		Y	
Fairview Elementary	2001	K-8	Y							Y			
Individualized Developmental Educational Approaches to Learning (IDEAL)	2001	K-8	Y									Y	
Wings Academy	2002	1-12							Y				Y
Northern Star	2002	6-9	Y				Y					Y	Y
Carter School of Excellence*	2003	K-5									Y		Y
La Causa Charter School	2003	K-8						Y			Y		
Academia de Lenguaje y Bellas Artes (ALBA)	2004	K-5	Y					Y	Y			Y	
Hmong American Peace Academy (HAPA)	2004	K-8						Y					
Humboldt Park	2004	K-8	Y	Y						Y			
Preparatory School for Global Leadership*	2004	6-11											
Honey Creek	2005	K-5	Y	Y						Y			
Kosciuszko Montessori School	2006	K-8	Y			Y		Y		Y			
Milwaukee Academy of Chinese Language School	2007	K-8	Y	Y	Y								
Total Number of schools	21		12	3	4	2	2	4	3	8	4	4	3

Table 3 presents operating charter schools for the 2008-09 school year which serve high school students. While a high percentage of elementary and middle charter schools converted to charter status from existing schools, only four of the high school charters were converted from public schools. Similarly, only seven of the 25 operating charter high schools are non-instrumentalities. Many of the high schools have identified a specific mission and have an accompanying target audience. Five have a year-round schedule; six are vocational schools; eight are science and technology oriented; one is bilingual; and four focus on the creative arts. As with the elementary and middle schools, some of the high schools may have identified more than one area of focus.

Table 3: Charters Operating in 2008-09 Serving High School Students

<i>High School Name</i>	<i>Fall of start year</i>	<i>Grade Level</i>	<i>Instrumentality</i>	<i>Vocational/ to-work</i>	<i>Science and technology</i>	<i>Montessori</i>	<i>At-risk</i>	<i>Bilingual</i>	<i>Creative arts</i>	<i>Converted from MPS</i>	<i>Teacher led</i>	<i>Year-round</i>
Wisconsin Career Academy	2000	6-12			Y				Y			
Veritas High School	2001	9-12										
Wings Academy	2002	1-12							Y			Y
Northern Star	2002	6-9	Y				Y				Y	Y
Professional Learning Institute	2003	9-12	Y								Y	
Milwaukee School of Entrepreneurship	2004	11-12	Y	Y	Y					Y	Y	
Advanced Language and Academic Studies	2004	9-12	Y					Y			Y	
CITIES Project High School*	2004	9-12			Y		Y					
Community High School	2004	9-12	Y	Y							Y	
Genesis High School	2004	9-12	Y	Y								
Preparatory School for Global Leadership*	2004	6-11										
Truth Institute*	2004	9-12	Y									
Alliance School of Milwaukee	2005	9-12	Y								Y	Y
Milwaukee Learning Lab and Institute	2005	9-12	Y	Y							Y	
WEB DuBois High School	2005	9-12	Y		Y							
Downtown Institute of Arts and Letters	2006	9-12	Y						Y			Y
Where Opportunities Require Knowledge (WORK) Institute	2007	9-10	Y	Y							Y	Y
Carmen High School	2007	9-12			Y							
Foster and Williams High School	2007	9-12	Y		Y				Y	Y		
James Madison Academic Campus	2007	9-12	Y							Y		
Marshall Montessori	2007	9-12	Y			Y				Y	Y	
School of Urban Planning and Architecture	2007	9-12	Y								Y	
Audubon Technology	2008	9-12	Y		Y							
Milwaukee Business High	2008	9-12	Y	Y							Y	
International Peace Academy	2008	9-12			Y							
Total Number of schools	25		18	6	8	1	2	1	4	4	11	5

Table 4 shows the year of opening and closing for the charter schools that no longer have operating charters with the district. The grade levels served during the last year of operation are also provided. In some cases, the schools below were converted back to traditional schools while in other cases students were reassigned to other district schools. Two of the charter schools were closed in 2005, five schools were closed in 2006, and five more schools were closed in 2007. As mentioned above, nine charter school contracts were terminated at the end of the 2008-09 school year.

Table 4: MPS Charter Schools with Terminated Contracts

	Year Open	Year Closed	Grades	Instrumentality	Vocational/ school-to-work	DI	Science and technology	Montessori	At-risk	Bilingual	Creative arts	Converted from MPS	Converted from private	Teacher led
Walker International Middle school	1999	2007	6-9	Y								Y		
Learning Enterprise Vocational and Training	2001	2005	9-12		Y									
Phoenix Charter School	2001	2006	9-12	Y								Y		
Siefert Charter School	2002	2007	K-5	Y								Y		
Afro Urban Institute Charter High School	2002	2004	9-10											
Juneau Business High School	2001	2006	9-12	Y								Y		
Malcolm X Academy	2002	2007	6-9	Y										
Community Business and Trade Center	2004	2006	9-12		Y							Y		
New Hope Institute of Science and Technology	2003	2006	6-12				Y		Y					Y
School of Humanities	2004	2006	9-12	Y							Y			
Aurora Weier Early College Bilingual	2005	2007	9-12							Y				
Expressions School of the Arts	2006	2007	9-12	Y							Y			
Milw.Academy of Aviation, Science & Technology	2005	2008	9-12	Y										
Bruce Guadalupe Community School*	2000	2009	K4-8											
Carter Charter School	2003	2009	K4-5											
CITIES Project High School	2004	2009	9-12											
Milw. Leadership Training Center (MLTC)	2001	2009	5-8						Y					
Prep. School of Global Leadership (PSGL)	2004	2009	6-12											
Genesis High School	2004	2009	6-12	Y										
Milw. African American Immersion School	2007	2009	9-12	Y										
Milwaukee Business High School	2008	2009	9-12	Y										Y
Foster and Williams High School	2007	2009	9-12	Y		Y				Y	Y			
Truth Institute	2004	2009	9-12	Y										

*School was not technically closed, but left the Milwaukee Public Schools.

In addition to the broad target areas assigned to schools, during interviews conducted with charter school administrators, many additional target groups were identified, as summarized in Table 5. Populations served ranged from those with special education needs to college preparatory schools. Serving neighborhood students was specifically mentioned as a goal by three schools. For other schools, the target population has evolved into serving the neighborhood. Eight schools identified themselves as college prep, six stressed the development of the student as central to their mission, and three identified themselves as schools preparing students for meaningful careers. It is interesting to note that seven schools mentioned that they did not have a target population.

Table 5: Focus of charter school as reported in interviews with charter administrators

Focus of School	Instrumentality - Not Teacher led Charter	Instrumentality - Teacher led Charter	Non- instrumentality Charter
At Risk	-	-	-
Bilingual	-	1	1
College prep	-	5	3
Development of student	1	4	1
DI	1	-	-
Fine Arts	-	1	-
Gifted-Talented	-	-	-
IB	-	1	-
Learning Disabilities	-	-	1
Low SES	-	-	-
Meaningful Careers	-	2	1
Montessori	-	1	-
Neighborhood	1	4	2
No Target Population	1	5	1
Previously Ostracized	-	1	-
Project Based	-	2	-
Safe Environment	-	2	1

Charter Enrollment Trends

Tables 6 and 7 present enrollment trends over the last six years, contrasting traditional public schools, Instrumentality charters, Non-Instrumentality charters and, in upper grades, a separate group of MPS small high schools². Because of the focus of the report on public enrollment trends, Charter 220, non-Milwaukee Open Enrollment, private school, and Milwaukee Parental Choice Program students are not included. Also, because MPS schools include many configurations of grade ranges, we separate our tables here and below by grade ranges, Elementary (grades 1-5), Middle (grades 6-8), and High (grades 9-12).

² For the purposes of this report, an MPS small traditional high school is a non-charter high school with total enrollment under 550. That number was chosen because it divides two very distinct groups of high schools by size rather than having any particular significance on its own.

Table 6 shows the enrollment data in numbers, whereas Table 7 presents the same data in percentage form. As seen from the data, even though there is a decrease in the enrollment percentage in Kindergarten, K-5 and 6-8 grades for MPS traditional public school, the decrease is not as extreme as in high school grades where it falls from 94 percent in 2003-04 to 70 percent in 2008-09. MPS Charter schools grew from 1 percent to 18 percent during the same period. Another point to note is that there is a dramatic decrease in the number of students enrolled in K-5 and 6-8 grades from 2003-04 to 2008-09 for MPS.

Figures 2, 3, and 4 present enrollment trends across all grade ranges and show that although the overall percentage of MPS students attending charter schools has demonstrated a dramatic increase in recent years, the increase is mostly due to an increase in enrollment in instrumentality charters and not non-instrumentality charters. Although the reasons for this are multifaceted, one barrier to increasing the number of students attending non-instrumentalities is that state law caps enrollment at 8% of the district.

Table 6: MPS Enrollment Numbers by Grade - Numbers

Kindergarten Grades	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09
MPS Traditional School	14,869	15,062	15,147	14,892	12,380	12,540
MPS Charter	507	566	741	774	852	881
Non-Instrumentality Charter	504	598	665	675	653	637
Total	15,880	16,226	16,553	16,341	13,885	14,058
Elementary Grades 1-5						
MPS Traditional School	36,984	35,701	35,235	34,826	28,365	27,838
MPS Charter	1,280	1,325	1,527	1,504	1,650	1,741
Non-Instrumentality Charter	552	677	700	605	638	623
Total	38,816	37,703	37,462	36,935	30,653	30,202
Middle School Grades, 6-8						
MPS Traditional School	21,075	19,099	19,118	18,281	14,835	13,961
MPS Charter	3,453	3,232	3,124	2,861	2,601	2,216
Non-Instrumentality Charter	552	677	700	605	638	623
Total	25,080	23,008	22,942	21,747	18,074	16,800
High School Grades, 9-12						
MPS Traditional School	25,167	24,818	22,688	22,004	18,003	17,249
MPS Small High School	653	1,461	3,198	3,081	2,479	2,191
MPS Charter	339	1,220	1,766	2,416	4,472	4,333
Non-Instrumentality Charter	702	872	860	683	680	770
Total	26,861	28,371	28,512	28,184	25,634	24,543
Grand Total	106,637	105,308	105,469	103,207	88,246	85,603

Table 7: MPS Enrollment Numbers by Grade - Percentages

Kindergarten Grades	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09
MPS Traditional School	94%	93%	92%	91%	89%	89%
MPS Charter	3%	3%	4%	5%	6%	6%
Non-Instrumentality Charter	3%	4%	4%	4%	5%	5%
Elementary Grades 1-5						
MPS Traditional School	95%	95%	94%	94%	93%	92%
MPS Charter	3%	4%	4%	4%	5%	6%
Non-Instrumentality Charter	1%	2%	2%	2%	2%	2%
Middle School Grades, 6-8						
MPS Traditional School	84%	83%	83%	84%	82%	83%
MPS Charter	14%	14%	14%	13%	14%	13%
Non-Instrumentality Charter	2%	3%	3%	3%	4%	4%
High School Grades, 9-12						
MPS Traditional School	94%	87%	80%	78%	70%	70%
MPS Small High School	2%	5%	11%	11%	10%	9%
MPS Charter	1%	4%	6%	9%	17%	18%
Non-Instrumentality Charter	3%	3%	3%	2%	3%	3%

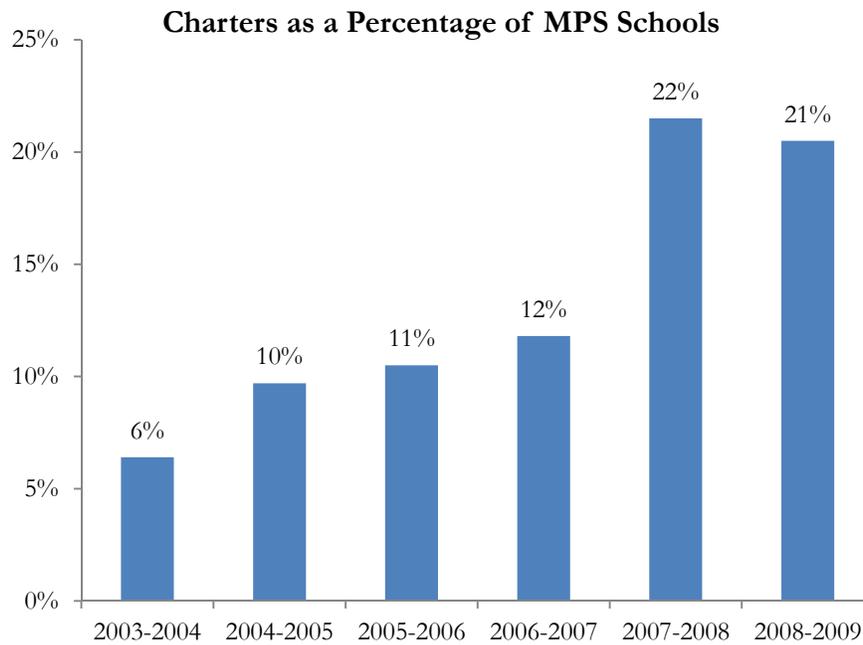


Figure 2

Instrumentality Charter Students as a Percentage of MPS Students

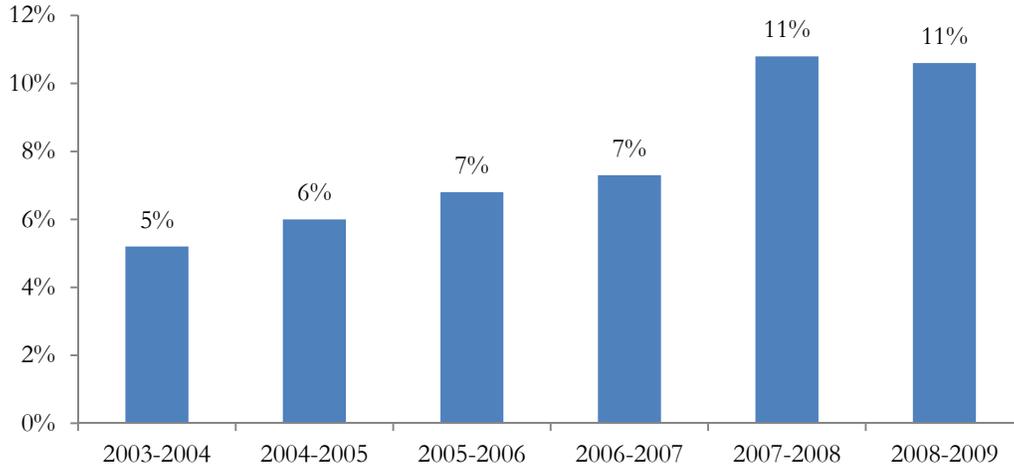


Figure 3

Non-Instrumentality Charter Students as a Percentage of MPS Students

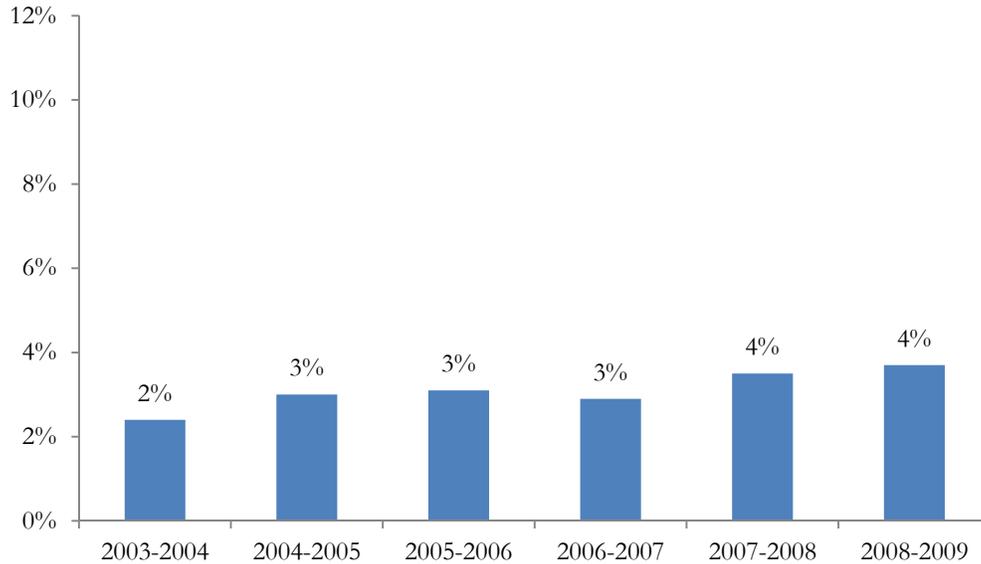


Figure 4

What are the characteristics of students attending MPS charter schools?

Table 8 and Figures 5 through 10 present the demographic breakdown of students enrolled at each grade level of schooling within each category of school. Demographic breakdowns of enrolled students are useful to evaluate whether charter schools are fully integrated into the district. The closer that students in charter schools reflect the greater student population in MPS, the more integrated charter schools are in the district.

Within elementary grades, there is a very clear distinction across school types in racial composition, where American-American students are most represented in traditional public schools. Asian and White students are similarly disproportionately represented in MPS Charters, as are Hispanic students in non-instrumentality charter schools. While the levels of representation change somewhat when focusing on middle school grades, these same qualitative trends are present. Among high school grades, a different set of trends is clear showing, most notably, that MPS charter schools now serve a disproportionately large population of African American students and non-instrumentality charters serve many more Hispanic and White students than traditional MPS schools. Further, Looking across grades, we see that for the elementary and middle school grades MPS charter schools serve disproportionately fewer FRL students but disproportionately more in high school grades.

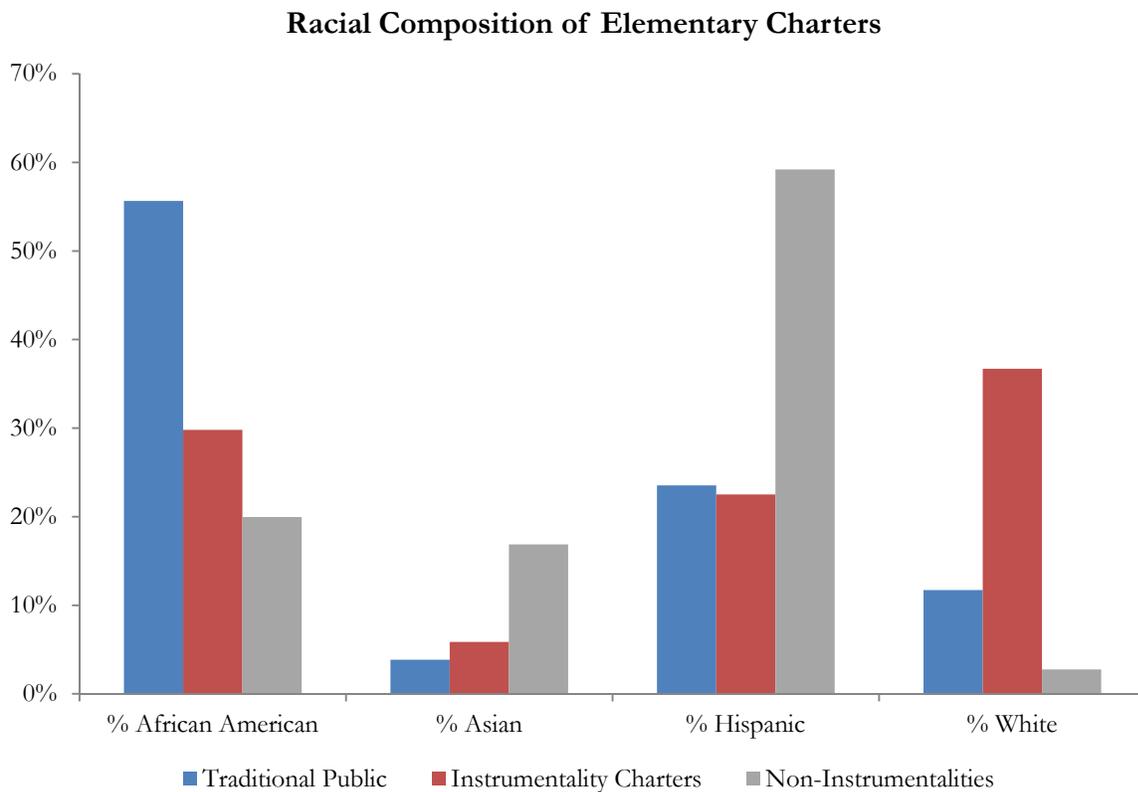


Figure 5

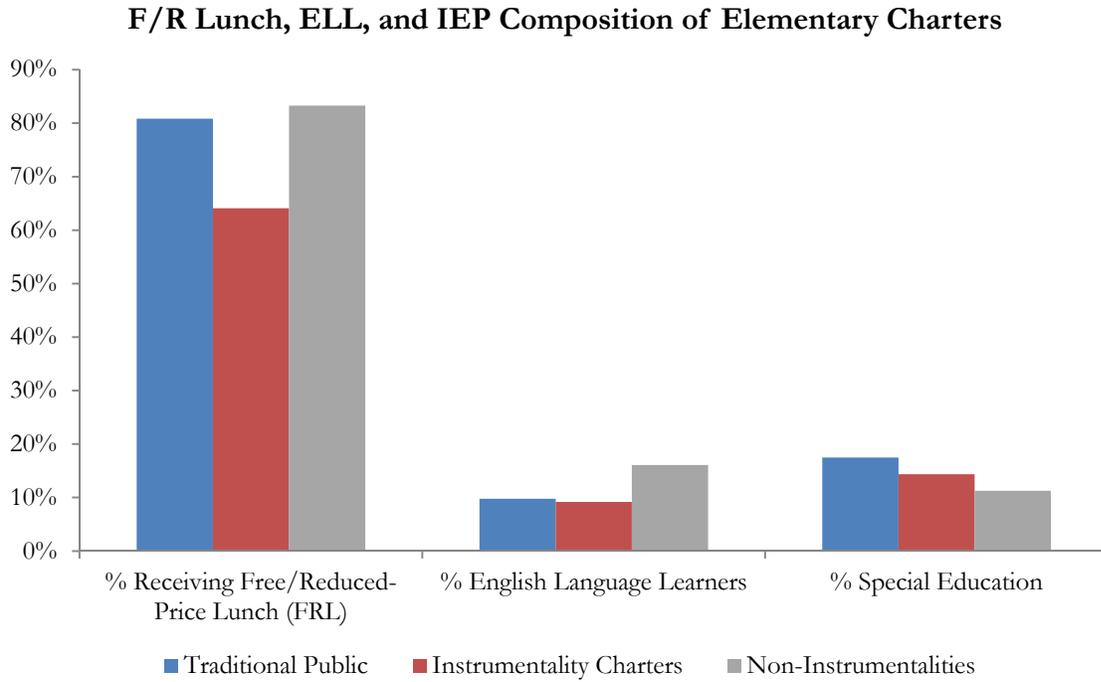


Figure 6

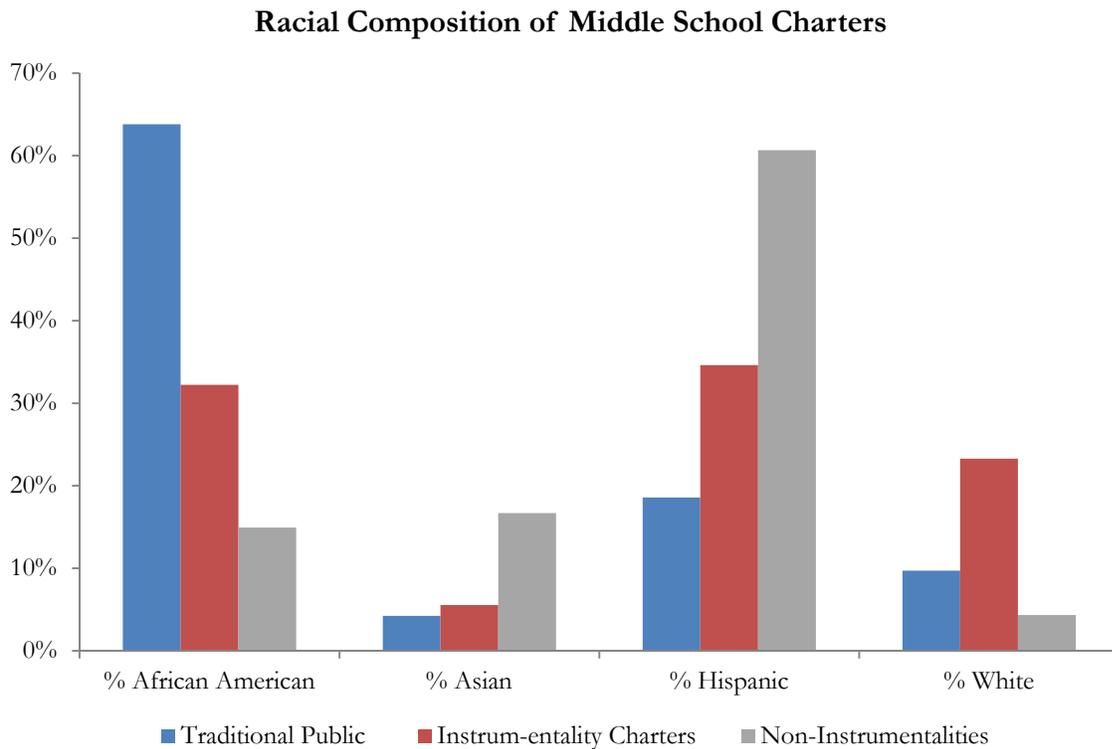


Figure 7

F/R Lunch, ELL, and IEP Composition of Middle School Charters

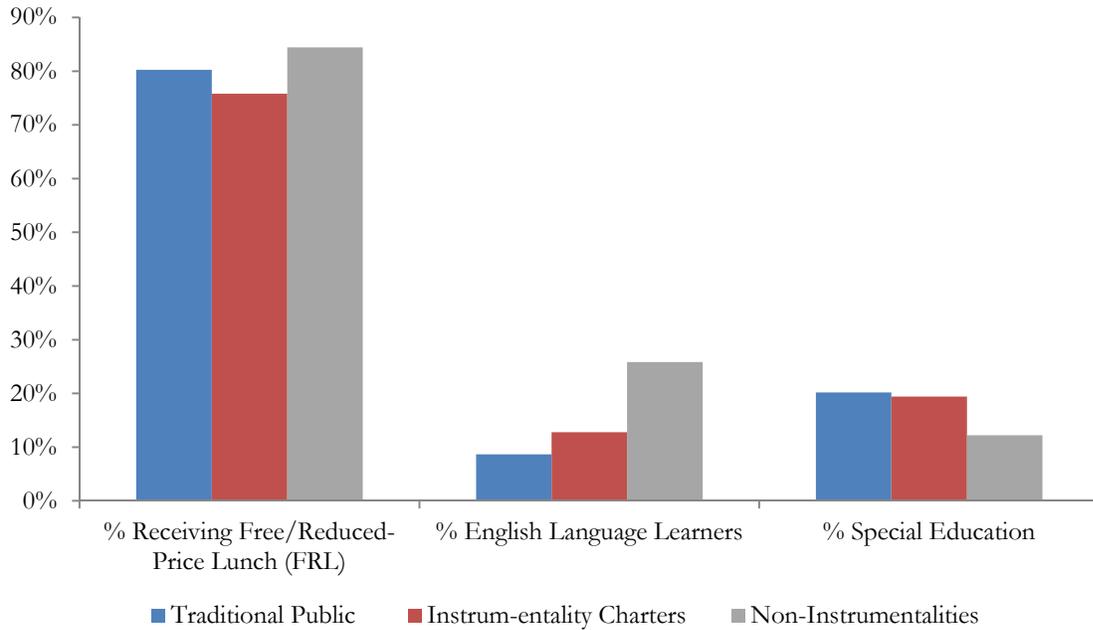


Figure 8

Racial Composition of High School Charters

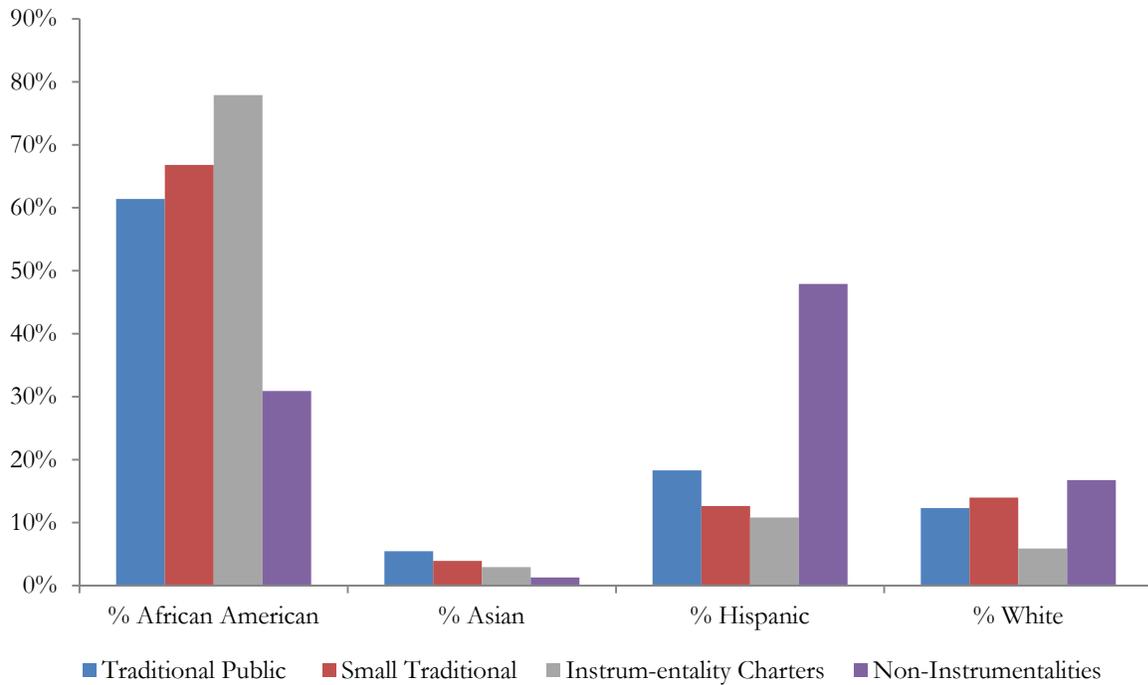


Figure 9

F/R Lunch, ELL, and IEP Composition of High School Charters

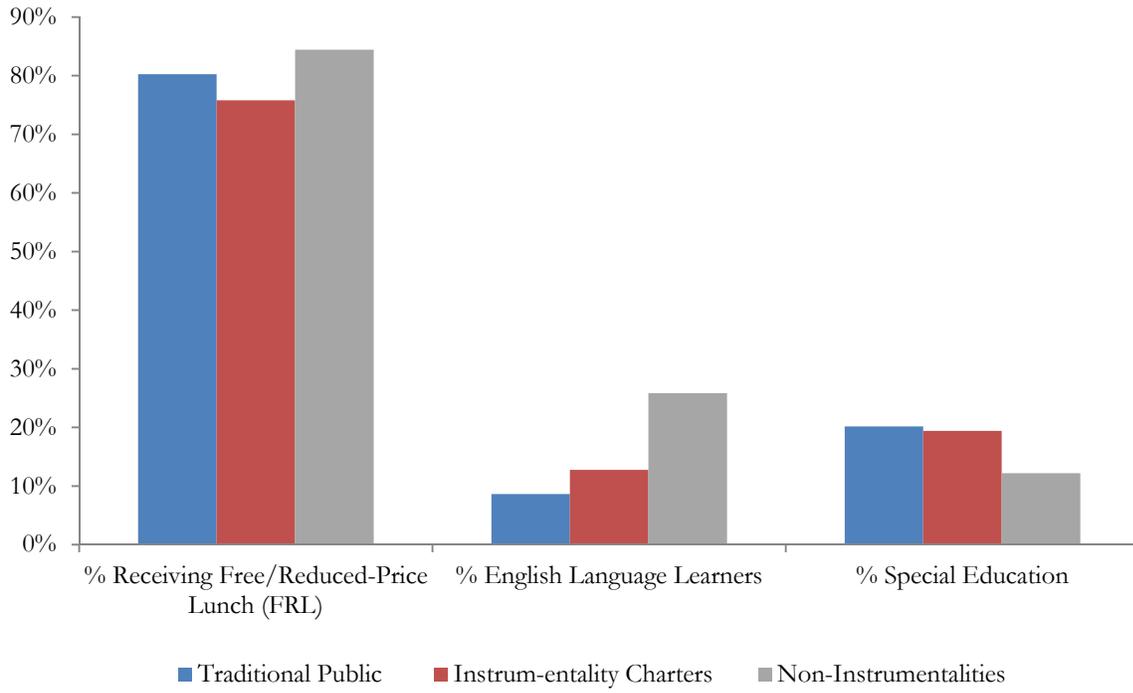


Figure 10

Table 8: Demographic Comparisons: All Student Demographic Information, 2008-09

	Elementary Grades (1-5)			Middle Sch. Grades (6-8)			High School Grades (9-12)			
	Tradition al	Instrume ntality Charters	Non- Instrume ntality Charters	Tradition al	Instrume ntality Charters	Non- Instrume ntality Charters	Tradition al	Small Tradition al	Instrume ntality Charters	Non- Instrume ntality Charters
Number of Students Enrolled	27,838	1,741	1,162	13,961	2,216	623	17,249	2,191	4,333	770
% Female	48.70%	47.96%	50.60%	48.16%	48.78%	49.12%	48.75%	47.15%	49.50%	51.82%
% African American	55.66%	29.81%	19.97%	63.81%	32.22%	14.93%	61.39%	66.82%	77.91%	30.91%
% Asian	3.84%	5.86%	16.87%	4.24%	5.55%	16.69%	5.47%	3.93%	2.93%	1.30%
% Hispanic	23.53%	22.52%	59.21%	18.57%	34.61%	60.67%	18.30%	12.64%	10.82%	47.92%
% White	11.71%	36.70%	2.75%	9.72%	23.29%	4.33%	12.30%	13.97%	5.89%	16.75%
% Other Race	4.39%	4.08%	1.03%	3.08%	2.66%	2.09%	1.80%	2.10%	1.82%	1.95%
% Receiving Free/Reduced-Price Lunch (FRL)	80.86%	64.10%	83.30%	80.26%	75.81%	84.43%	69.60%	70.74%	77.94%	72.34%
% English Language Learners	9.78%	9.19%	16.09%	8.64%	12.77%	25.84%	6.14%	2.97%	4.85%	11.04%
% Special Education	17.47%	14.36%	11.27%	20.18%	19.40%	12.20%	18.41%	24.24%	23.40%	16.88%

Table 9: Demographics over Time

	Elementary Grades (1-5)			Middle Sch. Grades (6-8)			High School Grades (9-12)			
	Tradition al	Instrume ntality Charters	Non- Instrume ntality Charters	Tradition al	Instrume ntality Charters	Non- Instrume ntality Charters	Tradition al	Small Tradition al	Instrume ntality Charters	Non- Instrume ntality Charters
% Receiving Free/Reduced-Price Lunch (FRL)...	-	-	-	-	-	-	-	-	-	-
...in 2005-06	70.69%	61.62%	84.49%	70.37%	74.46%	79.57%	60.81%	68.14%	71.52%	59.88%
...in 2006-07	69.81%	60.97%	83.04%	70.46%	75.85%	80.17%	61.41%	67.48%	71.85%	64.86%
...in 2007-08	75.97%	59.09%	67.30%	73.06%	69.36%	66.30%	56.83%	58.33%	64.29%	50.15%
...in 2008-09	80.86%	64.10%	83.30%	80.26%	75.81%	84.43%	69.60%	70.74%	77.94%	72.34%
% English Language Learners	-	-	-	-	-	-	-	-	-	-
...in 2005-06	9.16%	11.53%	21.17%	4.46%	10.28%	17.29%	5.31%	2.44%	9.34%	3.14%
...in 2006-07	9.79%	11.37%	22.58%	5.50%	11.05%	21.49%	5.85%	1.95%	6.83%	6.00%
...in 2007-08	11.10%	9.82%	20.76%	6.97%	13.65%	24.92%	6.32%	2.58%	4.16%	7.79%
...in 2008-09	9.78%	9.19%	16.09%	8.64%	12.77%	25.84%	6.14%	2.97%	4.85%	11.04%
% Special Education	-	-	-	-	-	-	-	-	-	-
...in 2005-06	14.28%	15.39%	8.21%	16.96%	16.58%	13.43%	16.56%	23.67%	20.55%	15.23%
...in 2006-07	13.96%	14.63%	9.49%	17.32%	17.27%	12.56%	16.81%	26.78%	21.48%	15.81%
...in 2007-08	16.64%	14.36%	9.69%	19.63%	18.84%	12.23%	17.71%	25.66%	23.32%	15.59%
...in 2008-09	17.47%	14.36%	11.27%	20.18%	19.40%	12.20%	18.41%	24.24%	23.40%	16.88%

What Impact does Charter Schooling have on Student Outcomes?

School Climate

Tables 10, 11, 12, and 13, present average responses submitted on the School Climate Survey. Each of the four factors—Environment, Rigor, Safety and Governance—are presented in separate tables. Each panel shows responses organized by survey group—parents, staff, students elementary/middle school grades, and students in high school grades. For each factor, each statistic is the average rating submitted by that group on an ascending 1-4 scale (with greater ratings indicating more positive attitudes). Beside each figure in parentheses is the response rate for each group. As response rates for the Parent group are not available in the MPS reports, the authors estimate those rates as the number of Parent submissions divided by the total school enrollment. Because siblings may be enrolled in the same school, this number will necessarily be an under-estimate of the true rate.

As in earlier tables, statistics are divided into three main school types—traditional public schools, instrumentality charters and non-instrumentality charters. The two right-most columns represent the difference between MPS charter responses and traditional public schools, and non-instrumentality charters and traditional public schools respectively. Positive values indicate a more positive rating for that charter type relative to traditional schools. The scale ratings range from 1 to 5. School Climate Survey data collection began in the 2002-03 school year but only recent years' data are displayed.

While each of these four aspects of a school's broad academic quality vary substantially across individual schools, they show a very consistent pattern when aggregated up to the school type level. Still, it is uncertain whether a consistent pattern across these aspects suggests that schools within a certain type are generally good (or bad) at producing all aspects of schooling all together instead of each separately, or whether respondents add a premium of general school (dis)satisfaction to each of their responses.

For each school climate measure, respondents in non-instrumentality schools rated their schools as having being the safest, most rigorous, most participatory and with the most positive environment. The one exception is with the staff, who depart from parents and students by consistently rating instrumentality charters as being more participatory than non-instrumentality schools. Since a number of instrumentality charter are teacher-led, it may be that teachers in these schools feel more empowered and therefore rate the governance structure more positively. More work is needed to explore this and other possibilities.

Table 10: School Climate Survey Summary Table - Environment

	Year	Traditional Schools	Instrumentality Charters	Non-Instrumentality Charters	Instrumentality Minus Traditional	Non-Inst Minus Traditional
Parents	2006-07	3.21 (%8)	3.21 (%11)	3.40 (%11)	0.00	0.19
	2007-08	3.27 (%11)	3.25 (%13)	3.46 (%26)	-0.01	0.19
	2008-09	3.35 (%12)	3.36 (%18)	3.51 (%26)	0.01	0.16
Staff	2006-07	3.01 (%60)	3.23 (%76)	3.22 (%79)	0.22	0.21
	2007-08	3.02 (%55)	3.10 (%68)	3.23 (%67)	0.08	0.22
	2008-09	3.07 (%61)	3.23 (%77)	3.31 (%81)	0.16	0.24
Students (Elem/MS)	2006-07	2.96 (%69)	2.91 (%74)	3.16 (%54)	-0.05	0.21
	2007-08	2.96 (%72)	3.00 (%89)	3.25 (%43)	0.04	0.29
	2008-09	3.07 (%76)	3.10 (%88)	3.27 (%78)	0.03	0.20
Students (HS)	2006-07	2.51 (%30)	2.83 (%42)	2.80 (%45)	0.32	0.29
	2007-08	2.61 (%33)	2.60 (%46)	3.14 (%59)	-0.02	0.53
	2008-09	2.69 (%38)	2.73 (%54)	3.16 (%75)	0.04	0.47

Note: Cell Values are the average score, on a scale of 1-5, and the response rate in parentheses.
 Source: MPS School Climate Surveys obtained from the MPS web site.

Table 11: School Climate Survey Summary Table - Rigor

	Year	Traditional Schools	Instrumentality Charters	Non-Instrumentality Charters	Instrumentality Minus Traditional	Non-Inst Minus Traditional
Parents	2006-07	3.19 (%8)	3.16 (%11)	3.39 (%11)	-0.04	0.19
	2007-08	3.28 (%11)	3.22 (%13)	3.44 (%26)	-0.05	0.17
	2008-09	3.34 (%12)	3.34 (%18)	3.46 (%26)	0.00	0.12
Staff	2006-07	2.98 (%60)	3.10 (%76)	3.10 (%79)	0.12	0.12
	2007-08	3.00 (%55)	3.08 (%68)	3.08 (%67)	0.08	0.08
	2008-09	3.08 (%61)	3.18 (%77)	3.22 (%81)	0.09	0.14
Students (Elem/MS)	2006-07	3.17 (%69)	3.13 (%74)	3.26 (%54)	-0.04	0.09
	2007-08	3.19 (%72)	3.20 (%89)	3.29 (%43)	0.01	0.10
	2008-09	3.29 (%76)	3.30 (%88)	3.37 (%78)	0.02	0.08
Students (HS)	2006-07	2.74 (%30)	2.90 (%42)	2.82 (%45)	0.16	0.08
	2007-08	2.89 (%33)	2.84 (%46)	3.23 (%59)	-0.05	0.34
	2008-09	2.94 (%38)	2.91 (%54)	3.24 (%75)	-0.03	0.31

Note: Cell Values are the average score, on a scale of 1-5, and the response rate in parentheses.
 Source: MPS School Climate Surveys obtained from the MPS web site.

Table 12: School Climate Survey Summary Table - Safety

	Year	Traditional Schools	Instrumentality Charters	Non-Instrumentality Charters	Instrumentality Minus Traditional	Non-Inst Minus Traditional
Parents	2006-07	3.10 (%8)	3.09 (%11)	3.24 (%11)	-0.01	0.14
	2007-08	3.11 (%11)	3.07 (%13)	3.27 (%26)	-0.03	0.16
	2008-09	3.19 (%12)	3.22 (%18)	3.33 (%26)	0.03	0.14
Staff	2006-07	2.86 (%60)	3.08 (%76)	3.10 (%79)	0.22	0.23
	2007-08	2.87 (%55)	2.96 (%68)	3.06 (%67)	0.09	0.20
	2008-09	2.93 (%61)	3.05 (%77)	3.16 (%81)	0.12	0.23
Students (Elem/MS)	2006-07	2.91 (%69)	2.79 (%74)	3.06 (%54)	-0.12	0.15
	2007-08	2.97 (%72)	2.99 (%89)	3.14 (%43)	0.02	0.17
	2008-09	3.10 (%76)	3.10 (%88)	3.22 (%78)	0.00	0.12

Students (HS)	2006-07	2.47 (%30)	2.79 (%42)	2.77 (%45)	0.32	0.30
	2007-08	2.66 (%33)	2.63 (%46)	3.05 (%59)	-0.03	0.39
	2008-09	2.73 (%38)	2.75 (%54)	3.12 (%75)	0.02	0.39

Note: Cell Values are the average score, on a scale of 1-5, and the response rate in parentheses.
 Source: MPS School Climate Surveys obtained from the MPS web site.

Table 13: School Climate Survey Summary Table - Governance

	Year	Traditional Schools	Instrumentality Charters	Non-Instrumentality Charters	Instrumentality Minus Traditional	Non-Inst Minus Traditional
Parents	2006-07	3.12 (%8)	3.17 (%11)	3.25 (%11)	0.05	0.13
	2007-08	3.16 (%11)	3.16 (%13)	3.29 (%26)	0.00	0.13
	2008-09	3.25 (%12)	3.28 (%18)	3.39 (%26)	0.03	0.14
Staff	2006-07	2.91 (%60)	3.19 (%76)	3.00 (%79)	0.27	0.08
	2007-08	2.89 (%55)	3.07 (%68)	2.98 (%67)	0.19	0.09
	2008-09	2.96 (%61)	3.14 (%77)	3.04 (%81)	0.18	0.08
Students (Elem/MS)	2006-07	2.69 (%69)	2.57 (%74)	2.95 (%54)	-0.12	0.26
	2007-08	2.79 (%72)	2.81 (%89)	3.07 (%43)	0.02	0.28
	2008-09	2.90 (%76)	2.92 (%88)	3.05 (%78)	0.01	0.15
Students (HS)	2006-07	2.45 (%30)	2.76 (%42)	2.65 (%45)	0.32	0.20
	2007-08	2.60 (%33)	2.69 (%46)	3.09 (%59)	0.09	0.49
	2008-09	2.73 (%38)	2.83 (%54)	3.16 (%75)	0.10	0.42

Note: Cell Values are the average score, on a scale of 1-5, and the response rate in parentheses.
 Source: MPS School Climate Surveys obtained from the MPS web site.

Attendance and Behavior

Table 14 presents student attendance rates and breakdowns of instructional time lost at different school types. Attendance rate is measured as a proportion of school days where a student is fully present, and breakdowns of the proportion of school days where a student is absent without an excuse, absent due to suspension, and tardy either in the morning or afternoon.

Looking across grades, there is clear evidence that attendance rates are decreasing as students get older, regardless of school type. While all schools seem to have very similar rates of attendance in elementary grades, attendance rates improve, relatively speaking, for non-instrumentality charters in secondary grades. At the same time, by high school, the small traditional and MPS charter schools have somewhat lower attendance rates.

When looking at the breakdown of time lost in schools, there is a clear trend across school types; students in traditional schools lose the most time to unexcused absences and suspension; students in instrumentality charters and small traditional schools lose less, and non-instrumentalities lose the least. This goes with the caveat that while these distinctions are consistent, they are relatively small.

Table 14: Attendance and Behavior Incidents - Attendance Rates and School Time Lost, Across Time

	Elementary Grades (1-5)			Middle Sch. Grades (6-8)			High School Grades (9-12)			
	Tradition al	Instrume ntality Charters	Non- Instrume ntality Charters	Tradition al	Instrume ntality Charters	Non- Instrume ntality Charters	Tradition al	Small Tradition al	Instrume ntality Charters	Non- Instrume ntality Charters
Attendance Rate, All Years	92.63%	93.76%	94.70%	89.69%	89.30%	92.21%	81.45%	72.60%	76.92%	81.73%
... in '06-'07 School Year	92.70%	94.15%	94.64%	89.47%	89.08%	92.18%	80.94%	72.93%	79.15%	80.46%
... in '07-'08 School Year	92.17%	92.93%	94.70%	89.17%	88.68%	91.54%	80.97%	71.11%	74.69%	81.01%
... in '08-'09 School Year (to date)	93.40%	94.65%	94.83%	91.25%	91.33%	93.63%	83.51%	75.28%	79.10%	85.02%
Unexcused Absences, All Years	2.59%	1.72%	1.10%	4.84%	4.54%	2.99%	8.85%	14.89%	15.79%	8.26%
... in '06-'07 School Year	0.64%	0.52%	0.17%	2.07%	2.22%	0.86%	1.52%	1.71%	1.33%	1.33%
... in '07-'08 School Year	4.11%	2.74%	1.36%	7.30%	6.89%	4.63%	14.81%	26.10%	21.80%	13.35%
... in '08-'09 School Year (to date)	3.57%	1.83%	2.30%	5.81%	4.81%	3.56%	12.97%	22.68%	18.51%	10.44%
Percent of Days Lost to Suspension, All Years	0.42%	0.20%	0.05%	1.72%	1.73%	0.57%	1.64%	1.96%	1.50%	0.54%
... in '06-'07 School Year	0.44%	0.22%	0.03%	1.90%	2.01%	0.80%	1.44%	1.63%	1.18%	0.66%
... in '07-'08 School Year	0.47%	0.24%	0.06%	1.79%	1.68%	0.51%	1.93%	2.31%	1.59%	0.52%
... in '08-'09 School Year (to date)	0.28%	0.10%	0.05%	1.18%	1.11%	0.28%	1.47%	1.98%	1.65%	0.37%
Percent of Days Tardy, All Years	7.59%	5.36%	4.73%	7.20%	5.24%	8.59%	4.77%	5.68%	6.67%	8.63%
... in '06-'07 School Year	7.60%	5.55%	4.49%	8.27%	6.68%	9.39%	11.06%	12.80%	20.58%	11.60%
... in '07-'08 School Year	7.71%	5.31%	4.50%	6.50%	4.43%	8.17%	0.24%	0.23%	2.08%	5.74%
... in '08-'09 School Year (to date)	7.35%	5.15%	5.63%	6.29%	3.51%	8.01%	0.08%	0.00%	1.65%	8.95%

Models of Attendance and Behavior

While the unadjusted attendance number suggest that non-instrumentality schools do the best job maintaining high attendance rates and low suspension rates, it is not clear if these difference are being driven by differences in the students attending the different types of schools. Table 15 presents the pooled results of a series of multi-level regression analyses predicting changes in student attendance and suspension rates as a function of the types of schools students attended, that account for student differences. **The only consistent finding was that students in non-instrumentalities demonstrated a .4 percentage point higher suspension rates compared to students in traditional schools.** While this result may seem counterintuitive, it may be that non-instrumentality charters spend more effort on disciplining their students to establish certain behavioral norms that will make the educational experience more stable for their students. Again, more work is needed to disentangle this effect.

Table 15: Results of Random Effect Models of Attendance and Suspension Rates

	Attendance Rates		Suspension Rates	
	Coefficient	Standard Error	Coefficient	Standard Error
MPS Charters	-0.2%	0.2%	0.1%	0.1%
Instrumentality Charters	-0.2%	0.3%	-0.1%	0.1%
Non-Instrumentality Charters	-0.2%	0.3%	0.4%**	0.1%
New MPS Charters – Less than 3 years	-0.1%	0.4%	-0.2%	0.2%
Established MPS Charters - 3 or more years	-0.2%	0.2%	0.1%	0.1%
Teacher Led Instrumentality Charters	0.0%	0.5%	0.0%	0.2%
Non-Teacher Led Instrumentality Charters	-0.2%	0.3%	-0.2%*	0.1%
Non-Instrumentality Charters	-0.2%	0.3%	0.4%**	0.1%

* P<.10

**P<.05

Student Academic Performance

Table 16 shows average “tier” values of student performance. While student test performance is generally reported in scale score units, these values cannot be meaningfully averaged across grades, or compactly presented by individual grade in these tables. Even if they could, the testing regime had altered somewhat in our period of analysis, making scale scores themselves not comparable. As a solution, we converted school average test scores to a “tier” scale where a value of 3 is, by definition, the district average and most—but not all—tier values will fall in the range of 0-6.³

From these numbers, it appears that charters, especially Instrumentality charters, have students with stronger skills in mathematics and reading at the elementary and middle school levels. In high school, the traditional public schools have the highest achieving students, even higher than small high school students. This underscores the fact that charter schools generally serve very different populations and likely different roles at different grade levels.

³ The full process of constructing tier values was to first standardize student test scores to have mean 0 and standard deviation of 1 by year, grade, and subject. These values were then averaged by grade range within each school, and these were then standardized to a scale with mean 3, standard deviation 1, using n-weighting by number of students to construct both means and variances.

Table 16: Tested Ability of Students - Achievement Across Time

WKCE Achievement Levels (Scale: 0-6, 3=District Average)	Elementary Grades (3-5)			Middle Sch. Grades (6-8)			High School Grades (10)			
	Traditi onal	Instrume ntality Charters	Non- Instrumenta lity Charters	Tradition al	Instrume ntality Charters	Non- Instrumentali ty Charters	Traditi onal	Small Tradition al	Instrumen tality Charters	Non- Instrumentality Charters
...Mathematics Tier, 2004	2.81	7.40	3.89	2.78	4.72	3.55	3.46	0.50	0.84	1.93
...Mathematics Tier, 2005	2.75	7.28	4.24	2.72	4.95	3.67	3.54	0.60	0.99	2.55
...Mathematics Tier, 2006	2.78	7.10	3.59	2.78	4.60	4.43	3.49	0.33	1.67	4.45
...Mathematics Tier, 2007	2.78	6.82	2.99	2.76	4.55	4.94	3.68	0.87	1.80	3.83
...Mathematics Tier, 2008	2.74	7.01	3.41	2.93	4.09	4.23	3.64	0.59	1.74	3.77
...Reading Tier, 2004	2.99	5.29	1.32	2.94	4.33	2.62	3.42	1.40	-0.71	2.74
...Reading Tier, 2005	2.82	7.15	2.42	2.82	4.80	2.35	3.53	0.68	0.64	2.31
...Reading Tier, 2006	2.88	6.38	2.02	2.83	4.64	3.45	3.52	0.67	1.53	4.33
...Reading Tier, 2007	2.85	6.41	2.05	2.92	4.19	3.59	3.68	0.76	1.77	3.81
...Reading Tier, 2008	2.76	6.94	2.93	3.00	3.96	3.44	3.68	0.75	1.76	3.09

Table 17: Tested Ability of Students - Student Distribution Across Proficiency Levels

WKCE Proficiency Levels, 2008-09	Elementary Grades (3-5)			Middle Sch. Grades (6-8)			High School Grades (10)			
	Tradition al	Instrume ntality Charters	Non- Instrumenta lity Charters	Traditio nal	Instrume ntality Charters	Non- Instrumentalit y Charters	Traditi onal	Small Tradition al	Instrume ntality Charters	Non- Instrumentality Charters
...Math Proficiency Level 1 ("Minimal")	33%	17%	28%	31%	27%	26%	41%	71%	59%	37%
...Math Proficiency Level 2 ("Basic")	14%	12%	13%	23%	19%	19%	24%	17%	23%	31%
...Math Proficiency Level 3 ("Proficient")	36%	40%	43%	38%	42%	44%	30%	11%	17%	30%
...Math Proficiency Level 4 ("Advanced")	17%	31%	16%	9%	12%	11%	5%	1%	1%	2%
...Reading Proficiency Level 1 ("Minimal")	12%	6%	9%	16%	16%	16%	25%	49%	38%	28%
...Reading Proficiency Level 2 ("Basic")	29%	21%	32%	21%	20%	23%	26%	29%	31%	29%
...Reading Proficiency Level 3 ("Proficient")	41%	42%	46%	45%	44%	45%	31%	17%	23%	27%
...Reading Proficiency Level 4 ("Advanced")	17%	31%	14%	17%	21%	17%	18%	5%	8%	17%

Table 18: Tested Ability of Students – Percent of Student Proficient Across Time

WKCE Average Proficiency Rates (Proficiency Level = 3 or 4)	Elementary Grades (3-5)			Middle Sch. Grades (6-8)			High School Grades (10)			
	Tradition al	Instrume ntality Charters	Non- Instrumentality Charters	Traditio nal	Instrumen tality Charters	Non- Instrumentality Charters	Traditi onal	Small Traditional	Instrume ntality Charters	Non- Instrumentality Charters
...Math % Prof or Adv, 2004-05	44%	55%	44%	32%	48%	40%	31%	17%	15%	26%
...Math % Prof or Adv, 2005-06	39%	57%	41%	34%	47%	39%	33%	12%	14%	32%
...Math % Prof or Adv, 2006-07	45%	62%	51%	39%	51%	47%	32%	9%	16%	38%
...Math % Prof or Adv, 2007-08	46%	62%	46%	37%	46%	49%	32%	9%	16%	31%
...Math % Prof or Adv, 2008-09	53%	71%	59%	46%	53%	55%	34%	12%	17%	30%
...Reading % Prof or Adv, 2004-05	60%	66%	49%	58%	62%	52%	44%	33%	23%	47%
...Reading % Prof or Adv, 2005-06	58%	71%	53%	56%	62%	53%	41%	26%	24%	36%
...Reading % Prof or Adv, 2006-07	61%	72%	56%	59%	63%	60%	41%	21%	28%	47%
...Reading % Prof or Adv, 2007-08	58%	68%	54%	58%	62%	60%	43%	18%	25%	45%
...Reading % Prof or Adv, 2008-09	58%	72%	58%	61%	63%	60%	47%	20%	30%	42%

Table 17 presents a cross-sectional look at student achievement, focusing on just the 2008-09 school year, in order to examine the distribution of student ability instead of just the average. Considering the comparisons of average ability made in Table 16, the most notable information here is the fact that Instrumentality charters seem to attain that status by drawing disproportionately large numbers of “Advanced” students in both mathematics and reading.

Table 18 provides a slightly different look at levels of student performance across time, focusing on average proficiency rates in math and reading. The same trends across time that are presented in Table 17 are not as clearly evident, most likely due to the fact that the measure of percent proficient or advanced fails to reflect a good deal of variation in student ability that students have (or progress that they make) below or above the proficiency line.

Table 19, by its focus on academic growth that students experience while at schools, shows the first evidence of the influence that schools have on tested performance. Table 19 shows simple gain statistics, calculated as the difference between student post-test and pre-test scores, and then put on a tier scale similar to that in Table 16 where a value of 3 represents the level of average district gain.

Looking across years, the gain tiers of the charter schools seem quite volatile. This may be due to the significant changes in the composition of schools within each category type, and the changing composition of students within those schools. Although the construction of student gain scores does create a more valid basis for inferring the influence of schools on student achievement growth, it does not account for other background characteristics of students, as do value-added measures. Because these background characteristics are likely to vary widely for students in traditional and charter schools, and to vary from year to year, value-added analysis is necessary to reduce the noise in these statistics.

Since composition of traditional public schools in terms of student backgrounds is comparatively stable, their gain tier statistics may be slightly more reliable signals of performance. Table 19 indicates that for both reading and math, students in traditional schools show district mean academic growth in elementary and middle school grades, but do relatively worse in high school grades⁴.

⁴ Students in Milwaukee are tested in grades 3-8 and 10. Statistics in these tables generally reflect improvements between adjacent grades from year to year. High school statistics are the exception, where improvements are measured from between grade 8 and 10. In all cases, measures of student growth are attributed to the school that they attend at the time of the post-test.

Table 19: Academic Growth of Students: Simple Test Score Gain

WKCE Simple Score Gain (3 = District Average)	Elementary Grades (3-5)			Middle Sch. Grades (6-8)			High School Grades (10)			
	Traditional	Instrumentality Charters	Non-Instrumentality Charters	Traditional	Instrumentality Charters	Non-Instrumentality Charters	Traditional	Small Traditional	Instrumentality Charters	Non-Instrumentality Charters
Mathematics Tier, Fall 2004 to Fall 2005	2.73	6.61	6.69	3.55	4.12	3.50	2.60	1.49	4.69	3.39
Mathematics Tier, Fall 2005 to Fall 2006	3.17	0.10	5.70	3.14	3.81	-1.50	2.28	3.72	2.64	3.95
Mathematics Tier, Fall 2006 to Fall 2007	3.20	2.00	1.32	2.80	4.78	3.64	1.81	3.68	3.36	1.54
Reading Tier, Fall 2004 to Fall 2005	2.73	7.34	5.47	3.05	5.18	-1.73	2.28	2.58	2.78	4.39
Reading Tier, Fall 2005 to Fall 2006	3.11	3.55	-0.38	3.40	2.44	-0.80	2.24	4.04	2.96	4.67
Reading Tier, Fall 2006 to Fall 2007	2.80	4.50	5.72	3.15	3.12	3.92	1.90	4.30	2.78	4.26

Table 20: Academic Growth of Students: Improvement Across Proficiency Levels

WKCE Proficiency Improvements - All Years	Elementary Grades (3-5)			Middle Sch. Grades (6-8)			High School Grades (10)			
	Traditional	Instrumentality Charters	Non-Instrumentality Charters	Traditional	Instrumentality Charters	Non-Instrumentality Charters	Traditional	Small Traditional	Instrumentality Charters	Non-Instrumentality Charters
Improvement from Math Prof. 1	28.88%	31.31%	31.91%	30.24%	37.47%	29.85%	15.69%	6.10%	10.12%	30.80%
Improvement from Math Prof. 2	37.60%	44.31%	45.68%	30.28%	39.84%	34.95%	14.87%	6.79%	9.97%	24.24%
Improvement from Math Prof. 3	12.91%	15.29%	16.35%	5.85%	9.19%	5.74%	3.08%	1.16%	0.94%	4.09%
Improvement from Reading Prof. 1	43.56%	41.11%	45.20%	38.51%	36.11%	42.66%	20.17%	13.98%	14.69%	21.93%
Improvement from Reading Prof. 2	33.54%	31.63%	36.02%	34.51%	38.33%	41.65%	8.52%	5.29%	6.47%	13.35%
Improvement from Reading Prof. 3	10.83%	13.76%	12.17%	11.22%	13.02%	9.40%	7.58%	2.53%	6.19%	13.17%
Improvement from Math Prof. 1 to Prof't (>=3)	12.25%	13.57%	15.33%	7.46%	10.91%	3.89%	2.55%	0.90%	0.67%	3.77%
Improvement from Read Prof. 1 to Prof't (>=3)	8.55%	5.94%	5.50%	9.52%	9.66%	11.78%	2.24%	0.86%	2.20%	5.00%

Table 20 presents information about performance of schools in moving students between proficiency levels. These measures show more detail whether students make progress from different starting points. Several years of data are combined, which may be useful to smooth out the volatility in Table 19. Rolling several years together may help wash out “noise” to reveal underlying trends, to the extent that the recent years’ performance of charter schools is generally representative of their potential performance (i.e., that this volatility truly is noise with respect to what is hoped to be inferred about average performance of these schools as a class).

Among noticeable trends, in elementary and middle school grades, no school type stands out in their record with math proficiency level 1 students, although non-instrumentality schools do better than others in reading. In elementary and middle school grades, it seems that both types of charters do a better job of raising the tested ability of proficiency level 2 students. The same goes for generating improvements for students at proficiency level 3, except for middle school math for non-instrumentalities, which is simply comparable to the rate achieved by traditional public schools.

Because Table 20 shows charter schools to have relatively more able students on tested dimensions, it is possible that charters have more students in the upper range of a given proficiency level, than do traditional schools. If this were the case, then they would have an easier time achieving high improvement rates shown in Table 20 as they would have many students at the cusp of moving up. This seems relatively unlikely, especially as a systematic distinction across many schools within a given school type. At a minimum, the evidence in Table 20 is broadly suggestive that charter schools do at least as well as traditional public schools in educating students at each level of ability.

One final caveat is that charter schools may draw students that, for a given level ability, are easier to educate whether due to increased motivation, parental encouragement, or better behavior. This would not be attributable to schools if families with these types of kids seek out charters. On the other hand, these schools would deserve credit if they are able to involve families or create a culture of student attachment to the school (to improve behaviors) or to curriculum to improve engagement. This comparison does not hold at the high school grades where, instead, traditional schools perform better than instrumentality charters but still not quite as well as non-instrumentality charters. Small traditional public schools are comparable to instrumentality charters.

Results of Student Achievement Models

To provide a stronger, more precise test of the impact of charter schooling on student achievement, random effect models were built that controlled for both individual and school characteristics to attempt to isolate the difference in the achievement gains of students that is attributable to the type of school they attend. The results of these models are presented in Table 21 and show that:

- **Overall, students attending charter schools demonstrate smaller reading ($p < .05$) achievement gains in 2006-2007 compared to students in traditional schools but not in the other years tested. No statistically significant differences were found in math.**
- **No statistically significant differences were found in the performance of students attending non-instrumentality charters compared to students in traditional public schools.**
- **Students attending instrumentality charters consistently demonstrated greater math achievement gains than students in traditional public schools ($p < .05$).**

- In 2006-2007 instrumentality students gained less in reading than did students in traditional public schools.
- Students attending teacher-led instrumentalities consistently demonstrated greater math achievement gains ($p < .05$) than students in traditional schools.
- Student attending charter schools that were eventually closed did not demonstrate any significant differences between their achievement and that of students in traditional schools. ($p > .05$), but did performed less well than charters that remained open.
- No clear differences were found in the achievement of students attending new and established charter schools

Although there appears to be some differences in the mean achievement differences between difference types of schools, these differences were typically small and inconsistent. It is likely that differences in school performance are more due to the specific practices of each individual school, largely independent of their governance structure. The results support more of a performance management approach to charter schooling, were individual schools are evaluated on their own merits, not simply based on the category of school they belong to.

Table 21: Pooled Results of Random Effect Achievement Models

	Math Gains						Reading Gains					
	2006-2007		2007-2008		2008-2009		2006-2007		2007-2008		2008-2009	
	Coefficient	Std Error	Coefficient	Std Error	Coefficient	Std Error	Coefficient	Std Error	Coefficient	Std Error	Coefficient	Std Error
All MPS Charter Schools	1.4	1.3	1.8	1.2	1.7	1.4	-2.5**	1.2	-0.1	1.2	0.9	1.2
Closed MPS Charters	-4.8	3.2	1.6	2.8	0.5	1.7	0.1	3.3	-0.8	3.2	0.8	2.0
Open MPS Charters	2.5*	1.4	1.9	1.4	1.6	1.3	-2.9**	1.3	0.0	1.4	1.0	1.4
Instrumentality Charters	2.9*	1.7	2.1	1.6	3.1*	1.8	-3.3*	1.7	-2.0	1.5	2.2	1.6
Non-instrumentality Charters	-0.1	1.8	1.4	1.9	-0.5	2.1	-1.6	1.8	2.5	1.8	-0.8	1.9
New Charters < 3 years	1.4	2.1	-0.1	2.4	4.1	2.6	-2.0	2.1	-0.4	2.3	4.1*	2.3
Established Charters >= 3 years	1.5	1.5	2.4*	1.4	0.8	1.6	-2.8*	1.5	0.1	1.3	-0.1	1.4
Teacher Led Instrumentality Charters	9.9**	3.6	5.1*	3.0	0.4	3.7	-4.7	3.5	1.4	2.9	3.7	3.4
Non-Teacher Led Instrumentality Charters	1.0	1.9	1.1	1.8	3.9*	2.0	-3.0	1.9	-3.2*	1.8	1.9	1.8
Non-Instrumentality Charters	0.0	1.8	1.4	1.8	-0.5	2.1	-1.6	1.8	2.6	1.8	-0.8	1.9

* P < .10

** P < .05

Qualitative Analyses

Ultimately, five non-instrumentality charter schools and 14 instrumentality charter schools were interviewed. Five of the schools are relatively new charter schools (defined by three years of operation or less), 10 are high schools. For four of the schools, the interviews were conducted in person. Interview responses are separated instrumentality charters – not teacher-led, instrumentality charters – teacher-led, and non-instrumentality charter schools.

One purpose of the charter school administrator interviews was to identify each school's mission and better understand the challenges to fully implementing the mission of that school. First, administrators were asked to rate how fully their school has implemented the mission of the charter school. Responses ranged from 50-100% although only two schools reported being under 80%. It should be noted that these numbers are self-reported and simply represent the view of the interview subject. Several schools mentioned that they felt that their ability to “live their mission” varied year to year, depending on the group of students they were serving at the time and staff turnover. In future work it may be interesting to do a more rigorous study that examines the content of courses offered at charter schools to get a better sense of how exactly these schools are meeting their mission.

Challenges to Mission

As part of the interview, administrators discussed challenges to fulfilling their mission. These challenges are listed in the table below. Ten schools mentioned staffing issues as posing a challenge to fulfilling their mission. Specifically, the training of new staff, the availability of qualified staff, and high staff turnover challenge schools as they work to more fully implement their mission. Five schools mentioned that high turnover was an issue and expressed a desire for a greater number of higher quality candidates to be made available to charter schools. Four schools mentioned that union restrictions present obstacles as to how they are able to attract teachers and how they are able to use teacher time. Two schools specifically mentioned district residency restrictions as a barrier to hiring higher quality teachers.

Table 22: Challenges to Mission

Challenges	Instrumentality - Not Teacher led Charters	Instrumentality - Teacher led Charters	Non- instrumentality Charters
Academics	-	2	-
Culture	-	1	-
District Involvement	1	3	-
Economy	-	1	-
Funding	-	1	1
NCLB	-	1	-
Parents	1	-	-
Space Issues	-	3	-
Staff	-	8	2
Student Needs	1	2	1
Time	-	2	-
Union	-	4	-

Several schools mentioned that getting staff “on board” is a challenge to the mission of the school and provided examples of ways they ensure that staff members share the vision. Their responses are provided in Table 23 below. Eight schools mentioned that they address the mission during the interview process to try to determine early on whether a new staff member is going to be a good fit for the school. This seems to be especially important for teacher-led schools. Other schools mentioned that they emphasize the mission after a staff member is hired and provide new hires with a mentor, additional professional development, and retreat time. Generally, schools use weekly meetings, individual professional development plans, and retreats to cultivate the culture of the school. Great emphasis seems to be placed on envisioning the mission and living it. Many schools (13) mentioned relying on the strengths of their own staff members to provide professional development for the rest of the staff.

Table 23: Methods for getting staff “on-board”

Getting Staff on Board	Instrumentality - Not Teacher led Charters	Instrumentality - Teacher led Charters	Non- instrumentality Charters
Coaching	1	-	-
Cultivating Culture	1	3	2
Interview Process	-	7	1
Involved in development	-	1	-
Involved in start-up	-	2	1
Meetings	1	2	1
New Staff	1	3	2
Professional Development	1	8	3

Building Space

Additional constraints felt by schools as far as being able to more fully implement their mission include physical building space. Three schools noted that they felt limited by their building space and were looking for space that better supported their mission and needs. Schools that share space with other schools, for example, pointed out that it is difficult to create an environment that is conducive to their mission when there are schools with different missions and arrangements down the hallway. It is interesting to note that the only schools that mentioned space as an issue were instrumentalities. Non-instrumentality charter schools discussed how they appreciate not having to work within the constraints of the district regulations for conducting renovations. According to these schools, having the flexibility to allow parents, volunteers, or their own contractors to work on their building space saves them a great deal of time and money.

Parental Involvement

Charter schools use a variety of techniques to involve parents in the school community. Several charter schools stressed the importance of educating parents about the mission of the school and school expectations as soon as they are contacted by parents. Much like traditional public schools, many schools reported the challenges of involving parents in the school community due to mobility and poverty.

Table 24: Methods for involving parents

Parental Involvement	Instrumentality- Not Teacher Led Charters	Instrumentality - Teacher Led Charters	Non- Instrumentality Charters
Communication	1	8	2
Conferences		4	3
Data Use		1	1
Home Visits		1	
Mentor Programs			
Orientation	1	6	
PTA		1	
Retreats		2	2
Setting Expectations	1	3	2
Training		2	1
Volunteering	1	4	1

Measuring Student Success

Similar to traditional schools, charter schools reported using a variety of measures to gauge student success. Not surprisingly they rely on a combination of state, district, and local assessments. A few schools mentioned the use of graduation rates and the number of students going on to higher education as measures of success.

Table 25: Methods for assessing success

Measures of Student Success	Instrumentality- Not Teacher Led Charters	Instrumentality - Teacher Led Charters	Non- Instrumentality Charters
Accelerated Programs		1	
Benchmark Tests	1	5	1
College Prep Exam	1	2	1
Credits		1	
Feedback from Teachers	1		1
Grades		1	1
Graduation Rate		2	
Local Assessment	1	4	2
Non-Achievement Measures		6	2
Observations		1	1
WKCE	1	5	3
Students going on to HE		2	

Funding

Schools also mentioned that they felt limited by finances. This concern is shared by instrumentalities and non-instrumentalities, teacher-led schools and non-teacher led schools. In interview responses, non-instrumentalities seemed to have more direct concerns regarding the amount of funding and had a perception of being targeted by the district. Three schools had specific questions about the amount of state aid taken by the district and wanted to know more about the purpose of the overhead. Administrators at these schools reported that MPS keeps approximately 3% of the per pupil amount compared to instrumentality charters in the city of Milwaukee (1% overhead, as reported by the administrators). The administrators feel that their schools are providing MPS with a way to keep students in the district and do not understand what the district does with the overhead expenses. Their feeling is that if the school has to cut offerings because of budget constraints, parents will take their children from MPS schools to suburban schools.

Table 26: Funding Concerns

Funding Issues	Instrumentality- Not Teacher Led Charters	Instrumentality - Teacher Led Charters	Non- Instrumentality Charters
Advantages	1	8	2
Audits		3	
Budget Comments		1	
Constraints	1	6	2
Equity	1	2	2
Outside Funding	1	6	3
Overhead			3

When asked about the financial advantages or flexibilities that make it easier to manage a charter school, schools did not identify a lasting advantage, other than the federal start-up funds that charter schools are eligible to receive in their early years of operation. Seven schools stated that there is no advantage to being a charter school. Advantages that were mentioned by some schools include the charter grant funds, technology needs, and access to professional development. However, many of

these advantages are tied to the charter school start-up funds administered by the Department of Public Instruction.

Schools were asked about their access to funding outside of state aid and charter school start up funds. While a few schools apply for and receive additional grant money, many schools reported that they did not have the time to research grant opportunities or complete lengthy grant applications. Researching possibilities for additional funding was an area where administrators mentioned they could use more guidance. For schools that do receive additional funding, their use of those funds is provided in the following table.

Table 27: Use of External Funds

Use of External Funds	Instrumentality - Not Teacher led Charters	Instrumentality - Teacher led Charters	Non- instrumentality Charters
Building needs	-	1	2
Technology	-	1	1
Professional Development	-	2	-
Programs and Activities	-	4	-
Staff positions	-	-	1
Supplies	-	2	-

Interaction with District

Schools also mentioned that from time to time, interaction with the district challenged their ability to more fully implement their mission. Schools mentioned having to process large amounts of material and attend many meetings. While this is likely a challenge for any school administrator, charter administrators identified the offices or groups within the district upon which administrators depend on for support with navigating district, state, and federal regulations. Sources of district support mentioned by charter schools are listed in the following table. In describing their interaction with district offices, some administrators described feelings that the district stood in the way of innovation or viewed charter schools as being less rigorous than traditional public schools. The district offices which administrators felt were most helpful or valuable were the Research and Assessment Office and the Division of Diversified Community Schools. Exposure to the SOS Clusters varied. Schools either found them to be a great resource or they had not had any contact with them.

Table 28: Sources of District Support

District Support	Instrumentality - Not Teacher led Charters	Instrumentality - Teacher led Charters	Non- instrumentality Charters
Bilingual Office	-	1	-
Budget Office	-	2	-
Curricular Support	1	3	1
DCS	1	7	3
HR	-	3	-
Principal Coach	1	-	1
Research and Assessment	1	3	2
SOS Cluster	1	5	2

Discussion of Findings and Conclusions

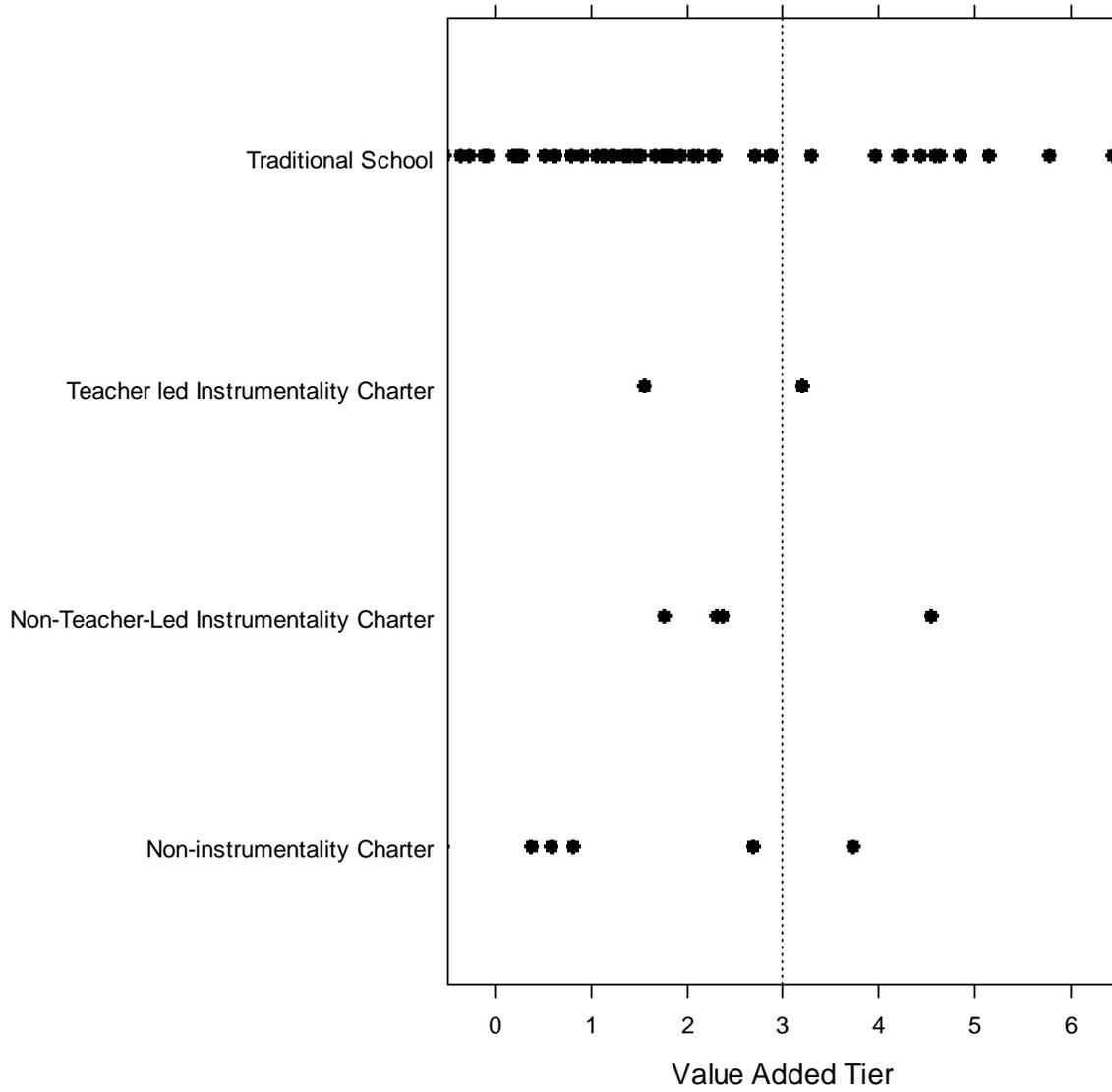
The charter school movement in MPS has grown considerably since the first charter school opened in 1996. Now, over 40 charter schools exist in the district, with more planned in coming years.

An analysis of the demographic characteristics of students attending charter schools suggests that although charters are educating students from all backgrounds and ability levels, they are not yet fully integrated within the district, especially within elementary and middle schools. Specifically, charter schools are serving more white, Asian, and Hispanic students, while traditional schools are serving more African American students. Further, traditional schools are serving slightly fewer students eligible for free/reduced lunch, while elementary and middle school instrumentality charters serve more students exceeding state standards than both non-instrumentality and traditional schools.

Parent, student, and staff reports of school climate suggest that non-instrumentality charters are consistently viewed as the safest, most participatory, and most rigorous. The one exception was that staff in instrumentality charters tended to view their schools as being the most inclusive about participation in decision-making which may reflect the impact of the teacher-led governance structure of several instrumentality charter schools. Few differences were found in student attendance or behavioral incidents rates of students according to the types of schools they attended.

Although, some statistically significant differences were found between value-added of difference types of charter schools, these differences were typically small and inconsistent. A closer look at the value-added differences within each type of school explains why (Figures 10, 11, 12, and 13). These figures demonstrate that there is much more variability within each school type than between school types. As such, it is not clear that it makes sense to try to make broad conclusions about the type of governance structure that is the most effective. Based on the results of this evaluation, a more reasonable approach to evaluating charters is performance management. A performance management approach would remove failing schools regardless of their governance structure and explore the mechanisms within excelling schools that could be brought to the larger district. Ultimately, charter schools are laboratories where innovation should be happening. Performance management could provide the mechanism for capturing those innovations and bringing them to the district at large, while simultaneously removing failing schools. It is this type of approach which is the closest to the philosophical intention of the charter school movement.

VA by Type of School



VA by Type of School

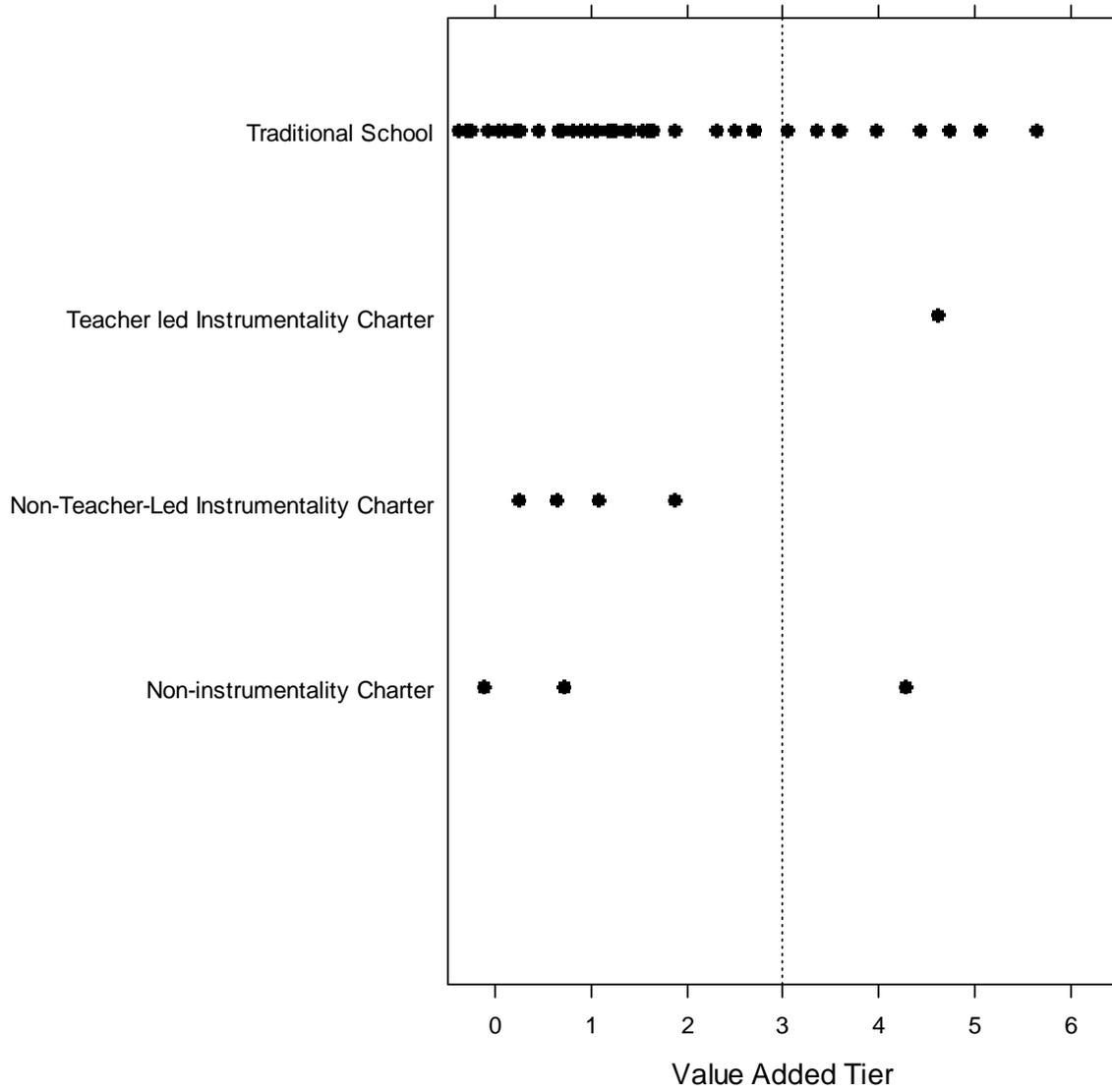


Figure 13: 2007 to 2008 Middle School Reading Value-Added Results

Appendix A

Distance Traveled to School Analysis

Table 1 presents a look at evidence of self-selection of families into charters. The hope for charters is that they serve a local population of students that is selected on the basis of match to the school's offerings. In this report, we look to understand self-selection of families into schools to gain information on how demand for charter school types compares to that of traditional public schools, and on how that demand varies across student populations served by MPS.

The following table focuses just on first grade students as a time point where many families make a selection among schools and where schooling options are many and spatially densely located.

The first line of Table 1 shows that average students only make extra-long trips to non-instrumentality schools. This is consistent with the fact that these schools are fewer in number, and therefore necessarily farther away from the average student. All types of students travel relatively the same distance to public schools, but non-FRL and white students do not travel as far. It is possible that they are not the targets of charter schools, as some charters do have particular offerings for minority populations, and so non-minorities will only attend if the school is especially convenient. Or it may be that charters are more likely to locate in locations convenient to white and non-FRL families. In general, it is difficult to determine whether distances traveled themselves reflect preference for certain models of schools or how much they represent the local availability of those schools.

The second half of Table 1 offers a slightly different take on selection of schools, presenting evidence of how many closer schooling options each type of student must turn down in order to attend the school type of their choice. For example, the 18 at the top-left of the region suggests that the average student passes up 18 schools that are closer than the school that they actually attend, which is about the 19th closest to their home.

Across all students, it seems that non-instrumentality charters are indeed the farthest by this measure. However, when focusing on non-FRL and white students, it looks like these families are not turning down traditional public schools to attend Instrumentality charters. Because they pass up relatively few closer schooling options, we cannot rule out the explanation that proximity rather than special preference for charter schools explains their enrollment.

Table 1: Distances Traveled to School in 2008-2009 – First Grade Students

	Traditional	Instrumentality Charters	Non-Instrumentality Charters
Median # Miles Traveled by all Enrolled Students	1.56	1.33	1.78
... by students on Free/Reduced-Price Lunch	1.51	1.39	1.75
... by students NOT on Free/Reduced-Price Lunch	1.82	1.31	2.30
... as chosen by Minority Students	1.60	1.60	1.78
... as chosen by Non-Minority Students	1.23	0.97	2.72
... as chosen by Non-Special Education Students	1.54	1.31	1.78
... as chosen by Special Education Students	1.70	2.31	2.22
Median Distance Rank for Students' Attended School (e.g. 1st vs. 2nd closest school, etc)	8	4	15
... for enrolled students on FRL	8	8	15
... for enrolled students NOT on FRL	8	3	19
... for enrolled Minority Students	9	9	15
... for enrolled Non-Minority Students	4	3	22
... for enrolled Non-Special Education Students	8	4	15
... for enrolled Special Education Students	9	12	17

Source: Calculations made using ArcGIS software with student residential addresses (September Third Friday files) and public school locations (Directions Catalogs).

Appendix B

Staffing Differences between Charter and Traditional Schools

There is a significant difference in the teacher demographics for different types of schools. The number of teachers hired by elementary/middle schools and MPS charter schools is increasing. This is because the number of MPS charter schools is also increasing. (There is no information on teachers in non-instrumentality charter schools, so all the descriptive analysis here is with respect to instrumentality charter schools). Typically elementary/middle school and Instrumentality charters hire younger teachers than high schools. Even though charter schools hire younger teachers, they have almost the same years of experience as high school teachers. At all schools, in accordance with Title I NCLB requirements, 95 percent or more of teachers are certified.

Elementary/middle and charter schools hire more females than high schools. There is a distinct difference in the ethnicity of teachers hired by charter schools. Charter schools hire more white teachers and fewer African American teachers. As Table 1 shows, charter schools in elementary and middle school level have a higher percentage of white students and a lower percentage of African American students as compared to traditional MPS schools. Additionally, charter schools hire more teachers with Masters’ degrees than traditional elementary/middle schools do.

Table 1A

	2006			
	Traditional Elementary/Middle Schools	Traditional MPS High Schools	Traditional MPS Small High Schools	Instrumentality Charter Schools
Number	3132	696	104	381
Age	45.19	48.42	49.24	46.68
Years of Experience	8.00	10.41	10.96	9.72
Female	81.16%	50.57%	53.85%	73.23%
Certified	97.61%	97.56%	99.04%	97.90%
African Am.	24.33%	20.26%	29.81%	15.22%
Hispanic	7.12%	7.47%	1.92%	6.04%
Asian	1.66%	1.87%	0.96%	1.31%
White	65.90%	69.25%	62.50%	76.12%
High School	1.28%	1.87%	0.00%	0.79%
Bachelors	57.22%	44.83%	51.92%	49.87%
Masters	40.55%	50.72%	43.27%	47.24%
Doctors	0.03%	1.44%	0.00%	0.79%

Table 1B

2007				
	Traditional Elementary/ Middle Schools	Traditional MPS High Schools	Traditional MPS Small High Schools	Instrumentality Charter Schools
Number	3236	736	105	467
Age	45.34	48.73	49.37	46.91
Years of Experience	7.95	10.65	9.82	9.74
Female	80.13%	50.95%	44.76%	70.45%
Certified	97.59%	97.55%	99.05%	97.43%
African Am.	25.15%	20.92%	25.71%	22.06%
Hispanic	7.32%	6.93%	3.81%	4.93%
Asian	1.48%	1.77%	0.95%	2.14%
White	64.99%	69.29%	64.76%	69.59%
High School	1.55%	1.77%	0.00%	0.21%
Bachelors	57.32%	45.24%	55.24%	51.82%
Masters	40.05%	50.54%	40.00%	46.25%
Doctors	0.03%	1.22%	0.00%	0.64%

Table 1C

2008				
	Traditional Elementary/ Middle Schools	Traditional MPS High Schools	Traditional MPS Small High Schools	Instrumentality Charter Schools
<i>Number</i>	3521	727	117	533
<i>Age</i>	45.19	48.18	48.03	46.41
<i>Years of Experience</i>	7.75	10.29	9.15	9.21
<i>Female</i>	71.46%	49.11%	40.17%	60.23%
<i>Certified</i>	97.98%	97.39%	99.15%	97.94%
<i>African Am.</i>	25.36%	20.36%	28.21%	27.95%
<i>Hispanic</i>	10.25%	7.98%	8.55%	8.63%
<i>Asian</i>	1.33%	1.93%	0.85%	2.06%
<i>White</i>	62.08%	68.50%	59.83%	60.23%
<i>High School</i>	1.33%	1.65%	0.00%	0.19%
<i>Bachelors</i>	54.25%	43.47%	52.14%	49.91%
<i>Masters</i>	43.34%	52.54%	44.44%	48.97%
<i>Doctors</i>	0.09%	1.10%	0.00%	0.38%

Appendix C

Teacher-led Charter School AnalysisSarah Archibald⁵ and Hiren Nisar⁶

One area in which charter schools differ is in terms of school leadership; some charter schools are “teacher-led.” This means that rather than having an administrator, administrative duties are shared among teachers.

One could argue that teacher-led schools lead to better results because teachers are most involved in the education of their students ([13];[14]). Although a thorough investigation of this issue would require both quantitative and qualitative analysis, this initial analysis includes purely quantitative data. Further analysis, including qualitative questions are discussed at the end of this section.

Data

Three different types of public school and charter school data are analyzed in this section of the report: Student demographic and achievement data, Climate Survey data, and Instructional Practice Survey data. The Instructional Practice Survey is administered to teachers to help the district determine how well schools are manifesting their instructional improvement goals. Specifically, the survey questions were analyzed and scale scores were created using four indicators:

- Active engagement of student learners
- Cultural responsiveness/partnerships with families and community
- High expectations based on learning targets
- Impassioned, engaged adult learners

In this study, we analyze whether teacher-led charter schools had higher scale scores on these measures than other schools.

For discussion and analysis, charter schools are broken into teacher-led, non teacher-led, and non-instrumentality charters. There are no teacher-led non-instrumentality charter schools.

Results***Enrollment Trends***

Table 1 shows enrollment trends for different grades over the last six years for the types of schools described above. For the purpose of this analysis, results from small high schools are also added. A small high school is a non-charter high school with total enrollment under 550. As seen from the data, there is a dramatic decrease in the number of students enrolled in traditional schools in grades 1-5 and 6-8 from 2003-04 to 2008-09. The decrease is not as extreme as for high school grades. Table 1 shows that the percentage of students enrolled in traditional schools falls dramatically but the charter schools enrollment has increased tremendously in that time period. Within charter

⁵ Associate researcher, Wisconsin Center of Education Research. Email: sarchiba@wisc.edu

⁶ Department of Economics, University of Wisconsin, Madison. Email: nisar@wisc.edu

schools, teacher-led charters have maintained a steady percentage in all grades other than in high school where it has dropped dramatically.

TABLE 1b. Enrollment Data - All Schools, By Grade Range						
Kindergarten Grades	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09
Traditional Schools	93.4%	92.6%	91.3%	91.0%	89.0%	89.0%
MPS Charter Schools	3.3%	3.6%	4.6%	4.8%	6.3%	6.4%
Teacher-Led	18.9%	29.7%	24.3%	21.8%	23.5%	26.4%
Non Teacher-Led	81.1%	70.3%	75.7%	78.2%	76.5%	73.6%
Non-Instrumentality Charters	3.3%	3.8%	4.1%	4.2%	4.8%	4.6%
Total	15,433	15,721	16,244	16,041	13,624	13,785
Elementary Grades 1-5						
Traditional Schools	94.7%	93.9%	93.1%	93.1%	91.0%	90.6%
MPS Charter Schools	3.3%	3.5%	4.0%	4.0%	5.3%	5.7%
Teacher-Led	19.5%	22.1%	21.8%	22.6%	20.3%	21.5%
Non Teacher-Led	80.5%	77.9%	78.2%	77.4%	79.7%	78.5%
Non-Instrumentality Charters	2.0%	2.6%	2.9%	2.9%	3.7%	3.8%
Total	39,061	38,032	37,858	37,415	31,171	30,741
Middle School Grades, 6-8						
Traditional Schools	84.0%	83.0%	83.3%	84.1%	82.1%	83.1%
MPS Charter Schools	13.8%	14.0%	13.6%	13.2%	14.4%	13.2%
Teacher-Led	2.9%	2.5%	2.5%	3.4%	3.6%	4.3%
Non Teacher-Led	97.1%	97.5%	96.8%	96.6%	96.4%	95.7%
Non-Instrumentality Charters	2.2%	2.9%	3.1%	2.8%	3.5%	3.7%
Total	25,080	23,008	22,942	21,747	18,074	16,800
High School Grades, 9-12						
Traditional Schools	93.7%	87.5%	79.6%	78.1%	70.2%	70.3%
Traditional Small High Schools	2.4%	5.1%	11.2%	10.9%	9.7%	8.9%
MPS Charter Schools	1.3%	4.3%	6.2%	8.6%	17.4%	17.7%
Teacher-Led	79.4%	59.0%	54.9%	51.8%	34.4%	36.8%
Non Teacher-Led	20.6%	41.0%	45.1%	48.2%	65.5%	63.2%
Non-Instrumentality Charters	2.6%	3.1%	3.0%	2.4%	2.7%	3.1%
Total	26,861	28,371	28,512	28,184	25,634	24,543

Source: Data about school enrollment and charter school lists provided by the school district

Student Demographics

Table 2 presents the average demographics of students enrolled in each grade level from 2003-04 to 2008-09. The racial composition of students varies across schools and grades. Within charter schools, teacher-led schools have a higher proportion of Hispanic and a relatively low proportion of African-American students. Similar trends are present in middle school grades with the exception of white students forming a higher percentage at teacher-led charters and Hispanics at non teacher-led charters.

In high school, teacher-led charters look more like traditional public schools than non teacher-led charters which serve a disproportionately large number of African American students.

Other indicators such as free or reduced price lunch (FRL), status as an English language learner (ELL) and special education needs are also presented in Table 2. We see that charter schools serve disproportionately fewer FRL students in the elementary and middle school but disproportionately more in high school. This trend holds in teacher-led and non-teacher led charters. The percentage of ELL students increases as the percentage of Hispanic students enrolled increases.

The finding that students served by teacher-led schools are different from non-teacher led schools calls into question the role of selection bias.

TABLE 2. DEMOGRAPHIC COMPARISONS, 2008-09						
Elementary Grades (1-5)						
	Traditional	MPS Charter Schools	Teacher Led Instrum Charters	Non Teacher led Instrum. Charters	Non-Instrumentality Charters	
<i>Number of Students</i>	27,838	1,741	375	1366	1,162	
<i>% Female</i>	48.70%	47.96%	51.20%	47.07%	50.60%	
<i>% African American</i>	55.66%	29.81%	7.73%	35.87%	19.97%	
<i>% Asian</i>	3.83%	5.86%	1.07%	7.17%	16.87%	
<i>% Hispanic</i>	23.53%	22.52%	46.13%	16.03%	59.21%	
<i>% White</i>	11.71%	36.70%	39.73%	35.87%	2.75%	
<i>% Other Race</i>	4.39%	4.08%	3.47%	4.23%	1.03%	
<i>% Receiving FRL</i>	80.86%	64.10%	60.00%	65.23%	83.30%	
<i>% ELL</i>	9.78%	9.19%	20.00%	6.22%	16.09%	
<i>% Special Ed</i>	17.47%	14.36%	10.67%	15.37%	11.27%	
Middle School Grades (6-8)						
	Traditional	MPS Charter Schools	Teacher Led Instrum Charters	Non Teacher led Instrum. Charters	Non-Instrumentality Charters	
<i>Number of Students</i>	13,961	2,216	95	2121	623	
<i>% Female</i>	48.16%	48.78%	64.21%	48.09%	49.12%	
<i>% African American</i>	63.81%	32.22%	28.42%	32.39%	14.93%	
<i>% Asian</i>	4.24%	5.55%	3.16%	5.66%	16.69%	
<i>% Hispanic</i>	18.57%	34.61%	22.11%	35.17%	60.67%	
<i>% White</i>	9.72%	23.29%	41.05%	22.49%	4.33%	
<i>% Other Race</i>	3.08%	2.66%	3.16%	2.64%	2.09%	
<i>% Receiving FRL</i>	80.26%	75.81%	70.53%	76.04%	84.43%	
<i>% ELL</i>	8.64%	12.77%	4.21%	13.15%	25.84%	
<i>% Special Ed</i>	20.18%	19.40%	17.89%	19.47%	12.20%	
High School Grades (9-12)						
	Traditional	MPS Charter Schools	Teacher Led Instrum Charters	Non Teacher led Instrum. Charters	Non-Instrumentality Charters	Small Traditional Schools
<i>Number of Students</i>	17,249	4,333	1596	2737	770	2,191
<i>% Female</i>	48.75%	49.50%	51.69%	48.23%	51.82%	47.15%
<i>% African American</i>	61.39%	77.91%	59.84%	88.45%	30.91%	66.82%
<i>% Asian</i>	5.47%	2.93%	2.51%	3.18%	1.3%	3.93%
<i>% Hispanic</i>	18.30%	10.82%	24.56%	2.81%	47.92%	12.64%
<i>% White</i>	12.30%	5.89%	10.53%	3.18%	16.75%	13.97%
<i>% Other Race</i>	1.80%	1.82%	1.88%	1.79%	1.95%	2.10%

% Receiving FRL	69.60%	77.94%	77.69%	78.08%	72.34%	70.74%
% ELL	6.14%	4.85%	11.28%	1.10%	11.04%	2.97%
% Special Ed	18.41%	23.40%	22.93%	23.68%	16.88%	24.24%

Source: This information is provided by the school district.

Table 3 presents student attendance rates and instructional time lost due to absence without an excuse, suspension or being tardy. Students in traditional public schools lose more time to unexcused absences and suspension than students in other schools. Generally, students in teacher-led schools lose less instructional time than non teacher-led schools due to unexcused absences, suspension and being tardy. This further supports the conclusion that there may be significant differences in the types of students attracted by these schools.

TABLE 3. ATTENDANCE AND BEHAVIORAL INCIDENTS					
PANEL A. Attendance Rates and School Time Lost, Across Time					
<i>Elementary Grades (1-5)</i>					
	Traditional	MPS Charter Schools	Teacher Led Charters	Non Teacher Led Charters	Non-Instrumentality Charters
<i>Attendance Rate, All Years</i>	92.63%	93.76%	94.47%	93.56%	94.70%
... in '06-'07 School Year	92.70%	94.15%	94.28%	94.12%	94.64%
... in '07-'08 School Year	92.17%	92.93%	94.14%	92.64%	94.70%
... in '08-'09 School Year (to date)	93.40%	94.65%	95.41%	94.45%	94.83%
<i>Unexcused Absences, All Years</i>	2.59%	1.72%	1.02%	1.91%	1.10%
... in '06-'07 School Year	0.64%	0.52%	1.00%	0.38%	0.17%
... in '07-'08 School Year	4.11%	2.74%	1.16%	3.13%	1.36%
... in '08-'09 School Year (to date)	3.57%	1.83%	0.80%	2.10%	2.30%
<i>Percent of Days Lost to Suspension, All Years</i>	0.42%	0.20%	0.07%	0.23%	0.05%
... in '06-'07 School Year	0.44%	0.22%	0.09%	0.26%	0.03%
... in '07-'08 School Year	0.47%	0.24%	0.08%	0.28%	0.06%
... in '08-'09 School Year (to date)	0.28%	0.10%	0.05%	0.11%	0.05%
<i>Percent of Days Tardy, All Years</i>	7.59%	5.36%	2.94%	6.01%	4.73%
... in '06-'07 School Year	7.60%	5.55%	3.41%	6.17%	4.49%
... in '07-'08 School Year	7.71%	5.31%	2.74%	5.93%	4.50%
... in '08-'09 School Year (to date)	7.35%	5.15%	2.44%	5.89%	5.63%
<i>Middle Sch. Grades (6-8)</i>					
	Traditional	MPS Charter Schools	Teacher Led Charters	Non Teacher Led Charters	Non-Instrumentality Charters
<i>Attendance Rate, All Years</i>	89.69%	89.30%	91.43%	89.23%	92.21%
... in '06-'07 School Year	89.47%	89.08%	93.64%	88.96%	92.18%
... in '07-'08 School Year	89.17%	88.68%	89.20%	88.66%	91.54%
... in '08-'09 School Year (to date)	91.25%	91.33%	92.76%	91.27%	93.63%
<i>Unexcused Absences, All Years</i>	4.84%	4.54%	3.92%	4.56%	2.99%
... in '06-'07 School Year	2.07%	2.22%	0.67%	2.26%	0.86%
... in '07-'08 School Year	7.30%	6.89%	6.31%	6.91%	4.63%
... in '08-'09 School Year (to date)	5.81%	4.81%	3.81%	4.86%	3.56%
<i>Percent of Days Lost to Suspension, All Years</i>	1.72%	1.73%	0.37%	1.77%	0.57%
... in '06-'07 School Year	1.90%	2.01%	0.41%	2.05%	0.80%
... in '07-'08 School Year	1.79%	1.68%	0.23%	1.73%	0.51%
... in '08-'09 School Year (to date)	1.18%	1.11%	0.56%	1.14%	0.28%

<i>Percent of Days Tardy, All Years</i>	7.20%	5.24%	2.43%	5.34%	8.59%	
... in '06-'07 School Year	8.27%	6.68%	2.11%	6.80%	9.39%	
... in '07-'08 School Year	6.50%	4.43%	2.39%	4.51%	8.17%	
... in '08-'09 School Year (to date)	6.29%	3.51%	3.00%	3.53%	8.01%	
High School Grades (9-12)						
	Traditional	MPS Charter Schools	Teacher Led Charters	Non Teacher Led Charters	Non-Instrumentality Charters	Small Traditional
<i>Attendance Rate, All Years</i>	81.22%	76.92%	78.36%	75.89%	81.73%	77.18%
... in '06-'07 School Year	80.83%	79.15%	79.02%	79.32%	80.46%	76.21%
... in '07-'08 School Year	80.70%	74.69%	76.58%	73.61%	81.01%	76.27%
... in '08-'09 School Year (to date)	83.15%	79.10%	80.71%	78.08%	85.02%	81.29%
<i>Unexcused Absences, All Years</i>	9.03%	15.79%	12.19%	18.36%	8.26%	11.57%
... in '06-'07 School Year	1.56%	1.33%	1.41%	1.24%	1.33%	1.38%
... in '07-'08 School Year	15.09%	21.80%	18.81%	23.50%	13.35%	20.45%
... in '08-'09 School Year (to date)	13.33%	18.51%	15.50%	20.42%	10.44%	16.10%
<i>Percent of Days Lost to Suspension, All Years</i>	1.69%	1.50%	1.29%	1.65%	0.54%	1.44%
... in '06-'07 School Year	1.47%	1.18%	1.19%	1.17%	0.66%	1.31%
... in '07-'08 School Year	2.01%	1.59%	1.38%	1.71%	0.52%	1.67%
... in '08-'09 School Year (to date)	1.54%	1.65%	1.29%	1.88%	0.37%	1.26%
<i>Percent of Days Tardy, All Years</i>	4.76%	6.67%	9.93%	4.34%	8.63%	5.44%
... in '06-'07 School Year	11.01%	20.58%	19.78%	21.58%	11.60%	12.68%
... in '07-'08 School Year	0.24%	2.08%	5.29%	0.26%	5.74%	0.20%
... in '08-'09 School Year (to date)	0.08%	1.65%	4.26%	0.00%	8.95%	0.00%

Student Academic Performance

Tables 4 and 5 show the levels of student achievement on standardized tests and the progress of students. Only Table 5 should be used to make inferences about the influence of schools on student tested ability because Table 4 does not take selection bias into account.

Panel A in Table 4 presents the average “tier” values of student performance.⁷ As we learned earlier in the report, charter school students perform better in math and reading at the elementary and middle school levels than traditional public and non-instrumentality charter schools. Within charter schools, teacher-led school students outperform non-teacher led school students. At the high school level, traditional school students perform better in math and reading.

In high schools, small schools and all types of charter schools perform better in later years. It may be the case that it takes a few years for these schools to adequately develop their curriculum.

⁷ The full process of constructing tier values was to standardize test scores to have a mean of 0 and standard deviation of 1 by year, grade, and subject. These values were then averaged by grade range within each school, and these were then standardized to a scale with mean 3, standard deviation 1, and using number of students as weights to construct both means and variances.

TABLE 4. TESTED ABILITY OF STUDENTS						
PANEL A. Levels of Achievement Across Time						
Test Achievement Levels (Scale: 0-6, 3=District Average)	Elementary Grades (3-5)					
	Traditional	Charter Schools	Teacher Led	Non Teacher Led	Non-Instrumentality Charters	
...Mathematics Tier, 2004	2.81	7.40	8.92	7.66	3.89	
...Mathematics Tier, 2005	2.75	7.28	10.57	6.06	4.24	
...Mathematics Tier, 2006	2.78	7.10	11.03	5.88	3.59	
...Mathematics Tier, 2007	2.78	6.82	10.98	5.57	2.99	
...Mathematics Tier, 2008	2.74	7.01	8.91	6.45	3.41	
...Reading Tier, 2004	2.99	5.29	9.90	6.43	1.32	
...Reading Tier, 2005	2.82	7.15	10.36	6.56	2.42	
...Reading Tier, 2006	2.88	6.38	10.01	6.45	2.02	
...Reading Tier, 2007	2.85	6.41	10.93	5.56	2.05	
...Reading Tier, 2008	2.76	6.94	9.75	6.13	2.93	
Test Achievement Levels (Scale: 0-6, 3=District Average)	Middle Sch. Grades (6-8)					
	Traditional	Charter Schools	Teacher Led	Non Teacher Led	Non-Instrumentality Charters	
...Mathematics Tier, 2004	2.78	4.72	2.81	5.17	3.55	
...Mathematics Tier, 2005	2.72	4.95	6.57	5.17	3.67	
...Mathematics Tier, 2006	2.78	4.60	8.26	5.14	4.43	
...Mathematics Tier, 2007	2.76	4.55	9.24	4.83	4.94	
...Mathematics Tier, 2008	2.93	4.09	11.54	4.55	4.23	
...Reading Tier, 2004	2.94	4.33	3.98	5.12	2.62	
...Reading Tier, 2005	2.82	4.80	5.27	4.96	2.35	
...Reading Tier, 2006	2.83	4.64	7.79	5.26	3.45	
...Reading Tier, 2007	2.92	4.19	10.78	4.95	3.59	
...Reading Tier, 2008	3.00	3.96	15.28	4.03	3.44	
Test Achievement Levels (Scale: 0-6, 3=District Average)	High School Grades (10)					
	Traditional	Charter Schools	Teacher Led	Non Teacher Led	Non-Instrumentality Charters	Small Traditional
...Mathematics Tier, 2004	3.46	0.84	1.45	-3.05	1.93	0.50
...Mathematics Tier, 2005	3.58	1.12	1.50	-1.90	2.58	0.91
...Mathematics Tier, 2006	3.54	1.26	0.99	-1.01	4.91	1.46
...Mathematics Tier, 2007	3.73	1.58	2.50	0.37	3.99	2.16
...Mathematics Tier, 2008	3.63	1.41	2.07	0.25	3.97	3.00
...Reading Tier, 2004	3.42	-0.71	-0.67	-3.39	2.74	1.40
...Reading Tier, 2005	3.58	0.71	1.28	-1.35	2.33	1.07
...Reading Tier, 2006	3.53	1.13	0.47	-0.59	4.70	1.98
...Reading Tier, 2007	3.72	1.49	1.67	0.57	4.00	2.28
...Reading Tier, 2008	3.64	1.45	2.75	0.09	3.11	3.45

Source: Calculations made from state testing files for students, obtained through the school district.

Panel B of Table 4 gives a cross-sectional look at student achievement for the 2008-09 school year. Teacher-led charters seem to have a disproportionately large number of “Advanced” students in both mathematics and reading for all grades compared to non-teacher led schools.

TABLE 4. TESTED ABILITY OF STUDENTS						
PANEL B. Student Distribution Across Proficiency Level						
Test Proficiency Levels, 2008-09	Elementary Grades (3-5)					
	Traditional	Instrumentality charters	Teacher Led	Non Teacher Led	Non-Instrumentality Charters	
...Math Proficiency Level 1 ("Minimal")	33%	17%	10%	19%	28%	
...Math Proficiency Level 2 ("Basic")	14%	12%	11%	12%	13%	
...Math Proficiency Level 3 ("Proficient")	36%	40%	40%	41%	43%	
...Math Proficiency Level 4 ("Advanced")	17%	31%	39%	29%	16%	
...Reading Proficiency Level 1 ("Minimal")	12%	6%	2%	7%	9%	
...Reading Proficiency Level 2 ("Basic")	29%	21%	17%	22%	32%	
...Reading Proficiency Level 3 ("Proficient")	41%	42%	39%	43%	46%	
...Reading Proficiency Level 4 ("Advanced")	17%	31%	42%	28%	14%	
Test Proficiency Levels, 2008-09	Middle School Grades (6-8)					
	Traditional	Instrumentality charters	Teacher Led	Non Teacher Led	Non-Instrumentality Charters	
...Math Proficiency Level 1 ("Minimal")	31%	27%	11%	28%	26%	
...Math Proficiency Level 2 ("Basic")	23%	19%	14%	19%	19%	
...Math Proficiency Level 3 ("Proficient")	38%	42%	55%	41%	44%	
...Math Proficiency Level 4 ("Advanced")	9%	12%	20%	11%	11%	
...Reading Proficiency Level 1 ("Minimal")	16%	16%	9%	16%	16%	
...Reading Proficiency Level 2 ("Basic")	21%	20%	10%	21%	23%	
...Reading Proficiency Level 3 ("Proficient")	45%	44%	37%	44%	45%	
...Reading Proficiency Level 4 ("Advanced")	17%	21%	44%	20%	17%	
Test Proficiency Levels, 2008-09	High School Grades (10)					
	Traditional	Instrumentality charters	Teacher Led	Non Teacher Led	Non-Instrumentality Charters	Small Traditional
...Math Proficiency Level 1 ("Minimal")	43%	59%	51%	65%	37%	46%
...Math Proficiency Level 2 ("Basic")	24%	23%	25%	21%	31%	19%
...Math Proficiency Level 3 ("Proficient")	29%	17%	22%	13%	30%	31%
...Math Proficiency Level 4 ("Advanced")	4%	1%	1%	1%	2%	4%
...Reading Proficiency Level 1 ("Minimal")	26%	38%	26%	46%	28%	31%
...Reading Proficiency Level 2 ("Basic")	27%	31%	36%	28%	29%	22%
...Reading Proficiency Level 3 ("Proficient")	31%	23%	26%	22%	27%	27%
...Reading Proficiency Level 4 ("Advanced")	17%	8%	12%	4%	17%	20%

Source: Calculations made from state testing files for students, obtained through the school district.

Panel C of Table 4 provides a slightly different look at student performance, focusing on average proficiency rates in math and reading. Teacher-led charter school students have a higher percentage of average proficiency rates than non-teacher led students.

TABLE 4. TESTED ABILITY OF STUDENTS					
PANEL C. Percent of Students Proficient Across Time					
Test Average Proficiency Rates (Proficiency Level = 3 or 4)	Elementary Grades (3-5)				
	Traditional	Charter schools	Teacher Led	Non Teacher Led	Non-Instrumentality Charters
...Math % Prof or Adv, 2004-05	44%	55%	57%	55%	44%
...Math % Prof or Adv, 2005-06	39%	57%	70%	54%	41%
...Math % Prof or Adv, 2006-07	45%	62%	79%	58%	51%

...Math % Prof or Adv, 2007-08	46%	62%	79%	58%	46%	
...Math % Prof or Adv, 2008-09	53%	71%	79%	69%	59%	
...Reading % Prof or Adv, 2004-05	60%	66%	79%	63%	49%	
...Reading % Prof or Adv, 2005-06	58%	71%	75%	70%	53%	
...Reading % Prof or Adv, 2006-07	61%	72%	78%	70%	56%	
...Reading % Prof or Adv, 2007-08	58%	68%	73%	66%	54%	
...Reading % Prof or Adv, 2008-09	58%	72%	77%	70%	58%	
Middle Sch. Grades (6-8)						
Test Average Proficiency Rates (Proficiency Level = 3 or 4)	Traditional	Charter Schools	Teacher Led	Non Teacher Led	Non- Instrumentali ty Charters	
...Math % Prof or Adv, 2004-05	32%	48%	33%	48%	40%	
...Math % Prof or Adv, 2005-06	34%	47%	54%	47%	39%	
...Math % Prof or Adv, 2006-07	39%	51%	62%	50%	47%	
...Math % Prof or Adv, 2007-08	37%	46%	63%	46%	49%	
...Math % Prof or Adv, 2008-09	46%	53%	73%	53%	55%	
...Reading % Prof or Adv, 2004-05	58%	62%	50%	63%	52%	
...Reading % Prof or Adv, 2005-06	56%	62%	67%	62%	53%	
...Reading % Prof or Adv, 2006-07	59%	63%	74%	63%	60%	
...Reading % Prof or Adv, 2007-08	58%	62%	77%	62%	60%	
...Reading % Prof or Adv, 2008-09	61%	63%	80%	62%	60%	
High School Grades (10)						
Test Average Proficiency Rates (Proficiency Level = 3 or 4)	Traditional	Charter Schools	Teacher Led	Non Teacher Led	Non- Instrumentali ty Charters	Small Traditional
...Math % Prof or Adv, 2004-05	31%	15%	21%	8%	26%	17%
...Math % Prof or Adv, 2005-06	33%	14%	22%	5%	32%	14%
...Math % Prof or Adv, 2006-07	31%	16%	19%	13%	38%	20%
...Math % Prof or Adv, 2007-08	32%	16%	26%	11%	31%	23%
...Math % Prof or Adv, 2008-09	32%	17%	23%	14%	30%	34%
...Reading % Prof or Adv, 2004-05	44%	23%	26%	19%	47%	33%
...Reading % Prof or Adv, 2005-06	42%	24%	30%	18%	36%	27%
...Reading % Prof or Adv, 2006-07	41%	28%	29%	26%	47%	31%
...Reading % Prof or Adv, 2007-08	42%	25%	32%	21%	45%	33%
...Reading % Prof or Adv, 2008-09	46%	30%	36%	25%	42%	45%

Source: Calculations made from state testing files for students, obtained through the school district.

Table 5 presents student academic growth and provides initial evidence of the influence of schools on test performance. Simple gain scores are calculated as the difference between student post-test and pre-test scores and put on a tier scale as discussed before. Across years, the gain tiers of the charter schools seem quite volatile due to the significant changes in the composition of these schools and the entry of new schools.

Panel A of Table 5 indicates that the mean for students in traditional schools for math and reading are close to the district mean for elementary and middle school grades, but relatively worse in high school grades. Teacher-led charter schools consistently do better than non-teacher led charter schools.

TABLE 5. ACADEMIC GROWTH OF STUDENTS						
PANEL A. Simple Test Score Gain						
Simple Score Gain (Scale: Standard Deviations, 0 = District Average)	Elementary Grades (3-5)					
	Traditional	Charter Schools	Teacher Led	Non Teacher Led	Non-Instrumentality Charters	
Mathematics Tier, Fall 2004 to Fall 2005	2.73	6.61	11.34	4.77	6.69	
Mathematics Tier, Fall 2005 to Fall 2006	3.17	0.10	9.71	0.16	5.70	
Mathematics Tier, Fall 2006 to Fall 2007	3.20	2.00	11.74	0.95	1.32	
Reading Tier, Fall 2004 to Fall 2005	2.73	7.34	11.15	5.81	5.47	
Reading Tier, Fall 2005 to Fall 2006	3.11	3.55	5.11	3.74	-0.38	
Reading Tier, Fall 2006 to Fall 2007	2.80	4.50	10.14	4.34	5.72	
Simple Score Gain (Scale: Standard Deviations, 0 = District Average)	Middle School Grades (6-8)					
	Traditional	Charter Schools	Teacher Led	Non Teacher Led	Non-Instrumentality Charters	
Mathematics Tier, Fall 2004 to Fall 2005	3.55	4.12	-2.63	5.30	3.50	
Mathematics Tier, Fall 2005 to Fall 2006	3.14	3.81	12.53	3.39	-1.50	
Mathematics Tier, Fall 2006 to Fall 2007	2.80	4.78	10.16	5.01	3.64	
Reading Tier, Fall 2004 to Fall 2005	3.05	5.18	2.58	5.53	-1.73	
Reading Tier, Fall 2005 to Fall 2006	3.40	2.44	2.97	2.20	-0.80	
Reading Tier, Fall 2006 to Fall 2007	3.15	3.12	13.34	2.99	3.92	
Simple Score Gain (Scale: Standard Deviations, 0 = District Average)	High School Grades (10)					
	Traditional	Charter Schools	Teacher Led	Non Teacher Led	Non-Instrumentality Charters	Small Traditional
Mathematics Tier, Fall 2004 to Fall 2005	2.50	4.78	5.97	8.22	3.40	1.85
Mathematics Tier, Fall 2005 to Fall 2006	2.21	2.66	4.78	-1.52	3.89	3.85
Mathematics Tier, Fall 2006 to Fall 2007	1.77	3.34	1.64	4.82	1.55	3.71
Reading Tier, Fall 2004 to Fall 2005	2.21	2.77	4.58	-0.12	4.36	2.77
Reading Tier, Fall 2005 to Fall 2006	2.18	2.97	1.28	5.33	4.65	3.77
Reading Tier, Fall 2006 to Fall 2007	1.87	2.76	2.13	1.75	4.25	4.25

Source: Calculations made from state testing files for students, obtained through the school district.

Panel B of Table 5 shows information about performance of schools in moving students between proficiency levels (from basic proficiency to advanced, for example). These measures provide more detailed look at how students progress from different starting points.

In elementary and middle school grades, teacher-led charter schools do a better job of improving the proficiency level of students than other types of schools. At the high school level, non-instrumentalities do a better job of raising the proficiency level, followed by traditional public schools. Teacher-led charters still outperform non teacher-led charters.

It is important to remember that student demographics vary across schools. Thus students might have a different learning curve due to various reasons such as parental involvement or motivation.

TABLE 5. ACADEMIC GROWTH OF STUDENTS						
PANEL B. Improvement Across Proficiency Levels						
Proficiency Improvements - All Years	Elementary Grades (3-5)					
	Traditional	Charter Schools	Teacher Led	Non Teacher Led	Non-Instrumentality Charters	
Improvement from Math Prof. 1	29%	31%	62%	29%	32%	
Improvement from Math Prof. 2	38%	44%	83%	42%	46%	
Improvement from Math Prof. 3	13%	15%	47%	11%	16%	
Improvement from Reading Prof. 1	44%	41%	50%	41%	45%	
Improvement from Reading Prof. 2	34%	32%	50%	30%	36%	
Improvement from Reading Prof. 3	11%	14%	29%	12%	12%	
Improvement from Math Prof. 1 to Proficient (>=3)	12%	14%	45%	11%	15%	
Improvement from Math Prof. 2 to Proficient (>=3)	38%	44%	83%	42%	46%	
Improvement from Read Prof. 1 to Proficient (>=3)	9%	6%	8%	6%	6%	
Improvement from Read Prof. 2 to Proficient (>=3)	34%	32%	50%	30%	36%	
Proficiency Improvements - All Years	Middle Sch. Grades (6-8)					
	Traditional	Charter Schools	Teacher Led	Non Teacher Led	Non-Instrumentality Charters	
Improvement from Math Prof. 1	30%	37%	56%	36%	30%	
Improvement from Math Prof. 2	30%	40%	50%	39%	35%	
Improvement from Math Prof. 3	6%	9%	28%	9%	6%	
Improvement from Reading Prof. 1	39%	36%	36%	36%	43%	
Improvement from Reading Prof. 2	35%	38%	50%	38%	42%	
Improvement from Reading Prof. 3	11%	13%	25%	13%	10%	
Improvement from Math Prof. 1 to Proficient (>=3)	7%	11%	21%	10%	4%	
Improvement from Math Prof. 2 to Proficient (>=3)	30%	40%	50%	39%	35%	
Improvement from Read Prof. 1 to Proficient (>=3)	10%	10%	7%	10%	12%	
Improvement from Read Prof. 2 to Proficient (>=3)	35%	38%	50%	38%	42%	
Proficiency Improvements - All Years	High School Grades (10)					Small Traditional
	Traditional	Charter Schools	Teacher Led	Non Teacher Led	Non-Instrumentality Charters	
Improvement from Math Prof. 1	16%	10%	14%	8%	31%	8%
Improvement from Math Prof. 2	15%	10%	9%	11%	24%	8%
Improvement from Math Prof. 3	3%	1%	2%	0%	4%	1%
Improvement from Reading Prof. 1	20%	15%	11%	16%	22%	14%
Improvement from Reading Prof. 2	8%	6%	6%	7%	13%	8%
Improvement from Reading Prof. 3	7%	6%	7%	5%	13%	6%
Improvement from Math Prof. 1 to Proficient (>=3)	2%	1%	1%	1%	4%	2%
Improvement from Math Prof. 2 to Proficient (>=3)	15%	10%	9%	11%	24%	8%
Improvement from Read Prof. 1 to Proficient (>=3)	2%	2%	3%	2%	5%	1%
Improvement from Read Prof. 2 to Proficient (>=3)	8%	6%	6%	7%	13%	8%

Source: Calculations made from state testing files for students, obtained through the school district.

Panel C of Table 5 takes into account student demographics and controls for some selection bias to calculate the value-added by the school. This is the preferred measure as it takes into account student selection bias. Even when controlling for selection bias, teacher-led charters outperform non-teacher led charters.

TABLE 5. ACADEMIC GROWTH OF STUDENTS					
PANEL C. Value-Added Measures Across Time					
Elementary Grades (3-5)					
Value-Added Tiers (Scale: 0-6, 3 = District Average)	Traditional	Charter schools	Teacher Led	Non Teacher Led	Non-Instrumentality Charters
Mathematics Tier, Fall 2003 to Fall 2004	3.00	3.67	3.78	3.65	5.15
Mathematics Tier, Fall 2004 to Fall 2005	2.98	3.99	5.50	3.61	3.46
Mathematics Tier, Fall 2005 to Fall 2006	2.96	3.47	5.08	3.07	3.57
Mathematics Tier, Fall 2006 to Fall 2007	2.98	3.63	4.14	3.50	2.59
Reading Tier, Fall 2003 to Fall 2004	3.00	3.78	4.82	3.56	4.37
Reading Tier, Fall 2004 to Fall 2005	3.04	3.90	4.84	3.68	3.22
Reading Tier, Fall 2005 to Fall 2006	3.04	2.74	2.67	2.75	2.28
Reading Tier, Fall 2006 to Fall 2007	2.98	3.02	3.72	2.85	3.48
Middle Sch. Grades (6-8)					
Value-Added Tiers (Scale: 0-6, 3 = District Average)	Traditional	Charter Schools	Teacher Led	Non Teacher Led	Non-Instrumentality Charters
Mathematics Tier, Fall 2003 to Fall 2004	2.88	3.45	3.39	3.45	3.48
Mathematics Tier, Fall 2004 to Fall 2005	2.92	3.64	4.41	3.62	3.36
Mathematics Tier, Fall 2005 to Fall 2006	3.05	3.13	4.84	3.07	2.01
Mathematics Tier, Fall 2006 to Fall 2007	2.96	3.24	4.57	3.20	2.88
Reading Tier, Fall 2003 to Fall 2004	2.98	3.15	2.83	3.16	2.39
Reading Tier, Fall 2004 to Fall 2005	3.03	2.98	3.67	2.96	3.22
Reading Tier, Fall 2005 to Fall 2006	3.10	2.82	2.39	2.83	2.39
Reading Tier, Fall 2006 to Fall 2007	3.05	2.77	3.19	2.76	3.04

Source: Calculations made from state testing files for students, obtained through the school district.

School Climate

So far we have examined how teacher-led schools compare to non-teacher led schools in terms of student performance. Charter schools may affect other outcomes such as motivation, environment and safety of the students. Panels A – D of Table 6 show average scores submitted by parents, staff and students on the four factors measured on the school climate survey.

For all four measures, staff and students give teacher-led schools a higher rating than all other types of schools. Parents, however, tend to rate non-instrumentality schools higher. The higher rating from parents and staff in teacher-led charters might be due to the high level of involvement in the operation of the school. One should also note that although teacher-led charters are rated higher than non-teacher led, traditional public schools get almost the same ratings as non teacher-led charters.

TABLE 6a. School Climate Survey Summary Tables By Survey Group						
		Environment				
Survey Group	Year	Traditional	Charter schools	Teacher Led	Non Teacher Led	Non-Instrumentality Charters
Parents	2006-07	3.21	3.21	3.30	3.18	3.40
	2007-08	3.27	3.25	3.39	3.21	3.46
	2008-09	3.35	3.36	3.42	3.34	3.51
Staff	2006-07	3.01	3.23	3.49	3.15	3.22
	2007-08	3.01	3.10	3.31	3.04	3.23
	2008-09	3.06	3.23	3.41	3.17	3.31
Students (Elem/MS)	2006-07	2.96	2.91	3.26	2.86	3.16
	2007-08	2.96	3.00	3.30	2.96	3.25
	2008-09	3.07	3.10	3.28	3.06	3.27
Students (HS)	2006-07	2.50	2.83	2.98	2.60	2.80
	2007-08	2.61	2.60	2.79	2.49	3.14
	2008-09	2.68	2.73	2.98	2.57	3.16

Source: School Climate Surveys obtained from the school district web site.

TABLE 6b. School Climate Survey Summary Tables By Survey Group						
		Rigor				
Survey Group	Year	Traditional	Charter schools	Teacher Led	Non Teacher Led	Non-Instrumentality Charters
Parents	2006-07	3.19	3.16	3.27	3.12	3.39
	2007-08	3.28	3.22	3.31	3.20	3.44
	2008-09	3.34	3.34	3.37	3.32	3.46
Staff	2006-07	2.98	3.10	3.29	3.04	3.10
	2007-08	3.00	3.08	3.34	3.01	3.08
	2008-09	3.08	3.18	3.33	3.12	3.22
Students (Elem/MS)	2006-07	3.17	3.13	3.34	3.10	3.26
	2007-08	3.19	3.20	3.37	3.17	3.29
	2008-09	3.29	3.30	3.44	3.27	3.37
Students (HS)	2006-07	2.74	2.90	3.03	2.70	2.82
	2007-08	2.88	2.84	2.98	2.76	3.23
	2008-09	2.93	2.91	3.10	2.80	3.24

Source: School Climate Surveys obtained from the school district web site.

TABLE 6c. School Climate Survey Summary Tables By Survey Group						
		Safety				
Survey Group	Year	Traditional	Charter schools	Teacher Led	Non Teacher Led	Non-Instrumentality Charters
Parents	2006-07	3.10	3.09	3.19	3.05	3.24
	2007-08	3.11	3.07	3.18	3.04	3.27
	2008-09	3.19	3.22	3.25	3.21	3.33
Staff	2006-07	2.86	3.08	3.35	2.99	3.10
	2007-08	2.86	2.96	3.20	2.89	3.06
	2008-09	2.93	3.05	3.14	3.02	3.16
Students (Elem/MS)	2006-07	2.91	2.79	3.12	2.75	3.06
	2007-08	2.97	2.99	3.26	2.95	3.14
	2008-09	3.10	3.10	3.21	3.07	3.22
Students (HS)	2006-07	2.47	2.79	2.89	2.64	2.77
	2007-08	2.66	2.63	2.77	2.55	3.05
	2008-09	2.72	2.75	2.93	2.65	3.12

Source: School climate surveys obtained from the school district web site.

TABLE 6d. School Climate Survey Summary Tables By Survey Group						
Survey Group	Year	Governance				
		Traditional	Charter schools	Teacher Led	Non Teacher Led	Non-Instrumentality Charters
Parents	2006-07	3.12	3.17	3.28	3.13	3.25
	2007-08	3.16	3.16	3.26	3.13	3.29
	2008-09	3.25	3.28	3.35	3.25	3.39
Staff	2006-07	2.91	3.19	3.49	3.08	3.00
	2007-08	2.88	3.07	3.41	2.98	2.98
	2008-09	2.95	3.14	3.40	3.05	3.04
Students (Elem/MS)	2006-07	2.69	2.57	3.02	2.51	2.95
	2007-08	2.79	2.81	3.10	2.77	3.07
	2008-09	2.90	2.92	3.08	2.88	3.05
Students (HS)	2006-07	2.45	2.76	2.94	2.50	2.65
	2007-08	2.60	2.69	2.85	2.60	3.09
	2008-09	2.74	2.83	3.04	2.70	3.16

Source: School Climate Surveys obtained from the school district web site.

Staff Information

One might expect teacher-led schools to score better because they have teachers with more experience. Instead, Table 7 shows that the teachers hired by teacher-led schools are generally younger and have less experience than those in non teacher-led schools. Therefore, one cannot explain the higher student test scores in teacher-led schools by pointing to more experienced or better qualified teachers. Although it needs to be explored further in a qualitative study, it seems that the commitment of staff may be more critical to student success than level of experience.

Table 7. Staff Information for year 2004-05						
	Traditional Elementary/ Middle	Traditional High School	Charter schools	Teacher Led	Non Teacher Led	Small High School
<i>Number</i>	2828	650	267	49	218	72
<i>Age</i>	45.13	48.36	45.96	43.37	46.54	47.57
<i>Experience</i>	8.19	10.65	10.14	7.99	10.62	9.50
<i>Female</i>	82%	50%	76%	76%	77%	60%
<i>Certified</i>	98%	98%	98%	100%	97%	99%
<i>African Am.</i>	23%	20%	14%	10%	15%	35%
<i>Hispanic</i>	7%	7%	8%	16%	6%	3%
<i>Asian</i>	2%	2%	1%	0%	1%	1%
<i>White</i>	67%	70%	77%	73%	78%	60%
<i>Bachelors</i>	57%	43%	50%	47%	50%	57%
<i>Masters</i>	41%	52%	49%	53%	48%	40%
Staff Information for year 2005-06						
	Traditional Elementary/ Middle	Traditional High School	Charter schools	Teacher Led	Non Teacher Led	Small High School
<i>Number</i>	2997	676	283	61	222	108
<i>Age</i>	45.22	48.32	45.88	44.41	46.28	47.88
<i>Experience</i>	8.08	10.35	10.03	8.31	10.50	9.55
<i>Female</i>	81%	51%	77%	77%	77%	59%
<i>Certified</i>	98%	98%	97%	98%	97%	100%
<i>African Am.</i>	24%	19%	13%	10%	14%	33%
<i>Hispanic</i>	7%	8%	7%	10%	6%	2%
<i>Asian</i>	2%	2%	1%	0%	1%	2%
<i>White</i>	66%	70%	78%	79%	78%	58%
<i>Bachelors</i>	57%	44%	51%	49%	51%	53%
<i>Masters</i>	41%	52%	48%	51%	47%	44%
Staff Information for year 2006-07						
	Traditional Elementary/ Middle	Traditional High School	Charter schools	Teacher Led	Non Teacher Led	Small High School
<i>Number</i>	3132	696	381	78	303	104
<i>Age</i>	45.19	48.42	46.68	45.53	46.98	49.24
<i>Experience</i>	8.00	10.41	9.72	8.31	10.08	10.96
<i>Female</i>	81%	51%	73%	74%	73%	54%
<i>Certified</i>	98%	98%	98%	97%	98%	99%
<i>African Am.</i>	24%	20%	15%	9%	17%	30%
<i>Hispanic</i>	7%	7%	6%	9%	5%	2%
<i>Asian</i>	2%	2%	1%	1%	1%	1%
<i>White</i>	66%	69%	76%	79%	75%	63%
<i>Bachelors</i>	57%	45%	50%	47%	50%	52%
<i>Masters</i>	41%	51%	47%	53%	46%	43%
Staff Information for year 2007-08						
	Traditional Elementary/ Middle	Traditional High School	Charter schools	Teacher Led	Non Teacher Led	Small High School
<i>Number</i>	3236	736	467	90	377	105

Age	45.34	48.73	46.91	44.22	47.56	49.37
Experience	7.95	10.65	9.74	7.57	10.25	9.82
Female	80%	51%	70%	73%	70%	45%
Certified	98%	98%	97%	97%	98%	99%
African Am.	25%	21%	22%	19%	23%	26%
Hispanic	7%	7%	5%	9%	4%	4%
Asian	1%	2%	2%	1%	2%	1%
White	65%	69%	70%	70%	69%	65%
Bachelors	57%	45%	52%	48%	53%	55%
Masters	40%	51%	46%	51%	45%	40%
Staff Information for year 2008-09						
	Elementary/ Middle	High School	Charter schools	Teacher Led	Non Teacher Led	Small High School
Number	3521	727	533	125	408	117
Age	45.19	48.18	46.41	44.58	46.97	48.03
Experience	7.75	10.29	9.21	7.37	9.77	9.15
Female	71%	49%	60%	51%	63%	40%
Certified	98%	97%	98%	98%	98%	99%
African Am.	25%	20%	28%	23%	29%	28%
Hispanic	10%	8%	9%	18%	6%	9%
Asian	1%	2%	2%	1%	2%	1%
White	62%	69%	60%	58%	61%	60%
Bachelors	54%	43%	50%	46%	51%	52%
Masters	43%	53%	49%	52%	48%	44%

Instructional Practice Survey

Table 8 shows teachers in teacher-led schools appear to do a better job of implementing the district’s instructional improvement plan in their classrooms than teachers in other types of schools. However, it should be noted that the number of respondents from teacher-led schools is quite small.

	Traditional	Charter schools	Teacher Led	Non Teacher Led
Number of Teachers responded	2899	359	44	315
Active Engager	4.81	4.82	5.33	4.75
Adult Learner	2.12	2.56	3.56	2.42
Cultural Responsiveness	2.04	2.53	3.71	2.37
High Expectations	2.65	2.12	2.93	2.01

IV. Conclusion

We find that charter schools run by teachers consistently outperform those not led by teachers on a number of measures: achievement status, time lost due to suspension, and value-added analysis of achievement. The results also show that teacher-led schools consistently outperform traditional public schools. In this paper, we’ve explored some of the reasons why this may be the case. Teachers in teacher-led schools are usually younger and less-experienced than those in non-teacher led charters. Students differ in terms of demographics, but do not appear to be less challenging to educate in terms of traditional measures (such as FRL, ELL) in teacher-led charters. Plus, the value-

added analysis controls for these factors, and still finds students in teacher-led schools consistently score higher than students in non-teacher led schools. Some of these findings, particularly those using self-reported surveys, require more study.

While this study was limited to one district and by the size of some of the groups, the evidence presented in this paper suggests that when teachers are more involved in running a school, students perform better, come to school more, and are more actively engaged in their learning. Further study is planned by interviewing principals and teachers to further refine the differences between teacher-led and non-teacher led schools. From a policy perspective, it is important to understand these issues. If charter schools are one answer to failing urban public schools, and teacher-led charter schools are outperforming non-teacher led charter schools, then it is important to continue supporting teacher-led schools.

References

- [1] Ascher, C., & Greenberg, A. R. (2002). Charter reform and the education bureaucracy: Lessons for New York state. *Phi Delta Kappan*, 83(7), 513-517.
- [2] Berends, M., Mendiburo, M., & Nicotera, A. (2008). Charter school effects in an urban school district: An analysis of student achievement growth. *Annual Meeting of the American Educational Research Association*, New York, NY.
- [3] Bifulco, R., & Ladd, H. F. (2006). The impacts of charter schools on student achievement: Evidence from North Carolina. *Education Finance and Policy*, 1(1), 50-90.
- [4] Buddin, R., & Zimmer, R. (2005). Student achievement in charter schools: A complex picture. *Journal of Policy Analysis and Management*, 24(2), 351-371.
- [5] Crawford, J. R. (2001). Teacher autonomy and accountability in charter schools. *Education and Urban Society*, 33, 186-200.
- [6] Finnigan, K. S. (2007). Charter school autonomy: The mismatch between theory and practice. *Educational Policy*, 21, 503-527.
- [7] Gawlik, M. A. (2007). Beyond the charter schoolhouse door: Teacher-perceived autonomy. *Education and Urban Society*, 39, 524-553.
- [8] Hanushek, E. A., Kain, J. F., Rivkin, S. G., & Branch, G. F. (2007). Charter school quality and parental decision making with school choice. *Journal of Public Economics*, 91(5-6), 823-848.
- [9] Kolderie, T. (1990). *Beyond choice to new public schools: Withdrawing the exclusive franchise in public education* No. 8). Washington D.C.: Progressive Policy Institute.
- [10] McGhan, B. (2002). A fundamental education reform: Teacher-led schools. *Phi Delta Kappan*, 538-540.
- [11] Meyer, R. (1997). Value-Added indicators of school performance: A primer. *Economics of Education Review*, 16(3), 283-301.
- [12] Sass, T. R. (2006). Charter schools and student achievement in Florida. *Education Finance and Policy*, 1(1), 91-122.
- [13] Tyack, D. and Cuban, L. (1995). *Tinkering Toward Utopia*.
- [14] Wells, A. S., Lopez, A., Scott, J., & Holme, J. J. (1999). Charter schools as postmodern paradox: Rethinking social stratification in an age of deregulated school choice. *Harvard Educational Review*, 69(2), 172-204.
- [15] Williams, J. (2007). Revolution from the faculty lounge: The emergence of teacher-led schools and cooperatives. *Phi Delta Kappan*, 210-216.
- [16] Wohlsetter, P., & Chau, D. (2004). Does autonomy matter? Implementing research-based practices in charter and other public schools. In K. E. Bulkley, & P. Wohlstetter (Eds.), *Taking account of charter schools: What's happened and what's next?* (pp. 53-71). New York: Teachers College Press.
- [17] Wohlstetter, P., Wenning, R., & Briggs, K. L. (1995). Charter schools in the United States: The question of autonomy. *Educational Policy*, 9(4), 331-358.
- [18] Zimmer, R., & Buddin, R. (2007). Getting inside the black box: Examining how the operation of charter schools affects performance. *Peabody Journal of Education*, 82(2-3), 231-273.

- [19] Zimmer, R., & Buddin, R. (2006). Charter school performance in two large urban districts. *Journal of Urban Economics*, 60(2), 307-326.

Appendix D

Closed Charter School Deep Analysis

As mentioned earlier in the report, a number of charter schools have been closed in recent years. Most recently, at the close of the 2008-09 school year nine charter schools were closed. The following tables (Table 1, Panel A) show the student demographic information for traditional public schools, open MPS instrumentality and non-instrumentality charter schools, compared to closed instrumentality and closed non-instrumentality charter schools. At the elementary and high school level, closed instrumentality and non-instrumentality charter schools served a much higher percentage of African American students and a slightly higher percentage of students receiving Free/Reduced-priced lunch (FRL). Closed middle school charters also served a much higher percentage of African American students.

Panel B provides a longitudinal look at these trends and confirms that closed charter schools, both instrumentality and non-instrumentality, were serving higher percentages of FRL students at the elementary, middle, and high school level than traditional public schools. Closed charter schools were also serving a higher percentage of students with special needs than traditional public schools, especially at the high school level.

Accounting again for the charter schools that have been closed in the last few years, the following tables contrast the performance of the closed charter schools against open schools. Panel A of Table 2 shows average “tier” values of student performance. When we account for closed charter schools, open instrumentality charters outperform traditional public schools by a wide margin at the elementary and middle school level. Closed non-instrumentality charter schools have surprisingly high levels of performance at the elementary and middle school levels.

Panel B of Table 2 gives a cross-sectional look at student achievement, focusing on just the 2008-09 school year, in order to examine the distribution of student ability instead of just the average. Schools that were closed seem to have served a higher number of minimal or basic students, especially at the high school level. At the elementary and middle school level, the closed non-instrumentalities appear to have attracted a high number of proficient and advanced students in math.

Panel C of Table 2 gives a slightly different look at levels of student performance across time, focusing on average proficiency rates in math and reading. These findings are consistent with the findings from Panel A in that the closed instrumentality charter schools had a lower percentage of students scoring in the advanced or proficient range over a period of several years than other schools in the district. Closed non-instrumentality charter schools at the elementary and middle school level had a higher percentage of students scoring in the advanced or proficient range.

Taking the closed schools into account, Panel A shows simple gain statistics, calculated as the difference between student post-test and pre-test scores, and then put on a tier scale similar to that in Panel A of Table 3 where a value of 3 represents the level of average district gain. Similar to the analysis provided earlier in this section, the gain tiers of the charter schools seem quite volatile.

Panel B of Table 3 shows information about performance of schools in moving students between proficiency levels. These measures show more detail in how students make progress from different

starting points. Several years of data are combined which may be useful to smooth out the volatility in Panel A. Open charter schools at the elementary and middle school level appear to do a better job of moving students between proficiency levels, especially in math. At the high school level, open non-instrumentality charter schools outperform open instrumentality charters, traditional schools, and small high schools in moving students to higher proficiency levels also in math.

Panel C of Table 3 presents average value-added performance for each school type.⁸ Because the estimation of value-added systematically controls for the influence that all measured student characteristics have on academic growth, these measures best isolate the influence of school performance, given the type of students that they serve. Though the tier scores are a bit volatile, it appears that when isolating the closed charter schools, MPS instrumentality and non-instrumentality charter schools still outperform traditional public schools at the elementary and middle school levels. Though the results are a bit more volatile, the estimates for closed instrumentality and non-instrumentality charter schools are slightly lower than schools which remained open.

⁸ Value-added analysis is analogous to the gain analysis present in Panels A and B of Table 3. The value-added method examines factors related to student annual achievement from year to year, using statistical methods to separate the influence of student factors in growth from the influence of their schools. Though a value-added analysis can in principle be performed to analyze student growth from grades 8 to 10, statistical attribution of growth in this period is more complex and has not been done in recent years. For that reason, high school value-added is omitted from this report at present.

Table 1: Demographic Comparisons						
Panel A. All Student Demographic Information, 2008-09						
	Elementary Grades (1-5)					
	Traditional		Instrumentality Charters	Closed Instrumentality Charters	Teacher Led Instrumentality Charters	Closed Non-Instrumentality Charters
Number of Students Enrolled	27,627		1,741	211	601	561
% Female	48.7%		48.0%	51.7%	48.1%	53.3%
% African American	55.4%		29.8%	96.2%	10.8%	29.8%
% Asian	3.9%		5.9%	0.5%	32.6%	0.0%
% Hispanic	23.7%		22.5%	1.0%	50.6%	68.5%
% White	11.8%		36.7%	0.0%	4.5%	0.9%
% Other Race	4.4%		4.1%	2.4%	1.2%	0.9%
% Free/Reduced-Price Lunch	80.8%		64.1%	91.5%	82.4%	84.3%
% English Language Learners	9.9%		9.2%	0.0%	28.8%	2.5%
% Special Education	17.5%		14.4%	16.1%	10.2%	12.5%
	Middle Sch. Grades (6-8)					
	Traditional		Instrumentality Charters	Closed Instrumentality Charters	Teacher Led Instrumentality Charters	Closed Non-Instrumentality Charters
Number of Students Enrolled	13,954		2,216	7	347	276
% Female	48.1%		48.8%	71.4%	49.0%	49.3%
% African American	63.8%		32.2%	100.0%	8.7%	22.8%
% Asian	4.2%		5.6%	0.0%	30.0%	0.0%
% Hispanic	18.6%		34.6%	0.0%	50.4%	73.6%
% White	9.7%		23.3%	0.0%	6.9%	1.1%
% Other Race	3.1%		2.7%	0.0%	2.3%	1.8%
% Free/Reduced-Price Lunch	80.3%		75.8%	42.9%	86.7%	81.5%
% English Language Learners	8.6%		12.8%	0.0%	36.9%	12.0%
% Special Education	20.2%		19.4%	0.0%	13.8%	10.1%
	High School Grades (9-12)					
	Traditional	Small Traditional	Instrumentality Charters	Closed Instrumentality Charters	Teacher Led Instrumentality Charters	Closed Non-Instrumentality Charters
Number of Students Enrolled	16,842	2,191	3,416	1,322	622	148
% Female	48.7%	47.2%	50.2%	48.0%	51.3%	54.1%
% African American	60.6%	66.8%	72.9%	95.9%	17.5%	87.2%
% Asian	5.6%	3.9%	3.7%	0.2%	1.6%	0.0%
% Hispanic	18.7%	12.6%	13.5%	1.7%	57.7%	6.8%
% White	12.6%	14.0%	7.3%	0.7%	20.1%	2.7%
% Other Race	1.8%	2.1%	1.9%	1.2%	1.8%	2.7%
% Free/Reduced-Price Lunch	69.2%	70.7%	76.7%	83.6%	69.9%	82.4%
% English Language Learners	6.3%	3.0%	6.1%	0.2%	13.5%	0.7%
% Special Education	18.3%	24.2%	22.6%	25.1%	16.7%	17.6%

Table 2: Tested Ability of Students
Panel A. Levels of Achievement Across Time

WKCE Achievement Levels (Scale: 0-6, 3=District Average)	Elementary Grades (3-5)					
	Traditional		Instrumentality Charters	Closed Instrumentality Charters	Teacher Led Instrumentality Charters	Closed Non-Instrumentality Charters
...Mathematics Tier, 2004	2.9		7.2	-1.1	0.7	5.7
...Mathematics Tier, 2005	2.8		7.0	-1.4	3.8	4.8
...Mathematics Tier, 2006	2.8		7.3	-0.2	3.8	3.7
...Mathematics Tier, 2007	2.8		7.1	1.1	2.0	3.2
...Mathematics Tier, 2008	2.8		7.0	0.9	3.5	2.8
...Reading Tier, 2004	3.0		5.8	0.1	-4.2	4.2
...Reading Tier, 2005	2.9		7.1	-1.0	0.9	3.4
...Reading Tier, 2006	2.9		7.2	0.0	0.5	2.6
...Reading Tier, 2007	2.8		7.0	1.0	1.2	2.5
...Reading Tier, 2008	2.8		7.1	0.7	3.1	2.6
WKCE Achievement Levels (Scale: 0-6, 3=District Average)	Middle Sch. Grades (6-8)					
	Traditional		Instrumentality Charters	Closed Instrumentality Charters	Teacher Led Instrumentality Charters	Closed Non-Instrumentality Charters
...Mathematics Tier, 2004	2.5		5.2	2.6	4.3	3.4
...Mathematics Tier, 2005	2.6		5.3	2.2	3.1	3.8
...Mathematics Tier, 2006	2.6		5.2	0.9	3.4	4.3
...Mathematics Tier, 2007	2.6		5.1	-	4.2	6.3
...Mathematics Tier, 2008	2.6		5.3	-	3.4	6.5
...Reading Tier, 2004	2.6		5.2	2.3	2.4	2.3
...Reading Tier, 2005	2.6		5.3	2.0	1.1	2.8
...Reading Tier, 2006	2.7		5.1	0.7	1.0	5.0
...Reading Tier, 2007	2.6		5.2	-	2.2	6.0
...Reading Tier, 2008	2.6		5.2	-	1.0	6.4
WKCE Achievement Levels (Scale: 0-6, 3=District Average)	High School Grades (10)					
	Traditional	Small Traditional	Instrumentality Charters	Closed Instrumentality Charters	Teacher Led Instrumentality Charters	Closed Non-Instrumentality Charters
...Mathematics Tier, 2004	3.3	0.5	2.4	-0.4	4.7	-1.2
...Mathematics Tier, 2005	3.3	0.6	1.3	0.8	5.5	-1.1
...Mathematics Tier, 2006	3.2	0.3	1.8	-1.6	6.2	1.4
...Mathematics Tier, 2007	3.4	0.9	1.6	-0.5	5.1	0.5
...Mathematics Tier, 2008	3.4	0.6	1.2	0.3	4.7	1.1b
...Reading Tier, 2004	3.3	1.4	0.7	-0.1	5.4	-0.6
...Reading Tier, 2005	3.3	0.7	1.1	1.1	5.7	-1.6
...Reading Tier, 2006	3.2	0.7	1.3	-1.0	6.5	1.1
...Reading Tier, 2007	3.4	0.8	1.2	0.1	4.8	2.2
...Reading Tier, 2008	3.5	0.8	1.3	-0.1	3.7	0.3

Source: Calculations made from state WKCE testing files for Milwaukee students, obtained through MPS.

Table 2: Tested Ability of Students						
Panel B. Student Distribution Across Proficiency Level						
WKCE Proficiency Levels, 2008-09	Elementary Grades (3-5)					
	Traditional		Instrumentality Charters	Closed Instrumentality Charters	Teacher Led Instrumentality Charters	Closed Non-Instrumentality Charters
...Math Proficiency Level 1 ("Minimal")	33%		17%	44%	29%	27%
...Math Proficiency Level 2 ("Basic")	14%		12%	18%	14%	13%
...Math Proficiency Level 3 ("Proficient")	36%		40%	27%	41%	46%
...Math Proficiency Level 4 ("Advanced")	17%		31%	11%	17%	15%
...Reading Proficiency Level 1 ("Minimal")	12%		6%	10%	8%	9%
...Reading Proficiency Level 2 ("Basic")	29%		21%	38%	32%	31%
...Reading Proficiency Level 3 ("Proficient")	41%		42%	45%	45%	47%
...Reading Proficiency Level 4 ("Advanced")	17%		31%	6%	15%	12%
WKCE Proficiency Levels, 2008-09	Middle Sch. Grades (6-8)					
	Traditional		Instrumentality Charters	Closed Instrumentality Charters	Teacher Led Instrumentality Charters	Closed Non-Instrumentality Charters
...Math Proficiency Level 1 ("Minimal")	31%		27%	-	30%	21%
...Math Proficiency Level 2 ("Basic")	23%		19%	-	21%	17%
...Math Proficiency Level 3 ("Proficient")	38%		42%	-	40%	49%
...Math Proficiency Level 4 ("Advanced")	8%		12%	-	10%	13%
...Reading Proficiency Level 1 ("Minimal")	17%		16%	-	18%	13%
...Reading Proficiency Level 2 ("Basic")	21%		20%	-	23%	22%
...Reading Proficiency Level 3 ("Proficient")	45%		44%	-	46%	45%
...Reading Proficiency Level 4 ("Advanced")	17%		21%	-	13%	21%
WKCE Proficiency Levels, 2008-09	High School Grades (10)					
	Traditional	Small Traditional	Instrumentality Charters	Closed Instrumentality Charters	Teacher Led Instrumentality Charters	Closed Non-Instrumentality Charters
...Math Proficiency Level 1 ("Minimal")	45%	71%	58%	65%	34%	55%
...Math Proficiency Level 2 ("Basic")	23%	17%	23%	21%	31%	32%
...Math Proficiency Level 3 ("Proficient")	28%	11%	17%	14%	33%	13%
...Math Proficiency Level 4 ("Advanced")	4%	1%	1%	1%	2%	0%
...Reading Proficiency Level 1 ("Minimal")	27%	49%	37%	47%	26%	36%
...Reading Proficiency Level 2 ("Basic")	27%	29%	32%	25%	28%	33%
...Reading Proficiency Level 3 ("Proficient")	30%	17%	23%	24%	28%	21%
...Reading Proficiency Level 4 ("Advanced")	16%	5%	8%	4%	19%	9%

Source: Calculations made from state WKCE testing files for Milwaukee students, obtained through MPS.

Table 2: Tested Ability of Students						
Panel C. Percent of Students Proficient Across Time						
WKCE Average Proficiency Rates (Proficiency Level = 3 or 4)	Elementary Grades (3-5)					
	Traditional		Instrumentality Charters	Closed Instrumentality Charters	Teacher Led Instrumentality Charters	Closed Non- Instrumentality Charters
...Math % Prof or Adv, 2004-05	44%		55%	30%	28%	56%
...Math % Prof or Adv, 2005-06	39%		57%	27%	28%	53%
...Math % Prof or Adv, 2006-07	45%		62%	29%	50%	51%
...Math % Prof or Adv, 2007-08	46%		62%	37%	40%	52%
...Math % Prof or Adv, 2008-09	53%		71%	38%	57%	60%
...Reading % Prof or Adv, 2004-05	60%		66%	52%	32%	62%
...Reading % Prof or Adv, 2005-06	58%		71%	47%	39%	64%
...Reading % Prof or Adv, 2006-07	61%		72%	54%	48%	64%
...Reading % Prof or Adv, 2007-08	58%		68%	55%	48%	60%
...Reading % Prof or Adv, 2008-09	58%		72%	52%	57%	59%
WKCE Average Proficiency Rates (Proficiency Level = 3 or 4)	Middle Sch. Grades (6-8)					
	Traditional		Instrumentality Charters	Closed Instrumentality Charters	Teacher Led Instrumentality Charters	Closed Non- Instrumentality Charters
...Math % Prof or Adv, 2004-05	31%		48%	31%	44%	38%
...Math % Prof or Adv, 2005-06	33%		47%	33%	30%	46%
...Math % Prof or Adv, 2006-07	38%		51%	29%	44%	51%
...Math % Prof or Adv, 2007-08	37%		46%	-	44%	55%
...Math % Prof or Adv, 2008-09	45%		53%	-	50%	62%
...Reading % Prof or Adv, 2004-05	56%		62%	56%	57%	49%
...Reading % Prof or Adv, 2005-06	55%		62%	53%	44%	61%
...Reading % Prof or Adv, 2006-07	58%		63%	53%	46%	72%
...Reading % Prof or Adv, 2007-08	58%		62%	-	52%	69%
...Reading % Prof or Adv, 2008-09	61%		63%	-	56%	66%
WKCE Average Proficiency Rates (Proficiency Level = 3 or 4)	High School Grades (10)					
	Traditional	Small Traditional	Instrumentality Charters	Closed Instrumentality Charters	Teacher Led Instrumentality Charters	Closed Non- Instrumentality Charters
...Math % Prof or Adv, 2004-05	30%	17%	21%	14%	35%	13%
...Math % Prof or Adv, 2005-06	31%	12%	17%	13%	53%	9%
...Math % Prof or Adv, 2006-07	29%	9%	18%	3%	48%	14%
...Math % Prof or Adv, 2007-08	29%	9%	18%	10%	38%	0%
...Math % Prof or Adv, 2008-09	31%	12%	18%	14%	35%	10%
...Reading % Prof or Adv, 2004-05	44%	33%	26%	30%	56%	35%
...Reading % Prof or Adv, 2005-06	41%	26%	26%	23%	55%	16%
...Reading % Prof or Adv, 2006-07	39%	21%	29%	22%	58%	20%
...Reading % Prof or Adv, 2007-08	39%	18%	26%	22%	48%	32%
...Reading % Prof or Adv, 2008-09	44%	20%	30%	27%	46%	26%

Source: Calculations made from state WKCE testing files for Milwaukee students, obtained through MPS.

Table 3: Academic Growth of Students

Panel A. Simple Test Score Gain

WKCE Simple Score Gain (Scale: Standard Deviations, 0 = District Average)	Elementary Grades (3-5)					
	Traditional		Instrumentality Charters	Closed Instrumentality Charters	Teacher Led Instrumentality Charters	Closed Non- Instrumentality Charters
Mathematics Tier, Fall 2004 to Fall 2005	-0.3		3.6	0.0	3.7	3.7
Mathematics Tier, Fall 2005 to Fall 2006	0.1		-2.0	-0.3	6.8	-1.1
Mathematics Tier, Fall 2006 to Fall 2007	0.1		-1.4	11.1	-2.4	-2.2
Reading Tier, Fall 2004 to Fall 2005	-0.3		4.2	-0.6	3.9	1.5
Reading Tier, Fall 2005 to Fall 2006	0.1		0.8	4.1	-4.0	-5.5
Reading Tier, Fall 2006 to Fall 2007	-0.3		2.0	1.4	5.4	2.3
WKCE Simple Score Gain (Scale: Standard Deviations, 0 = District Average)	Middle Sch. Grades (6-8)					
	Traditional		Instrumentality Charters	Closed Instrumentality Charters	Teacher Led Instrumentality Charters	Closed Non- Instrumentality Charters
Mathematics Tier, Fall 2004 to Fall 2005	-0.5		1.8	1.7	-6.2	1.9
Mathematics Tier, Fall 2005 to Fall 2006	0.2		0.5	-3.7	0.7	-5.3
Mathematics Tier, Fall 2006 to Fall 2007	-0.4		2.2	-	-1.0	2.8
Reading Tier, Fall 2004 to Fall 2005	-0.2		1.7	1.4	-0.2	-4.5
Reading Tier, Fall 2005 to Fall 2006	0.2		-0.6	0.1	2.1	-7.1
Reading Tier, Fall 2006 to Fall 2007	-0.3		0.6	-	6.6	2.5
WKCE Simple Score Gain (Scale: Standard Deviations, 0 = District Average)	High School Grades (10)					
	Traditional	Small Traditional	Instrumentality Charters	Closed Instrumentality Charters	Teacher Led Instrumentality Charters	Closed Non- Instrumentality Charters
Mathematics Tier, Fall 2004 to Fall 2005	0.2	1.5	3.0	-2.9	2.9	-0.1
Mathematics Tier, Fall 2005 to Fall 2006	-0.1	3.7	2.0	-2.4	-0.4	7.6
Mathematics Tier, Fall 2006 to Fall 2007	0.0	3.7	-1.1	3.1	2.3	-2.9
Reading Tier, Fall 2004 to Fall 2005	0.1	2.6	-1.8	-2.4	4.2	3.3
Reading Tier, Fall 2005 to Fall 2006	-0.2	4.0	-0.7	2.8	5.4	3.1
Reading Tier, Fall 2006 to Fall 2007	0.1	4.3	-1.4	2.0	-4.0	5.1

Source: Calculations made from state WKCE testing files for Milwaukee students, obtained through MPS.

Table 3: Academic Growth of Students						
Panel B. Improvement Across Proficiency Levels						
WKCE Proficiency Improvements - All Years	Elementary Grades (3-5)					
	Traditional		Instrumentality Charters	Closed Instrumentality Charters	Teacher Led Instrumentality Charters	Closed Non-Instrumentality Charters
Improvement from Math Prof. 1	28.8%		31.3%	28.1%	34.5%	29.2%
Improvement from Math Prof. 2	37.5%		44.3%	42.1%	50.1%	42.3%
Improvement from Math Prof. 3	12.9%		15.3%	6.1%	18.2%	15.3%
Improvement from Reading Prof. 1	43.5%		41.1%	35.8%	39.2%	52.0%
Improvement from Reading Prof. 2	33.5%		31.6%	34.8%	31.4%	40.2%
Improvement from Reading Prof. 3	10.8%		13.8%	8.7%	11.8%	12.5%
Improvement from Math Prof. 1 to Prof't (>=3)	12.2%		13.6%	10.6%	17.7%	12.8%
Improvement from Read Prof. 1 to Prof't (>=3)	8.6%		5.9%	5.8%	7.6%	3.3%
WKCE Proficiency Improvements - All Years	Middle Sch. Grades (6-8)					
	Traditional		Instrumentality Charters	Closed Instrumentality Charters	Teacher Led Instrumentality Charters	Closed Non-Instrumentality Charters
Improvement from Math Prof. 1	29.9%		37.5%	28.9%	30.4%	29.2%
Improvement from Math Prof. 2	30.1%		39.8%	26.5%	27.0%	46.4%
Improvement from Math Prof. 3	5.9%		9.2%	1.9%	5.1%	6.3%
Improvement from Reading Prof. 1	38.6%		36.1%	37.6%	44.6%	38.0%
Improvement from Reading Prof. 2	34.4%		38.3%	34.1%	38.1%	46.5%
Improvement from Reading Prof. 3	11.1%		13.0%	8.9%	7.7%	10.5%
Improvement from Math Prof. 1 to Prof't (>=3)	7.5%		10.9%	6.0%	4.6%	3.1%
Improvement from Read Prof. 1 to Prof't (>=3)	10.0%		9.7%	6.8%	10.9%	12.7%
WKCE Proficiency Improvements - All Years	High School Grades (10)					
	Traditional	Small Traditional	Instrumentality Charters	Closed Instrumentality Charters	Teacher Led Instrumentality Charters	Closed Non-Instrumentality Charters
Improvement from Math Prof. 1	15.0%	6.1%	11.3%	5.7%	42.3%	14.6%
Improvement from Math Prof. 2	14.6%	6.8%	10.0%	6.2%	29.1%	12.2%
Improvement from Math Prof. 3	3.2%	1.2%	1.1%	0.0%	3.7%	0.0%
Improvement from Reading Prof. 1	20.4%	14.0%	12.1%	20.1%	16.6%	26.2%
Improvement from Reading Prof. 2	9.7%	5.3%	3.5%	15.3%	17.0%	6.2%
Improvement from Reading Prof. 3	7.3%	2.5%	5.0%	10.0%	16.0%	0.0%
Improvement from Math Prof. 1 to Prof't (>=3)	2.8%	0.9%	0.9%	0.0%	3.4%	3.7%
Improvement from Read Prof. 1 to Prof't (>=3)	2.5%	0.9%	1.6%	2.8%	6.3%	4.0%

Source: Calculations made from state WKCE testing files for Milwaukee students, obtained through MPS.

Table 3: Academic Growth of Students
Panel C. Value-Added Measures Across Time

Value-Added Tiers (Scale: 0-6, 3 = District Average)	Elementary Grades (3-5)				
	Traditional	Instrumentality Charters	Closed Instrumentality Charters	Teacher Led Instrumentality Charters	Closed Non-Instrumentality Charters
Mathematics Tier, Fall 2003 to Fall 2004	3.0	3.7	2.0	3.8	5.5
Mathematics Tier, Fall 2004 to Fall 2005	3.0	4.0	3.2	5.5	3.3
Mathematics Tier, Fall 2005 to Fall 2006	3.0	3.5	3.9	5.1	2.9
Mathematics Tier, Fall 2006 to Fall 2007	3.0	3.6	4.4	4.1	2.8
Reading Tier, Fall 2003 to Fall 2004	3.0	3.8	0.5	4.8	4.8
Reading Tier, Fall 2004 to Fall 2005	3.0	3.9	3.4	4.8	2.9
Reading Tier, Fall 2005 to Fall 2006	3.0	2.7	3.1	2.7	2.5
Reading Tier, Fall 2006 to Fall 2007	3.0	3.0	3.2	3.7	3.5
Value-Added Tiers (Scale: 0-6, 3 = District Average)	Middle Sch. Grades (6-8)				
	Traditional	Instrumentality Charters	Closed Instrumentality Charters	Teacher Led Instrumentality Charters	Closed Non-Instrumentality Charters
Mathematics Tier, Fall 2003 to Fall 2004	2.9	3.5	2.6	3.4	3.6
Mathematics Tier, Fall 2004 to Fall 2005	2.9	3.6	2.8	4.4	2.9
Mathematics Tier, Fall 2005 to Fall 2006	3.1	3.1	1.8	4.8	1.9
Mathematics Tier, Fall 2006 to Fall 2007	3.0	3.2	3.0	4.6	3.4
Reading Tier, Fall 2003 to Fall 2004	3.0	3.2	3.0	2.8	2.7
Reading Tier, Fall 2004 to Fall 2005	3.0	3.0	3.0	3.7	3.1
Reading Tier, Fall 2005 to Fall 2006	3.1	2.8	2.6	2.4	2.2
Reading Tier, Fall 2006 to Fall 2007	3.1	2.8	2.5	3.2	3.0

Source: Calculations made from VARC historical estimations of school value-added.