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Apples TO Apples

The Definitive Look at School Test Scores
in Milwaukee and Wisconsin for 2019

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Executive Summary

This is Wisconsin Institute for Law & Liberty's third annual report on the academic performance of Wisconsin's schools across sectors. The Apples to Apples report endeavors to put schools on a level playing field to assess performance by taking into account a number of sociodemographic characteristics that are related to student performance. New additions to this year's report include comparisons of growth across school sectors, and three-year proficiency trends.

Among the key findings:

- **Non-instrumentality and independent charter schools outperform MPS.** For non-instrumentalities, proficiency rates in math exceed rates in MPS by 13.0% and 12.1% in ELA on average. In Independent charters, proficiency in math exceed MPS schools by 8.2%.
- **Milwaukee's Parental Choice Program outperforms MPS.** Proficiency rates in math exceed rates in MPS by 3.9% and 4.6% in ELA on average.
- **Catholic and Lutheran schools continue to drive the MPCP performance advantage.** Catholic schools outperform MPS in both ELA and mathematics, and Lutheran Schools outperform MPS in mathematics. Other choice schools are no different from MPS in terms of performance.
- **University of Wisconsin Milwaukee charters outperform other charters.** Among charter schools, the best performers are those authorized by UWM. On the Forward Exam, UWM charters have approximately 8.3% higher proficiency in ELA and 10.1% in mathematics compared to MPS. City of Milwaukee charter performance is no longer statistically different from MPS.
- **Growth is higher for choice and charter schools than MPS.** Growth exceeds MPS by 6.9 points. Non-instrumentalities exceed MPS by 19.08 points, and independent charters by 10.65 points.
- **Parental Choice Schools outperform public schools statewide.** Proficiency exceeds traditional public schools 3.05% in the WPCP and RPCP schools.
- **Parental Choice Schools have higher growth than public schools statewide.** Growth rates exceed that of traditional public schools by 6.8 points.
- **Rural school performance lags all other areas.** Accounting for student characteristics, performance in rural and small town schools is lower than suburban schools. On this year's analysis, the performance of urban schools is no different than suburban schools once student characteristics are accounted for.
- **School Value Added shows top performing schools.** 5 of the top 20 schools in the state are private voucher schools. 4 of the top 20 are charter schools.
- **Charter and choice schools are effective for Hispanic students.** 14 of the top 20 schools for Hispanic enrollment in the state are choice or charter schools.
- **Discriminatory practices of specialty schools fully explains performance difference from MPS.** Once the demographics of students in MPS specialty schools are accounted for, proficiency looks no different from other MPS schools in specialties.

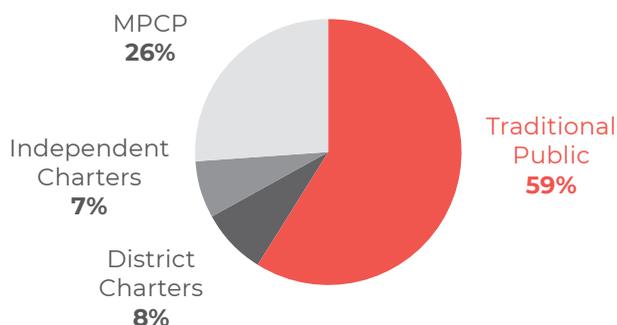
Overview of Education in Wisconsin

Wisconsin offers greater educational options for families than many other states. From private school choice to charters to open enrollment, there are many pathways for families to get out of schools that aren't working for them. Consider the following types of schools and choice programs:

Milwaukee Parental Choice Program (MPCP)

The MPCP is the oldest school-choice program in the country. Started in 1990 by a diverse coalition of Republicans and Democrats, the program aimed to provide better educational options for a public-school system that had failed its kids for too long. The program is open to students in the city of Milwaukee whose families are within 300% of the poverty line. There are no enrollment caps. The program served over 28,000 students in 133 private schools during the 2018-19 school year.

Figure 1. Enrollment by School Sector, Milwaukee



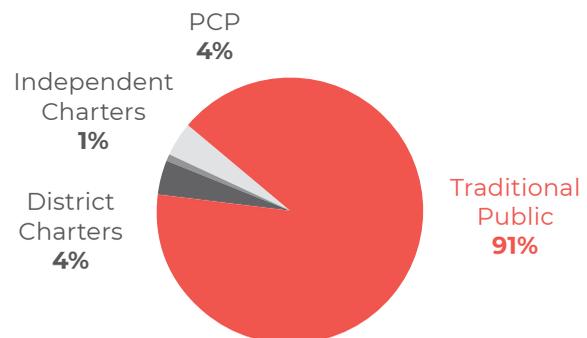
Racine Parental Choice Program (RPCP)

The RPCP expanded access to voucher schools beyond Milwaukee in Wisconsin. The program began in 2011 and is open only to residents of the city of Racine whose family income is within 300% of the poverty line. During the 2017-18 school year, the program included 23 schools and 3,324 students.

Wisconsin Parental Choice Program (WPCP)

The newest school-voucher program in Wisconsin is the WPCP, which expanded access to vouchers statewide in 2013. The program has a lower income limit than other choice programs in Wisconsin, at only 220% of the poverty line. This program also faces strict enrollment caps that are set to increase over the years at a slow rate. For 2016-17, 2% of students in each school district will be eligible for enrollment. This increases by 1% per year until caps are lifted after 10 years. During the 2018-19 academic year, there are 222 schools enrolled in the program serving 7,140 students.

Figure 2. Enrollment by School Sector, Wisconsin



Special Needs Scholarship Program (SNSP)

The Special Needs Scholarship is open to students in Wisconsin with disabilities who wish to attend a private school that better meets their needs. There are 84 schools participating in the program and 692 students for the 2017-18 school year.

Independent Charters

Independent charter schools are public schools outside of the purview of local school boards. They are chartered by a number of entities throughout the state including the University of Wisconsin system and the city of Milwaukee.

These schools are freed from many of the regulatory burdens found in traditional public schools. Twenty-four independent charters operate in Milwaukee. Only two independent charters operate outside of Milwaukee.

Non-Instrumentality Charters

These charter schools are under the purview of the school district, but maintain a level of independence not seen in traditional public schools. The teachers are employees of the school rather than the district and are not unionized. Thirteen non-instrumentalities operate in Milwaukee. Seventeen non-instrumentality charters operate outside of Milwaukee, however many of these are virtual schools or schools devoted to at-risk students.

Instrumentality Charters

These schools are under the purview of the local school board, and their employees are employees of the district. Instrumentality charters also have far more limited curricular freedom than other charters. Of the 211 charters in Wisconsin outside of Milwaukee, 193 (91.4%) are instrumentality charters.

Traditional Public Schools

Public schools make up the vast majority of schools in Wisconsin. They are run by local school districts and in many cases have unionized teachers. There are also different types of public schools that vary in their admission requirements. Some public schools, such as citywide specialties in Milwaukee, have admissions requirements.

Literature Review

As the oldest voucher system in the nation, there has been extensive research conducted in Milwaukee on the effects of school vouchers on student performance. The School Choice Demonstration Project (SCDP) was founded by the state in 2006 to conduct extensive research on the effectiveness of the program using a wide variety of metrics. Scholars in the SCDP applied state-of-the-art matching methods to compare students in the MPCP with students in MPS who were similar in neighborhood, race, and prior achievement. Such studies represent the best analytic techniques, short of true experiments, where students are randomly assigned to a choice school or not via a lottery.

Among the findings from this matching analysis are that students in the MPCP were 4-7 percentage points more likely to graduate from high school (Cowen et. al. 2013). Moreover, students in the MPCP were found to achieve higher scores in reading, though similar scores in math (Witte et. al. 2012). Other findings, not related to academic achievement, include lower incidences of criminal behavior (DeAngelis and Wolf 2016) and extensive economic benefits (Flanders and DeAngelis 2017).

Later research has found similar positive effects of the MPCP. Flanders (2018), in a peer-reviewed study, found that the school choice marketplace, coupled with the current accountability regime, is effective at culling bad schools from the program while encouraging growth in higher-performing schools. Governmental accountability is primarily based on financial reporting, but also includes provisions that schools must maintain accreditation from a state determined list of accreditors. A follow-up study by DeAngelis and Flanders (2019) found that schools in the state voucher programs are much more likely to close as a result of poor academic outcomes than charter schools or traditional public schools—

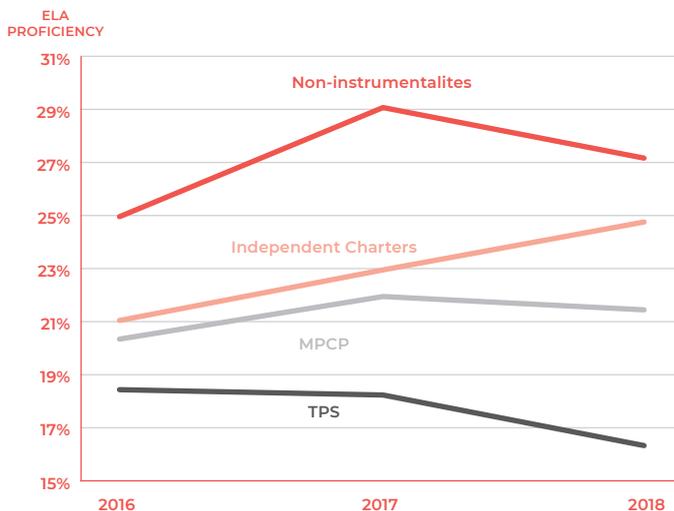
though charters as a sector outperform both public and voucher schools on average.

In the area of charter schools, Flanders (2017) found that schools in Milwaukee with greater independence from the school district (independent and non-instrumentality) gave Wisconsin taxpayers a better return on investment per tax dollar spent than charters more closely tied to the district (instrumentality) and traditional public schools. DeAngelis (2019) found a similar ‘bang for the buck’ from public schools.

Trends

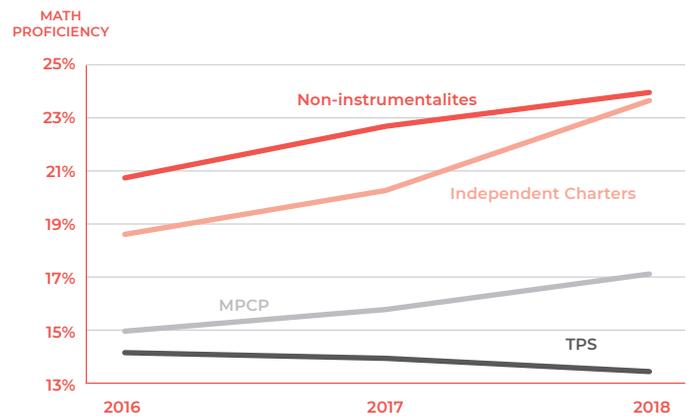
This is our third year of conducting the Apples to Apples study, and also the third year for which testing data is available for Wisconsin's parental choice programs. This wealth of data enables us to examine any trends in performance among school sectors. Figure 1 below depicts proficiency rates in Milwaukee for each sector beginning with the 2016-17 school year for ELA. While the scale of the graph is slightly zoomed in for ease of viewing, the picture here is largely one of a continuing status quo. Proficiency rates for non-instrumentalities are the highest in each year of our analysis, followed by independent charters, and the MPCP. In each year, traditional public schools were found to have the lowest proficiency rates, never surpassing an average of 20%.

Figure 3. ELA Trends by Sector, Milwaukee



The story for math proficiency is slightly different. Particularly among non-instrumentality and independent charters, there appears to be growing divergence from Traditional Public Schools (TPS). Proficiency in non-instrumentalities has increased by nearly 3% on average over the past three years, while proficiency has stagnated in TPS. MPCP schools have seen a slight improvement, though the gap between them and charter schools is growing each year.

Figure 4. Math Trends by Sector, Milwaukee



Of course, while these trends are interesting, they do not include important sociodemographic control variables that can plausibly effect expected student outcomes. The following sections endeavor to create more “apples to apples” comparisons by including those important variables.

Table 1. Proficiency Increases, 2016-2019

School Name	City	Proficiency Growth
Pembine Elementary	Pembine	38.80%
Cassville Elementary	Cassville	34.95%
Almond-Bancroft High	Almond	33.45%
Clear Lake High	Clear Lake	31.35%
Fox Cities Leadership Academy	Appleton	29.15%
Fox River Academy	Appleton	26.90%
Lakeview Elementary	Whitewater	26.25%
Iron River Elementary	Iron River	26.25%
Cassville High	Cassville	25.55%
Saint Charles Borromeo School	Milwaukee	24.80%
Bayfield Elementary	Bayfield	24.35%
Barneveld High	Barneveld	23.40%
Barneveld Elementary	Barneveld	23.15%
Horicon Junior High	Horicon	22.90%
Park Lawn Elementary	Oconomowoc	22.60%
Kennedy Elementary	Janesville	21.35%
Star Center Elementary	Lake Geneva	20.65%
Van Buren Elementary	Janesville	20.50%
Wonewoc-Center Junior High	Wonewoc	20.45%
Lewiston Elementary	Portage	20.25%
Park View Elementary	Cudahy	20.20%

Table 2. Proficiency Losses, 2016-2019

District	City	Proficiency Growth
Wisconsin Rapids	Vesper Community Academy	-26.30%
Goodman-Armstrong Creek	Goodman High	-25.70%
La Crosse	Hintgen Elementary	-24.90%
Hilbert	Hilbert Elementary	-24.80%
Winter	Winter Elementary	-24.05%
Menomonie Area	Downsville Elementary	-24.05%
Adams-Friendship Area	Roche-A-Cri Elementary	-23.30%
Gilman	Gilman High	-22.00%
Appleton Area	Renaissance School	-22.00%
Oakfield	Oakfield High	-21.25%
Waukesha	Waukesha Acad. of Health Prof.	-20.80%
Port Edwards	Port Edwards Elementary	-20.05%
River Ridge	River Ridge High	-19.85%
Antigo Unified	Pleasant View Elementary	-18.70%
Little Chute Area	Little Chute High	-18.65%
Kenosha	Brass Community School	-18.25%
Saint Johns Lutheran School	Saint Johns Lutheran School	-18.10%
Mercer	Mercer School	-18.00%
Sevastopol	Sevastopol High	-17.75%
Columbus	Columbus Elementary	-17.75%
De Soto Area	De Soto High	-17.55%

Methods

Wisconsin is relatively unique in providing extensive data on the demographic and economic characteristics of schools in choice programs across all sectors – public, charter, and private. The data set shows a school’s racial makeup, socioeconomic status, enrollment counts, and English language learner counts.¹

This data enables a more fine-grained analysis than has been conducted previously outside of the work by the School Choice Demonstration Project, for whom individual-level student data was made available by the Department of Public Instruction. These factors include the percentage of minority students, the percentage of students in the school who are economically disadvantaged, the school enrollment, the percentage of students in the school who are English language learners, and the grade levels served by the school. We also attempt to account for the number of disabled students in the school, though this presents a special problem for MPCP schools. Previous research has found that reported disability rates in MPCP schools are lower than actual disability rates, because schools have lacked the incentive to report them. To compensate for this, we adjust choice school disability rankings by the percentage they were estimated to be off in research on the Milwaukee program.²

Our dependent variables are primarily measures of achievement gathered from DPI’s WISEdash system for the 2018-19 school year. I gathered data on two of the most important subject areas for success later in life: reading and mathematics. This data is aggregated at the school level. Students who took the alternative exam for disabilities are not included in the analysis.

ACT results were also gathered from DPI’s publicly-available data. Because the MPCP is so large, we are able to examine the effects of choice sectors on performance within Milwaukee in particular. Additionally, Milwaukee contains a far wider variety of charter schools than the rest of the state, with varying degrees of connectedness to the school district (Flanders 2017). For Milwaukee, we run the following model on both Forward Exam and ACT data:

$$\text{Test Score} = \beta_1(\text{Private}) + \beta_2(\text{Independent Charter}) + \beta_3(\text{Instrumentality Charter}) + \beta_4(\text{Non-Instrumentality Charter}) + \beta_5(\text{Controls}) + \mu$$

Test scores are only included for the voucher students in each school rather than for all students in the school as we are most interested in determining the association of school choice with performance rather than the association of private schooling in general with performance. For districts in Wisconsin outside of Milwaukee, there is a need to additionally control for variation that occurs at the local level, as localities tend to differ in ways that are difficult to measure given the available data. In the primary analysis, this is done through the inclusion of fixed effects for each Wisconsin city. There is also little need to control for the types of charter schools, which are almost universally instrumentalities outside of the city. We run the following model:

$$\text{Test Score} = \beta_1(\text{Private}) + \beta_2(\text{Charter}) + \beta_3(\text{District Dummies}) + \beta_4(\text{Controls}) + \mu$$

1 In most Wisconsin school districts, economic disadvantage is defined as whether or not the student utilizes free or reduced lunch. However, some school districts in the state have universal free lunch. In these districts, an alternative measure of economic status is utilized.

2 Adjustment is an increase in disability rates of .098 for choice schools.

Results: Proficiency and Growth in Milwaukee

First, we examine student proficiency between sectors in each of Milwaukee's school sectors. MPCP schools show proficiency rates higher than TPS in both ELA and in mathematics. An MPCP school has 4.65% higher proficiency in ELA and 3.95% higher proficiency in math on average. Arguably standing out the most are non-instrumentality charter schools. These schools have proficiency rates that are 12.1% higher in ELA and 13% higher in reading. The performance of this sector is statistically better than the performance of any other sector in our analysis.

Table 3. Proficiency by Sector, Milwaukee

Variables	(1) Proficiency ELA	(2) Proficiency Math
<i>MPCP</i>	0.0465** (0.0182)	0.0395** (0.0173)
<i>Non-Instrumentalities</i>	0.121*** (0.0321)	0.130*** (0.0306)
<i>Independent Charters</i>	0.0451 (0.0296)	0.0817*** (0.0282)
<i>Instrumentality Charters</i>	0.0184 (0.0474)	0.0805* (0.0452)
<i>Nonwhite</i>	-0.484*** (0.0529)	-0.436*** (0.0504)
<i>Economic Disadvantage</i>	-0.190*** (0.0449)	-0.146*** (0.0428)
<i>English Learners</i>	0.101** (0.0491)	0.114** (0.0468)
<i>Enrollment</i>	6.34e-05** (2.61e-05)	5.10e-05** (2.49e-05)
<i>High School</i>	-0.0171 (0.0200)	-0.0634*** (0.0191)
<i>Middle School</i>	0.0302 (0.0372)	0.00250 (0.0355)
<i>Elementary/Secondary</i>	-0.0634*** (0.0228)	-0.0656*** (0.0217)
<i>Disability Status</i>	-0.498*** (0.138)	-0.365*** (0.131)
<i>Constant</i>	0.812*** (0.0412)	0.689*** (0.0393)
<i>Observations</i>	247	247
<i>R-squared</i>	0.640	0.605

Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

Performance in independent charters exceeded TPS in mathematics by 8.1%, though performance in ELA was statistically indistinguishable from TPS. The same pattern held for instrumentality charters. Other important variables in predicting proficiency in Milwaukee include the share of non-white students. A school that is 100% non-white would be projected to have proficiency rates 48.4% lower in ELA and 43.6% lower in math than a hypothetical all-white school. This staggering difference is consistent with the large racial achievement gap that has been identified in other contexts, such as the NAEP.

Next, we examine growth by sector. Growth is a component of the state report card score. It measures the extent to which students in the school increase their performance from one year to the next. It is often considered to be of equal or greater importance in evaluating the success of schools with challenging populations, as it essentially measures the extent to which

a school helps a child “catch up” academically. Growth is measured on a 100-point scale, with higher scores indicative of more growth among students in the school. The table below conducts the same analysis as above specifically on the growth measure. Once again, we see school choice options significantly exceeding the performance of traditional public schools. In non-instrumentality charters, growth is 19% higher than TPS. Growth is 10% higher in independent charters, and nearly 7% higher in MPCP schools.

An interesting note here is on the non-white variable. Controlling for all of these other factors, growth is expected to be lower in schools with more non-white students. This suggests that year-on-year growth is lower for minority students as well as proficiency. Disability status is insignificant here, suggesting that the state’s growth model effectively adjusts for the starting points of disabled students.

Figure 5. Proficiency by Sector Relative to TPS, Milwaukee

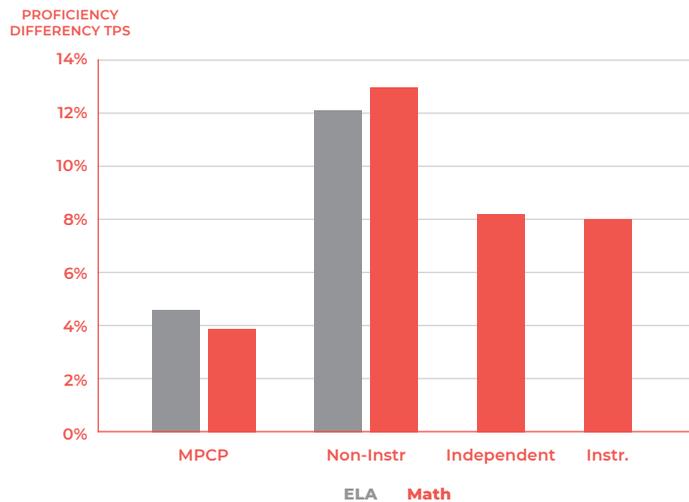


Table 4. Growth by Sector, Milwaukee

Variables	Growth
<i>MPCP</i>	6.969** (2.938)
<i>Non-Instrumentalities</i>	19.08*** (5.393)
<i>Independent Charters</i>	10.65** (5.024)
<i>Instrumentality Charters</i>	2.828 (7.737)
<i>Nonwhite</i>	-22.26*** (7.998)
<i>Economic Disadvantage</i>	-4.790 (6.910)
<i>English Learners</i>	18.11** (7.607)
<i>Enrollment</i>	0.00654 (0.00478)
<i>High School</i>	-38.79** (15.64)
<i>Middle School</i>	-6.584 (5.457)
<i>Elementary/Secondary</i>	-7.627** (3.544)
<i>Disability Status</i>	-25.11 (24.73)
<i>Constant</i>	62.71*** (8.242)
<i>Observations</i>	208
<i>R-squared</i>	0.252

Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

Results: Proficiency and Growth Statewide

In the following section, we examine performance in the state's other major voucher programs—the RPCP and the WPCP—along with the other school sectors. Note that non-instrumentality charters are a type of school specific to Milwaukee. Thus, only independent charters and instrumentality charters are included in this portion of the analysis. Independent charters are also almost non-existent. There are two independent charters in the state with sufficient data for analysis outside of Milwaukee. Thus, the results for independent charters are not very meaningful here. It should also be noted that a significant number of private schools in the WPCP continue to opt out of testing. Because those that participate have effectively opted in, the results for the state's choice program should be viewed with a bit of caution.

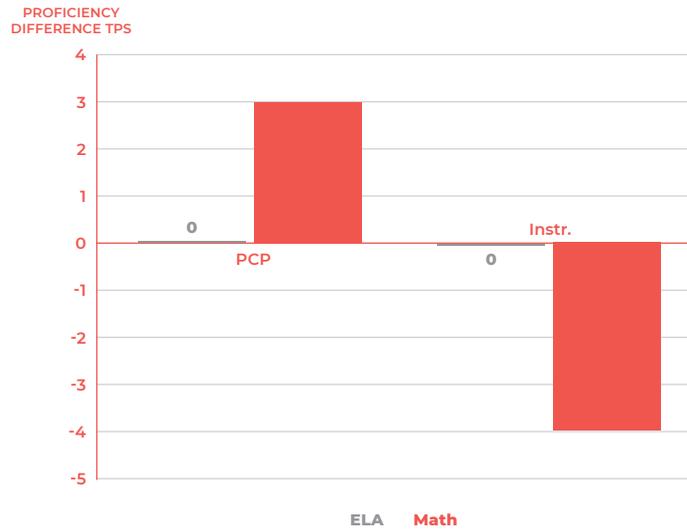
Only two of our key variables are found to be significant here. The RPCP and WPCP are associated with about 3% higher proficiency rates in ELA. No difference was found in math for these schools. Instrumentality charters were found to have a negative relationship with proficiency in math of about 5%. No relationship was found in ELA, and no significant differences from public schools were found among independent charters.

Table 5. Proficiency by Sector, Statewide

Variables	(1) Proficiency ELA	(2) Proficiency Math
<i>Parental Choice Programs</i>	0.0305** (0.0153)	-0.01000 (0.0170)
<i>Independent Charters</i>	-0.0487 (0.0952)	-0.0639 (0.106)
<i>Instrumentality Charters</i>	0.0114 (0.0100)	-0.0477*** (0.0111)
<i>Nonwhite</i>	-0.0705*** (0.0199)	-0.128*** (0.0221)
<i>Economic Status</i>	-0.429*** (0.0165)	-0.436*** (0.0183)
<i>English Learners</i>	-0.0523 (0.0395)	-0.0242 (0.0439)
<i>Enrollment</i>	1.11e-05 (8.26e-06)	3.22e-05*** (9.17e-06)
<i>High School</i>	-0.116*** (0.00596)	-0.201*** (0.00662)
<i>Middle School</i>	-0.0436*** (0.00593)	-0.107*** (0.00659)
<i>Elementary/Secondary</i>	-0.0517*** (0.0148)	-0.123*** (0.0163)
<i>Disability Status</i>	-0.458*** (0.0561)	-0.455*** (0.0623)
<i>Constant</i>	0.711*** (0.00888)	0.765*** (0.00987)
<i>Observations</i>	1,817	1,818
<i>R-squared</i>	0.568	0.603

Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

Figure 6. Proficiency by Sector Relative to TPS, Statewide



When it comes to growth for outstate schools, we see schools in the parental choice programs having a positive relationship to growth, and no relationship with independent charters or instrumentality charters. Growth, on average, is 6.8 points higher in parental choice participating schools than similar schools throughout the state.

Table 6. Growth by Sector, Outstate

Variables	(1) Growth
<i>Parental Choice</i>	6.848** (3.060)
<i>Independent Charter</i>	4.315 (14.29)
<i>Instrumentality Charter</i>	-1.270 (1.728)
<i>Observations</i>	1,388
<i>R-squared</i>	0.100

Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

Other Sector Breakdowns

Catholic and Lutheran Schools

In previous years, we have found that the proficiency advantage of the MPCP is primarily driven by the performance of Catholic and Lutheran schools that participate in the program. Here, we conduct the same analyses as above with types of choice schools specifically broken out. Catholic Schools have significantly higher proficiency rates in ELA ($p < .01$) and mathematics ($p < .1$). Controlling for all other factors, a Catholic school would be expected to have 8.9% higher proficiency in ELA than a similar TPS and 4.1%

higher proficiency in math. Lutheran schools are found to have higher proficiency in math, but not in ELA—a pattern that was also observed last year. A Lutheran school would be expected to have 7.1% higher proficiency in math than a similar TPS. Other choice schools did not differ significantly from TPS in terms of proficiency.

In terms of growth, both Catholic and Lutheran schools exceeded TPS in Milwaukee. Growth scores were 7 points higher in Catholic schools than for a similar public school ($p < .1$) and 12 points higher in Lutheran schools ($p < .01$). Once again, no difference was found among other choice schools.

Table 7. Proficiency & Growth by Religious Affiliation, Milwaukee

Variables	Proficiency ELA	Proficiency Math	Growth Score
<i>Catholic Schools</i>	0.0889*** (0.0241)	0.0414* (0.0235)	7.503* (3.973)
<i>Lutheran Schools</i>	0.0284 (0.0277)	0.0710*** (0.0270)	12.33*** (4.468)
<i>Other Choice Schools</i>	-0.0326 (0.0244)	-0.0307 (0.0237)	-1.483 (4.200)
<i>Observations</i>	247	247	208
<i>R-squared</i>	0.671	0.623	0.286

Standard errors in parentheses *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Independent Charter Authorizers

Among independent charters, we compare schools authorized by the city of Milwaukee with those authorized by the University of Wisconsin-Milwaukee (UWM). City of Milwaukee charter performance appears to be falling behind UWM.

City charter performance is statistically no different than TPS on ELA or math. Note, however, that the coefficients are still in a positive direction for city charters. This may be reflective of the reality that the city has become an unfriendly environment for charters, and schools such as Rocketship to switch from authorization by the city to UWM.

Table 8. Proficiency & Growth by Independent Charter Authorizer, Milwaukee

Variables	Proficiency ELA	Proficiency Math	Growth Score
<i>City of Milwaukee</i>	0.00619 (0.0389)	0.0588 (0.0372)	11.72* (6.726)
<i>UW Milwaukee</i>	0.0832** (0.0385)	0.104*** (0.0368)	9.686 (6.420)
<i>Constant</i>	0.811*** (0.0411)	0.688*** (0.0393)	84.95*** (6.480)
<i>Observations</i>	247	247	208
<i>R-squared</i>	0.644	0.607	0.252

Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

MPS Specialty Schools

Finally in this section, we take a look at MPS specialty schools. Despite the constant rhetoric of education reform opponents that voucher and charter schools can pick their students, in reality the only schools in Milwaukee afforded that freedom are MPS specialty schools. These schools don't have an assigned attendance area, and can take in applicants from all over the city like choice and charter schools. Unlike choice and charter schools, however, these schools have admissions requirements. The question is: do admissions requirements or some unique characteristics of the education offered within these schools explain proficiency differences?

The table below shows student performance in specialty schools before and after the inclusion of demographic controls. Before the inclusion of demographic controls, specialty schools appear to significantly outperform other MPS schools in ELA ($p < .01$) and math ($p < .05$). This is similar to the proficiency reports one finds on the state report card, or perhaps reported in the newspaper. However, once we account for student characteristics in models (2) and (4), the proficiency advantage disappears. This is strong evidence that it is the discriminatory practices on the part of these schools that accounts for the better performance outcomes observed. While the inclusion of demographic controls tends to expand the gap between choice and charter schools and TPS, it eliminates the gap for MPS specialty schools.

Table 9. Proficiency in Specialty Schools

Variables	(1) Proficiency ELA	(2) Proficiency ELA	(3) Proficiency Math	(4) Proficiency Math
<i>Specialty</i>	0.112*** (0.0361)	0.0196 (0.0246)	0.0697** (0.0325)	-0.00728 (0.0235)
<i>Demographic Controls</i>	No	Yes	No	Yes
<i>Constant</i>	0.107*** (0.0235)	0.804*** (0.0427)	0.0957*** (0.0211)	0.692*** (0.0408)
<i>Observations</i>	247	247	247	247
<i>R-squared</i>	0.138	0.641	0.158	0.605

Standard errors in parentheses *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Urbanicity

Wisconsin school quality varies extensively by whether schools are located in an urban, suburban or rural environment. Previous Apples to Apples studies have found that performance lags in rural, urban, and small town schools relative to performance in suburban schools. Much of this is confirmed by the most recent data under study here. Small town schools have proficiency rates approximately 3.45% lower in ELA and 3.37% lower in math on average. Rural schools have proficiency rates 3.74% lower in ELA and 4.35% lower in math on average. Perhaps hearteningly, no difference was found among the growth rate of schools between levels of urbanicity in this analysis.

Somewhat surprisingly, urban districts were found to be no different from suburban districts in terms of proficiency this year. Recall that this analysis does include control variables for the race of students, as well as their economic status. Because these factors are strongly correlated with the urban designation, it is likely that those two variables are absorbing much of the effect here. Nonetheless, this analysis is consistent with our findings from last year that the problems for rural Wisconsin are in many ways worse than for urbanized parts of the state.

Table 10. Proficiency by Urbanicity

Variables	(1) Proficiency ELA	(2) Proficiency Math	(3) Growth Score
<i>Small Town</i>	-0.0345*** (0.00733)	-0.0337*** (0.00810)	-0.822 (1.262)
<i>Urban</i>	0.00447 (0.00701)	-0.00277 (0.00775)	-0.494 (1.155)
<i>Rural</i>	-0.0374*** (0.00669)	-0.0435*** (0.00739)	-0.988 (1.151)
<i>Constant</i>	0.723*** (0.00730)	0.766*** (0.00807)	79.20*** (1.230)
<i>Observations</i>	2,064	2,065	1,596
<i>R-squared</i>	0.661	0.680	0.099

Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

School Value Added

For the second year, WILL is including a value-added measure for every school in the state with sufficient data in our Apples to Apples report. School Value-Added works very similarly to the value-added measure for teachers. Taking into account the socio-demographic composition of the school, the model estimates the predicted performance of the school on the Forward Exam. This predicted performance is compared with the schools actual performance. Schools that have a positive differential in their actual performance relative to their predicted performance have a

positive value added. Schools where predicted performance is higher have a negative value added (or value subtracted).

The table below lists the top 20 schools in the state by this metric. One may note the prevalence of schools in urban and rural areas in this analysis. This is in large part due to the fact that the School Value Added model compensates for schools with students who generally have lower proficiency rates—including minority students and low-income students.

Table 11. Top Value Added Schools

School Name	City	VA	Sector
1. Marquette University High	Milwaukee	0.51	Private Voucher
2. Leonardo da Vinci School for Gifted Learners	Green Bay	0.38	Public
3. Accelerated Advanced Learning Program	Oshkosh	0.36	Charter
4. Carmen High School of Science and Tech. S.	Milwaukee	0.35	Charter
5. Central Wisconsin Christian Schools	Waupun	0.34	Private Voucher
6. Odyssey-Magellan	Appleton	0.33	Public
7. Iron River Elementary	Iron River	0.33	Public
8. Sevastopol Middle	Sturgeon Bay	0.33	Public
9. Reagan College Preparatory High	Milwaukee	0.33	Public/Specialty
10. Nativity Jesuit Academy	Milwaukee	0.32	Private Voucher
11. Veritas High	Milwaukee	0.32	Charter
12. Almond-Bancroft High	Almond	0.31	Public
13. Sheboygan County Christian School	Sheboygan	0.29	Private Voucher
14. Sullivan Elementary	Sullivan	0.28	Public
15. Kennedy Elementary	Janesville	0.28	Public
16. Tesla Engineering Charter School	Appleton	0.28	Charter
17. Lighthouse Christian School	Madison	0.28	Voucher
18. Meir School	Milwaukee	0.27	Public/Specialty
19. Bruce Middle	Bruce	0.27	Public
20. Pembine Elementary	Pembine	0.27	Public

Five of the top 20 schools in the state are schools that participate in the state's parental choice programs, including the number 1 school overall. Four of the top 20 are charter schools. This is true despite the fact that charter and choice schools represent an extremely small slice of the total number of schools in the state.

The following chart lists the top 10 schools in Milwaukee, Madison, and Green Bay by School Value Added.

Table 12. Top Value Added Schools by City

Milwaukee		Madison	
Name	SVA	Name	SVA
Marquette University HS	0.51	Lighthouse Christian School	0.28
Carmen HS of Science & Tech S	0.35	Van Hise Elementary	0.24
Reagan College Prep HS	0.33	Shorewood Hills Elementary	0.21
Nativity Jesuit Academy	0.32	Memorial High	0.19
Veritas High	0.32	West High	0.16
Meir School	0.27	Marquette Elementary	0.16
Divine Savior Holy Angels High	0.25	East High	0.15
Eastbrook Academy	0.24	Shabazz-City HS	0.14
HAPA-Hmong American Peace Acad. K3-12	0.23	Badger Rock Middle	0.12
Cooper Elementary	0.22	Thoreau Elementary	0.12
Tenor High	0.22	Hamilton Middle	0.11
Green Bay		Racine	
Name	SVA	Name	SVA
Leonardo da Vinci School	0.38	Jefferson Lighthouse Elementary	0.17
Chappell Elementary	0.11	Red Apple Elementary	0.10
Jefferson Elementary	0.07	Walden III High	0.09
MacArthur Elementary	0.05	North Park Elementary	0.07
Kennedy Elementary	0.05	Wadewitz Elementary	0.03
Wequiock Elementary	0.04	Renaissance School	0.00
Fort Howard Elementary	0.03	Fine Arts Elementary	0.00
Tank Elementary	0.03	Janes Elementary	-0.01
Howard Elementary	0.02	Julian Thomas Elementary	-0.01
Jackson Elementary	0.01	Lutheran High	-0.02
Parkview Middle	0.00	Hope Christian Schools: Via	-0.02

A Deeper Look at Hispanic Students in Wisconsin

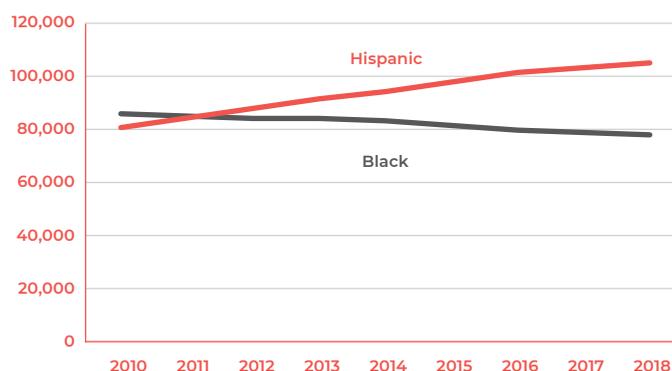
Over the past decade, Hispanic students have become the largest minority group in Wisconsin schools. The chart below depicts the change in enrollment in the state since the 2010-11 school year. In 2010, there were 86,195 African American students in the state and 80,780 Hispanic students. Since that time, the number of Hispanic students has grown by about 25,000—reaching 105,863 in the most recent school year. The number of African American students has simultaneously fallen by nearly 10,000.

The Hispanic population is far more dispersed than the African American population. Approximately 50% of all African American students in Wisconsin attend Milwaukee Public Schools. Only 19% of Hispanic students attend school in Milwaukee. Proficiency gaps also exist, though they are not as severe, in general as for African American students. Table 7 below runs our proficiency and growth regression focused on these subsets of students.

Higher shares of African American students in a school are associated with 21% lower proficiency in math and 16.4% lower proficiency in ELA. In contrast, higher shares of Hispanic students are associated with a 9.7% lower proficiency in math and are statistically no different from other racial groups in ELA. Relationships with student growth are perhaps even more intriguing. African American share is actually associated with lower growth. Given the fact that growth measures are designed to compensate and credit schools for helping with kids who are behind academically, this should be especially disturbing for education advocates. It may also help explain the persistence of one of the largest racial achievement gaps in the country on national norm-referenced tests such as the NAEP.³ The share of Hispanic students is associated with positive student growth, suggesting that schools are being at least somewhat effective at “catching up” these students.

3 National Assessment of Educational Progress. Accessed 5/10/2019. <https://nces.ed.gov/nationsreportcard/>

Figure 7. Black and Hispanic Enrollment over Time



Which schools do the best with Hispanic students? To answer that question, we compiled a list of the top twenty School Value Added schools with more than 40% Hispanic students. This yields 155 qualifying schools throughout the state.⁴ The share of choice and charter schools among the top performers with these students is impressive. Fourteen of the top 20 schools for Hispanic students in the state are private voucher schools or public charter schools.

4 Given the lack of concentration of Hispanic students noted above, a higher cutoff point yields too few schools to be informative.

Table 13. Proficiency by Race/Ethnicity

Variables	(1) Proficiency ELA	(2) Proficiency Math	(3) Growth Score
<i>Black</i>	-0.210*** (0.0151)	-0.164*** (0.0136)	-4.546** (2.284)
<i>Hispanic</i>	-0.0978*** (0.0223)	-0.0112 (0.0201)	7.424** (3.456)
<i>Observations</i>	2,065	2,064	1,596
<i>R-squared</i>	0.685	0.670	0.102

Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

Figure 8. Proficiency by Race Relative to 0% Minority School

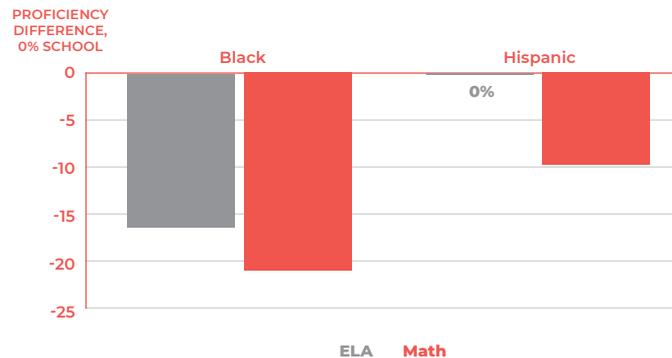


Table 14. Top 20 Schools for Hispanic Students

School	% Hisp.	City	Value Added	Sector
1. Marquette University High	68%	Milwaukee	0.51	Private Voucher
2. Carmen High School of Science and Tech S.	95%	Milwaukee	0.35	Charter
3. Reagan College Preparatory High	52%	Milwaukee	0.33	Public/Specialty
4. Nativity Jesuit	100%	Milwaukee	0.32	Private Voucher
5. Veritas High	89%	Milwaukee	0.32	Private Voucher
6. Lighthouse Christian School	56%	Madison	0.28	Private Voucher
7. Divine Savior Holy Angels High	63%	Milwaukee	0.25	Private Voucher
8. Cristo Rey Jesuit Milwaukee High	95%	West Milwaukee	0.25	Private Voucher
9. Tenor High	56%	Milwaukee	0.22	Charter
10. Saint Augustine Preparatory Academy	88%	Milwaukee	0.16	Private Voucher
11. Waukesha Catholic School System Inc.	50%	Waukesha	0.15	Private Voucher
12. Honey Creek Elementary	40%	Milwaukee	0.14	Charter
13. Saint Thomas More High	73%	Milwaukee	0.14	Private Voucher
14. Notre Dame School of Milwaukee	99%	Milwaukee	0.12	Private Voucher
15. Abbotsford Middle/Senior High	42%	Abbotsford	0.12	Public
16. ALBA	99%	Milwaukee	0.11	Charter
17. Wedgewood Park School	57%	Milwaukee	0.11	Public
18. Washington Elementary	40%	Whitewater	0.11	Public
19. Pershing Elementary	45%	West Milwaukee	0.11	Public
20. Audubon Tech. and Comm. High	60%	Milwaukee	0.11	Public

Conclusions

Year after year, the Apples to Apples report shows that educational options are working for Wisconsin families. Proficiency rates exceed those in TPS in Milwaukee for choice and charter schools, and the evidence is growing for improved performance outside of Wisconsin's largest city as well. That said, there are schools that are making a meaningful difference in student's lives across sectors. These schools show up in our School Value Added data, and the work of educators and staff in these schools should not be lost in the typical sector wars.

It is hoped that policymakers use the information here to gain a clearer picture of what is happening in schools across the state of Wisconsin. Rather than limiting educational options, as was the direction of Governor Evers under his rejected budget, policymakers should work to ensure that all students in Wisconsin have access to high-quality educational options that give them the best shot at success.







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