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## School Vouchers: A Vehicle to Induce Greater Competition Among Public Schools

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# School Vouchers

*A Vehicle to Induce  
Greater Competition Among  
Public Schools*

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*This article synthesizes various strands of the leading research studies to conclude that vouchers have the strongest impact on the lowest- and highest-performing public-school students and in the most competitive school districts. Based on case studies in Ohio and Florida, greater competitive measures will help improve educational outcomes for students on the margins. This article avoids a one-size-fits-all conclusion about the relationship between vouchers and educational outcomes, which will prove increasingly useful in a political climate that seems ripe for educational reform—especially as the current presidential administration pursues an agenda that looks to address school choice.*

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## INTRODUCTION

SINCE THE FEDERAL GOVERNMENT first became highly involved in education with the passage of the Elementary and Secondary Education Act (ESEA) in 1965, many education reforms and policies have been proposed, debated, and implemented across the United States in an effort to improve our nation's stagnant education performance. School choice polices, which give parents the ability to choose which school their child attends, are one set of policies that have become increasingly controversial. Consequently, these policies have been widely studied in an attempt to determine their impact. There are several different types of school choice policies, and states have taken a variety of approaches to implement them. Looking at different policies in different states, researchers can effectively draw conclusions about their strengths and weaknesses.

## RESEARCH QUESTION AND FINDINGS

This paper will focus on school vouchers, which are one particular form of school choice policy. After reviewing the history and relevant literature for voucher programs in Ohio and Florida, this paper will determine whether school vouchers create a more competitive environment for public schools. The implications of this competition (if it exists) will be explored to determine if improved academic outcomes occur as a result. Finally, this paper will analyze the future of voucher programs in the U.S. In terms of methodology, this paper selects several case studies to analyze the use of voucher programs in various states. After conducting searches through the Education Resources Information Center (ERIC), this paper will highlight the studies that focused on how vouchers impacted the educational outcomes of specific subsets of students.

Ultimately, this paper reaches the conclusion that the design of the voucher programs and their target populations are crucial. Voucher systems are more effective at improving performance among certain students and in specific areas. Specifically, voucher programs have the strongest impact on the lowest and highest performing public school students and in the most competitive school districts facing the most significant financial competitive pressures. Ultimately, schools that experience competition through vouchers, even with potential losses in funding, are not likely to experience drops in student test scores, and may even experience increases.

## SCHOOL CHOICE OVERVIEW

Currently, there are four main types of school choice policies in the United States: education savings accounts (ESAs), tax-credit scholarships, individual tax credits and deductions, and vouchers.<sup>1</sup> First, with an ESA, parents receive funds from the government in the form of a savings account if they withdraw their children from a public or charter school.<sup>2</sup> The funds can be spent on private school tuition, online educational programs, tutoring, or therapy services. The rationale behind ESAs is that parents can use the funds to meet the needs of a child whose needs are not being met in a traditional public or charter school. The first ESA program was passed in 2011 in Arizona, and today, five states have ESA programs serving 6,850 students.<sup>3</sup>

Second, under the tax-credit scholarship programs that were first passed in 1997, individuals receive tax credits when they contribute to a nonprofit that provides scholarships for students to attend a private school; the amount of the tax credit is determined by each state and capped at a maximum amount.<sup>4</sup> Fifteen states have tax-credit scholarship programs benefitting 226,000 students.<sup>5</sup>

Third, individual tax credit and deduction programs in five states provide parents with tax deductions if they spend money on certain approved educational supplies or services, including private school tuition, tutoring, or textbooks.<sup>6</sup>

Finally, there are currently twenty-six school voucher programs in fifteen states throughout the U.S.<sup>7</sup> These programs provide a publicly funded scholarship in the form of a “voucher,” which students can use to pay for part or all of their private school tuition after transferring from a public school. These four forms of school choice all have the same aim: to give parents greater control over where their child attends school and how their child’s education dollars are spent. This paper will specifically focus on vouchers.

## ARGUMENTS FOR AND AGAINST VOUCHERS

Voucher opponents argue that academic outcomes do not improve for voucher students, and low-performing students are left behind in public schools when students whose parents understand the voucher system take advantage and enroll their child in a private school using a voucher. Students remaining in public schools will then receive a lower quality education, compared to the education they would have received before the voucher students left. These

Table 1. Types of School Choice Programs

Description
<p>Education Savings Accounts (ESAs)</p> <p>Parents receive government funding child would have received at public school</p>
<p>Tax-Credit Scholarships</p> <p>Individuals receive tax credits when they contribute to a nonprofit that provides scholarships to attend private school</p>
<p>Individual Tax Credits and Deductions</p> <p>Parents receive tax deductions when they spend money on certain approved educational supplies or services</p>
<p>Vouchers</p> <p>Publicly funded scholarship in form of “voucher”</p>

critics also contend that vouchers lead to corruption in schools as they try to avoid losing students, sometimes by resorting to illegitimate means such as cheating on standardized tests.<sup>8</sup> Moreover, vouchers are unlikely work in rural communities where districts are too sparse to be competitive.<sup>9</sup>

Proponents argue that vouchers increase competition among schools and improve academic outcomes for all students because under a voucher system, funding follows the student based on his or her preferences (or his or her family's preferences).<sup>10</sup> In the current system, if a student decides to leave the public school and attend a private school instead, the student's family must pay for the private school tuition out-of-pocket, unless the private school is free. The funding that this student would have ordinarily received at a public school remains at the public school, regardless of whether the student is enrolled there. School funding is determined at the state level by a complex formula, and the funding that a school receives does not typically fluctuate much from year to year, even if enrollment declines.<sup>11</sup> Under this system, there is no incentive for public schools to ensure that students remain enrolled because the public school receives the same amount of funding regardless.<sup>12</sup> Under a publically funded voucher system, schools have an incentive to compete to enroll more students and receive additional funding. With financial incentives in place, "school leaders might work harder to encourage innovation, add or improve school programs, and organize staffing and curricula in a manner that is maximally responsive to student needs."<sup>13</sup>

## SCHOOL CHOICE LITERATURE

Previous studies analyzing the results of various voucher programs have found mixed results. A recent study of Louisiana's voucher program found a "statistically significant positive impact" of .0118 of a standard deviation in math due to competitive threats; this study also concluded that public schools with the highest competitive threat produced the most significant outcomes in terms of increased performance.<sup>14</sup> Another study analyzed an increase in competitive pressure on schools that participated in Milwaukee's voucher program after eligibility requirements changed and quadrupled the number of students that could receive vouchers. The study found that the means-tested Milwaukee Parental Choice Program led to "improvements in reading and language arts and these effects increased with the increase in treatment intensity" in public schools.<sup>15</sup> One study of Florida's Opportunity Scholarship program found that when schools were subject to greater competition, they made significant changes to their instructional practices, which increased test scores.<sup>16</sup> Schools that received an "F" letter grade and became subject to voucher programs saw test score increases of at least 15 percent in reading

and 44 percent in math.<sup>17</sup> Another study of Florida's McKay Scholarship Program for Students with Disabilities found that public school students had statistically significant increases in test scores as more nearby private schools became eligible to participate in the voucher program, due to the increase in competition produced under the voucher system.<sup>18</sup> Many studies in the literature found both small and large increases in the academic performance of public school students due to the increased competition created under vouchers.

### *Ohio's Educational Choice Program*

The Educational Choice Scholarship Program in Ohio is one of four educational choice programs in the state targeting low-income and special needs students. The Educational Choice program, passed in June 2005, provides voucher scholarships for students who live in districts with poorly performing public schools. Children from kindergarten to eighth grade can receive scholarships up to \$4,650, and high school students can receive scholarships for \$6,000.<sup>19</sup> When the Educational Choice program was first passed as a pilot program in 2005, students who were enrolled in schools that received an "F" letter grade from the state Department of Education for three consecutive years were eligible to receive a voucher.<sup>20</sup> In 2006, the program was amended to provide vouchers to students who attended schools that received either a "D" grade or an "F" grade for the past three years. When the program was fully implemented in 2006, only about 2,000 students participated, causing lawmakers to expand eligibility yet again. According to the new criteria, students at schools that received "D" or "F" grades in two out of the past three years were eligible for a voucher. This led to a significant increase in eligibility, and about 6,800 students used a voucher to attend a private school during the 2007-08 school year.<sup>21</sup> Based on these changes in eligibility criteria, Matthew Carr conducted a study of the competition produced under Ohio's voucher program. He also found that there was a wide variation in the amount of funding a school lost after students began using vouchers to leave their public schools. However, funding decreases were substantial, and in 2011, all the schools in the district lost between \$4,000 and \$5.9 million after students became eligible for vouchers.<sup>22</sup>

Carr used school-level information from the Ohio Department of Education from 2002-08 to analyze reading and math scores for fourth-through sixth-grade students. Specifically, he used a school-level fixed-effects regression to study the percentage of students scoring at the limited proficient, above proficient, or advanced proficient levels at public schools that were threatened by voucher programs, meaning the students would receive

vouchers the following school year if the school's letter grade did not improve from a "D" or "F." He controlled for school quality (by including dummy variables for the letter grade the school received), the proportion of white, disadvantaged, and special needs students in the school, and the school's NCLB quality label.<sup>23</sup> He also included a dummy variable to control for the negative stigma a school may receive after earning a low letter grade from the Ohio Department of Education. He did not control for any other school characteristics, such as class size or per-pupil spending, because of conflicting data about whether these conditions are tied to test scores. Finally, since he used a fixed effects regression, he was able to control for any unobservable heterogeneities from school to school.

Ultimately, Carr finds that when voucher programs threaten schools, their fourth-grade students' reading proficiency rates increase by about 2.7 percentage points, meaning an additional 2,150 students score at the proficient level; the variable measuring the stigma associated with the voucher threat is not statistically significant.<sup>24</sup> Moreover, proficiency rates on fourth-grade math tests and sixth-grade math and reading tests did not increase by statistically significant amounts at voucher-threatened schools. In this analysis, Carr first looks only at the difference between the number of students who score above and below proficient. The academic performance of these students with average scores did not significantly increase under the threat of a voucher program.

However, Carr also takes a closer look at disaggregated data, and the results for the percentage of students scoring at limited and advanced proficiency tell an entirely different story. The percentage of students scoring at a limited proficiency level on fourth-grade math tests and sixth-grade reading and math tests decreased by statistically significant amounts (0.2-0.5 standard deviations); between 3,800 and 6,000 fewer students scored in the below proficient category within the sample of 289 schools.<sup>25</sup> The variable for negative stigma was also statistically significant, meaning that low grades from the Ohio Department of Education could be spurring improvements as well. Finally, the percentage of students scoring above proficient increased by a statistically significant amount (0.3-0.4 standard deviations) on fourth-grade math and reading exams and on sixth-grade reading exams, with between 2,200 and 5,300 students scoring in the advanced proficiency level within the sample of 289 schools.<sup>26</sup> The percentage of students scoring above proficient on sixth-grade math exams decreased by a statistically significant amount.<sup>27</sup> It is also important to recognize that Carr tested for and did not find significant evidence of regression to the mean, which is often a concern in voucher studies. Carr concludes that voucher-threatened schools saw



significant changes in the percentage of students scoring at the lowest and highest levels on tests (limited and advanced proficiency).

Carr's study of Ohio's Educational Choice program demonstrates that when schools face the threat of a voucher system, they are more likely to focus their efforts on the students performing at the margins since "the motivated high performers and the disaffected low performers" are most likely to use a voucher to leave their public school during the following school year.<sup>28</sup> The students who are satisfied and performing at an average level will most likely not be motivated to use a voucher to change schools. The lowest performers who are concerned with their performance will be more likely to seek out a better school where their performance can improve, and the highest performers will be motivated to ensure they are receiving the best education possible. Therefore, under the threat of a voucher program, schools focused their efforts on these groups of students, leading to significant decreases in limit proficient rates and significant increases in above proficient rates on average.

### *Florida's Tax Credit Scholarship Program*

Under Florida's Tax Credit Scholarship Program, students from kindergarten to fifth grade can receive a scholarship in the form of a voucher if they are enrolled in a public school and receive free and reduced price lunch, meaning their family income is 185 percent of the federal poverty level or less.<sup>29</sup> In contrast to Ohio's voucher program, the vouchers are structured to target low-income students. This past school year, over 78,000 students participated in the program at over 1,500 schools, and they received scholarships of about \$5,367 each.<sup>30</sup>

David Figlio and Cassandra Hart conducted a study of Florida's Tax Credit Scholarship program in 2014. Figlio and Hart collected data from the Florida Department of Education, which organizes an Education Data Warehouse. This warehouse contains data on test scores and personal characteristics for all public school students in Florida. The authors also gathered test scores from the Florida Comprehensive Achievement Test administered during the 1998-1999 and 2006-2007 school years.<sup>31</sup> Florida's voucher program was passed in 2001 but not implemented until the 2002-2003 school year. This allowed Figlio and Hart to use a fixed effects difference-in-differences regression to investigate how test scores changed after the tax credit scholarship program was first announced and all public schools had one year to improve performance before the program was officially rolled out.<sup>32</sup> The authors hypothesized that although all schools would be subject to

a new level of pressure, public schools in closer proximity to private schools would have an even more significant incentive to improve.<sup>33</sup> By looking just at one year of data before the program was actually in place, the authors were able to isolate the effect of competitive pressures alone.

The study used several different measures to assess how much competition a particular public school faced when threatened with a voucher program. First, the authors determined the distance between each public school and the closest private school that could potentially be a competitor.<sup>34</sup> Second, the authors counted the number of private schools that were within a five-mile radius of each public school. They also counted the “number of distinct *types* of private schools within five miles,” so they could measure both the “density” and “diversity” of competitive pressures a public school will face.<sup>35</sup> They labeled ten types of private schools, most of which were religious. Last, Figlio and Hart measured how many churches, synagogues, and mosques were located within five miles of a particular public school.<sup>36</sup> This measure was employed because religious buildings can easily be used to start new religious schools, and the number of religious buildings in an area can indicate the religiosity of a community.<sup>37</sup> Therefore, Figlio and Hart argue that towns with high numbers of religious buildings will face greater competition in a school voucher market than towns with fewer religious buildings. The authors controlled for the year, student demographics in each school (such as gender, race, and the percentage of English Language Learners and students eligible for free and reduced price lunch), and school characteristics (such as what grades the school served).<sup>38</sup>

Additionally, Florida had a school grading system in place, called the A+ Accountability Plan, which is similar to Ohio’s school grading scheme. However, Florida’s school grading plan was entirely separate and not tied to its voucher program since voucher eligibility is determined by income level and not school quality. Figlio and Hart concluded that the negative stigma associated with a low letter grade did not bias their results or affect their analysis because only 74 schools out of the 2,300 that they studied received an “F” grade. Therefore, the possibility of negative stigma from a low grade did not compromise the authors’ conclusions about increased competition and its effects on student test scores.<sup>39</sup>

Ultimately, Figlio and Hart found that public schools in highly competitive school districts (with high numbers of nearby private schools and religious institutions) had a greater incentive to improve, and therefore, the test scores of students in these schools increased by the largest amounts compared to test scores in less competitive districts. The authors concluded

that an increase of one standard deviation in any of the competition measures (number of private schools and religious institutions within a five-mile radius) led to an increase in test scores between 0.015 and 0.027 standard deviations.<sup>40</sup> They argue that although the magnitude seems small, there is still a positive and statistically significant relationship between the level of competition in a school district and the students' academic performance.

Figlio and Hart also hypothesized that schools that receive federal Title I aid had the greatest incentive to improve and avoid losing voucher students.<sup>41</sup> Districts allocate Title I dollars according to a ranking of schools based on their concentration of low-income students, and the highest-poverty schools receive the most Title I funds.<sup>42</sup> Therefore, if a school loses enough low-income students under Florida's means-tested voucher program, it will lose its Title I funding as well. Consequently, schools that are on the threshold of receiving Title I aid face the greatest funding consequences and have the greatest incentive to improve their performance. To test their theory, Figlio and Hart divided up the schools and looked at schools that would lose Title I funding if they lost just a few Title I students after the voucher system was implemented. They found that these schools responded the most significantly to the threat of a means-tested voucher program; all four variables measuring competition were statistically significant at the one percent level for schools right on the threshold of losing their Title I funding, meaning school performance was influenced by the competition variables.<sup>43</sup> Finally, the authors found that the impact of competition gets stronger over time, and schools that were subject to greater competitive pressures were also more likely to adopt certain reforms, including experimenting with different scheduling techniques (such as block scheduling) and relying less on traditional qualifications when hiring teachers.<sup>44</sup>

One caveat that Figlio and Hart identify is that, since their study was conducted before the voucher program was implemented, their conclusions may not apply once programs are actually put into place. However, it is likely that competitive pressures will only increase once the program is fully implemented.<sup>45</sup> Additionally, another limitation is that the voucher program in Florida may have had such a high level of success because 90 percent of the students living in the state live in twenty of the largest cities in Florida.<sup>46</sup> States with larger rural populations may not experience similar positive results under voucher programs because competition may be less intense in rural districts where schools are located farther apart from each other. Additionally, Florida has a particularly high number of private school options, meaning that competition between public schools may be more intense.<sup>47</sup> Nonetheless, Figlio and Harts' study proves that competitive pressures are effective at

improving performance, particularly among schools in highly competitive districts and in Title I schools that face the greatest threat of losing a large amount of funding.

### *Milwaukee Parental Choice Program*

The Milwaukee Parental Choice Program employs a slightly different structure. Under this program, up to 1.5 percent of low-income students in Milwaukee are eligible to receive vouchers, allowing them to transfer from their public school to a non-religious private school.<sup>48</sup> All students from families with incomes that are at least “1.75 times the national poverty line” became eligible to participate in the voucher program during the 1990-1991 school year.<sup>49</sup> Studies of Milwaukee’s voucher program have found mixed results. Milwaukee’s program is different from Florida’s because there was no accountability system tied to voucher implementation, which would have increased competitive pressures. A study of Milwaukee’s voucher program found mixed results, and the program ultimately did not lead to increases in student performance on the Wisconsin Reading Comprehension Test that were statistically significant.<sup>50</sup>

## FINDINGS

Based on these studies, voucher programs have the strongest impact on the lowest and highest performing public school students and in the most competitive school districts. The competition fostered under Ohio’s Educational Choice Program incorporated the negative stigma that arose when a school achieved a low letter grade, while Florida’s Tax Credit Scholarship program did not incorporate a school-grading scheme. Ohio’s program targeted students at low-performing public schools, while Florida’s program was directed at low-income students. Both programs were effective, but in different ways. Ohio’s Educational Choice Program led to increases in academic outcomes for the lowest and highest performing public school students, or the students who were most likely to use their voucher to change schools. Florida’s Tax Credit Scholarship Program increased competition and led to improved academic outcomes in public schools that were most likely to lose their Title I funding if just a few Title I students used a voucher. In Ohio, voucher students predominantly came from only four school districts: Cincinnati, Columbus, Dayton, and Toledo.<sup>51</sup> In Florida, most students live in twenty large cities. Therefore, in both states, highly competitive environments with a high concentration of voucher students saw the most significant improvements in public school performance and student academic outcomes.

Table 2. Summary of the Three Case Studies Examined

State	Voucher Program	Target Population	Voucher Amount	Eligibility Requirements
Ohio	"Educational Choice Scholarship Program"	Students living in districts with underperforming public schools	Kindergarten to 8 <sup>th</sup> grade: up to \$4,650 High school: \$6,000	Students must attend public school that received "D" or "F" letter grade from Department of Education in two out of past three years
Florida	"Florida's Tax Credit Scholarship Program"	Students enrolled in a public school and receiving free and reduced price lunch	Kindergarten to 5 <sup>th</sup> grade: \$5,367	Students must be enrolled in a public school and receive free and reduced price lunch, meaning their family income is 185 percent of the federal poverty level or less
Wisconsin	"Milwaukee Parental Choice Program"	Low-income students	\$3,346	Students must be from families with incomes that are at least 1.75 times national poverty line

## CHALLENGES

However, there are several challenges that proponents may encounter if they continue to advocate for the increased competition provided under voucher programs. First, all of these studies relied solely on test scores as a measure of academic performance. There are few major studies that investigate how voucher programs affect the cognitive, social, and emotional development of students. These measures can also be used to assess how students are developing and performing in school. Voucher systems that are based on test scores can also lead instructors to “teach to the test” more, while overlooking other subjects that are critical but not covered on standardized test materials.

Second, teachers and schools may resort to cheating and altering student test grades as they become subject to greater pressure from school administrations to improve student performance. For example, several charter schools’ failing letter grades were deliberately excluded from evaluations in Ohio forcing education officials to resign.<sup>52</sup> Not only will teachers be under greater pressure to alter student grades, but school officials will also be subject to greater scrutiny based on the letter grade that their school receives. This pressure may cause officials to resort to changing letter grades so that students do not become eligible to receive vouchers. For voucher programs to be successful, oversight mechanisms must be in place to ensure accurate reporting of school results.<sup>53</sup> In addition, as schools compete with each other to increase test scores, individual students may begin to feel pressure.<sup>54</sup> Out of fear of losing funding or their jobs, school officials will continue to place even greater pressure on students. Students may be more likely to suffer from depression and stress. Therefore, future studies of voucher programs should also look at other measures of student success and well-being.

## CONCLUSION

Many previous voucher studies have found that programs are successful at increasing competition and student academic outcomes but only on the lowest and highest performing public school students and in the most competitive school districts. Therefore, voucher programs are not an education reform that will work for all student groups and for all states, and vouchers will not be the panacea that will help all low-performing students to catch up. Moreover, precautions must be taken to ensure that heightened scrutiny and competition do not lead to negative unintended consequences, such as cheating and increased stress for students. Despite these limitations, greater competition has led to increases in student achievement in public schools in

Ohio and Florida, particularly among the lowest performing students. Future studies and efforts should continue to identify the distinctive populations and contexts that can successfully use vouchers to foster greater competition and promote improvements in educational performance, particularly for vulnerable populations.

## NOTES

- 1 “Types of School Choice,” *Educational Choice*, accessed March 18, 2017, <https://www.edchoice.org/school-choice/types-of-school-choice/>.
- 2 “Just the FAQs-School Choice,” *The Center for Education Reform*, accessed May 1, 2016, <https://www.edreform.com/2011/11/just-the-faqs-school-choice/>.
- 3 “Types of School Choice,” *Educational Choice*.
- 4 “School Choice Today: Education Tax Credit Laws Across the States 2015,” *The Center for Education Reform*, last modified 2015, <https://www.edreform.com/wp-content/uploads/2015/10/Education-Tax-Credit-Laws-Across-the-States-Ranking-and-Scorecard-2015.pdf>.
- 5 “Types of School Choice,” *Educational Choice*.
- 6 Ibid.
- 7 Ibid.
- 8 Valerie Strauss, “The new push for school vouchers at state, federal levels,” *The Washington Post*, February 12, 2014, accessed May 1, 2016, <https://www.washingtonpost.com/news/answer-sheet/wp/2014/02/12/the-new-push-for-school-vouchers-at-state-federal-levels/>.
- 9 Neil Campbell and Catherine Brown, “Vouchers are Not a Viable Solution for Vast Swaths of America,” *Center for American Progress*, March 3, 2017, accessed March 19, 2017, <https://www.americanprogress.org/issues/education/news/2017/03/03/414853/vouchers-are-not-a-viable-solution-for-vast-swaths-of-america/>.
- 10 Rajashri Chakrabarti, “Program Design, Incentives, and Response: Evidence from Educational Interventions,” *Economic Policy Review* 16, no. 2 (2010): 1.
- 11 “Does school choice drain public schools’ funding and resources,” *Educational Choice*, accessed March 18, 2017, [https://www.edchoice.org/school\\_choice\\_faqs/does-school-choice-drain-public-schools-funding-and-resources/](https://www.edchoice.org/school_choice_faqs/does-school-choice-drain-public-schools-funding-and-resources/).
- 12 Ibid.
- 13 Anna J. Egalite, “The Competitive Effects of the Louisiana Scholarship Program on Public School Performance,” *School Demonstration Project*, Louisiana Scholarship Program Evaluation Report 4, (2016): 10.
- 14 Egalite, “The Competitive Effects of the Louisiana Scholarship Program on Public School Performance,” 25.

- 15 Rajashri Chakrabarti, "Can Increasing Private School Participation and Monetary Loss in a Voucher Program Affect Public School Performance? Evidence from Milwaukee," *Journal of Public Economics* 92, no. 5 (2008): 1387.
- 16 Cecilia E. Rouse, Jane Hannaway, Dan Goldhaber, and David Figlio, "Feeling the Florida Heat? How Low-Performing Schools Respond to Voucher and Accountability Pressure," *American Economic Journal: Economic Policy* 5, no 2 (2013): 251.
- 17 Rouse, Hannaway, Goldhaber, and Filigo, "Feeling the Florida Heat?" 277.
- 18 Marcus A. Winters and Jay P. Greene, "Public School Response to Special Education Vouchers: The Impact of Florida's McKay Scholarship Program on Disability Diagnosis and Student Achievement in Public Schools," *Educational Evaluation and Policy Analysis* 33, no. 2 (2011): 4.
- 19 "EdChoice Scholarship Program," *Ohio Department of Education*, accessed May 1, 2016, [http://education.ohio.gov/getattachment/Topics/Other-Resources/Scholarships/EdChoice-Scholarship-Program/2016\\_2017\\_ECFactSheet.pdf.aspx](http://education.ohio.gov/getattachment/Topics/Other-Resources/Scholarships/EdChoice-Scholarship-Program/2016_2017_ECFactSheet.pdf.aspx).
- 20 Matthew Carr, "The Impact of Ohio's EdChoice on Traditional Public School Performance," *Cato Journal* 31, no. 2 (2011): 263.
- 21 Ibid.
- 22 Ibid. at 264.
- 23 Ibid at 268, 269.
- 24 Ibid. at 272.
- 25 Ibid at 275.
- 26 Ibid. at 276.
- 27 Ibid. at 276.
- 28 Ibid. at 265.
- 29 "School Choice: Florida Tax Credit Scholarship Program," *Educational Choice*, accessed May 1, 2016, <http://www.edchoice.org/school-choice/programs/florida-tax-credit-scholarship-program/> and Will Huntsberry, "True or False? Free and Reduced-Price Lunch = Poor" *NPR*, January 30, 2015, accessed May 15, 2016, <http://www.npr.org/sections/ed/2015/01/30/379330001/true-or-false-free-and-reduced-price-lunch-poor>.
- 30 Carr, "The Impact of Ohio's EdChoice on Traditional Public School Performance," 272.
- 31 David Figlio and Cassandra Hart, "Competitive Effects of Means-Tested School Vouchers," *Academic Economic Journal: Applied Economics* 6, no. 1 (2014): 139.
- 32 Ibid.
- 33 Ibid. at 136.
- 34 Ibid. at 140.



- 35 Ibid.
- 36 Ibid. at 141.
- 37 Ibid.
- 38 Ibid.
- 39 Ibid. at 149.
- 40 Ibid. at 144.
- 41 Ibid.
- 42 Ibid.
- 43 Ibid. at 151.
- 44 Ibid. at 151, 153.
- 45 Ibid. at 154.
- 46 Ibid.
- 47 Ibid.
- 48 Cecilia E. Rouse, "Private School Vouchers and Student Achievement: An Evaluation of the Milwaukee Parental Choice Program," *The Quarterly Journal of Economics*, 113(2), May 1998, accessed March 19, 2017, doi:<http://www.jstor.org/stable/2586913>: 554.
- 49 Rouse, "Private School Vouchers and Student Achievement," 554.
- 50 Rajashri Chakrabarti, "Impact of Voucher Design on Public School Performance: Evidence from Florida and Milwaukee Voucher Programs," *The B.E. Journal of Economic Analysis & Policy* 13(1), July 2013, accessed March 19, 2017, doi: 10.1515/bejeap-2012-0037.
- 51 Carr, "The Impact of Ohio's EdChocie on Traditional Public School Performance," 264.
- 52 Andrew Welsh-Higgins, "Official resigns after some charter schools' Fs excluded," *The Columbus Dispatch*, July 19, 2015, accessed May 3, 2016, <http://www.dispatch.com/content/stories/local/2015/07/18/oh-charter-school-official-resigns.html>.
- 53 Valerie Strauss, "Ohio passes legislation aimed at cleaning up scandal-ridden charter school sector," *Washington Post*, October 8, 2015, accessed May 3, 2016, <https://www.washingtonpost.com/news/answer-sheet/wp/2015/10/08/ohio-passes-legislation-aimed-at-cleaning-up-scandal-ridden-charter-school-sector/>.
- 54 Vicki Abeles "Is the Drive for Success Making Our Children Sick," *New York Times*, January 2, 2016, accessed May 3, 2016, <http://www.nytimes.com/2016/01/03/opinion/sunday/is-the-drive-for-success-making-our-children-sick.html>.

## REFERENCES

- Abeles, Vicki. "Is the Drive for Success Making Our Children Sick?" *New York Times*. January 2, 2016. Accessed May 3, 2016. <http://www.nytimes.com/2016/01/03/opinion/sunday/is-the-drive-for-success-making-our-children-sick.html>.
- Campbell, Neil and Catherine Brown. "Vouchers are Not a Viable Solution for Vast Swaths of America." Center for American Progress. March 3, 2017. Accessed March 19, 2017, <https://www.americanprogress.org/issues/education/news/2017/03/03/414853/vouchers-are-not-a-viable-solution-for-vast-swaths-of-america/>.
- Carr, Matthew. "The Impact of Ohio's EdChoice on Traditional Public School Performance." *Cato Journal* 31, no. 2 (2011): 257-284.
- Chakrabarti, Rajashri. "Can Increasing Private School Participation and Monetary Loss in a Voucher Program Affect Public School Performance? Evidence from Milwaukee." *Journal of Public Economics* 92, no. 5 (2008): 1371-1393.
- Chakrabarti, Rajashri. "Program Design, Incentives, and Response: Evidence from Educational Interventions." *Economic Policy Review* 16, no. 2 (2010): 1-22.
- Chakrabarti, Rajashri. "Impact of Voucher Design on Public School Performance: Evidence from Florida and Milwaukee Voucher Programs." *The B.E. Journal of Economic Analysis & Policy* 13, no. 1 (2013): 349-394.
- "EdChoice Scholarship Program." Ohio Department of Education. Accessed May 1, 2016. [http://education.ohio.gov/getattachment/Topics/Other-Resources/Scholarships/EdChoice-Scholarship-Program/2016\\_2017\\_ECFactSheet.pdf.aspx](http://education.ohio.gov/getattachment/Topics/Other-Resources/Scholarships/EdChoice-Scholarship-Program/2016_2017_ECFactSheet.pdf.aspx).
- Egalite, Anna J. "The Competitive Effects of the Louisiana Scholarship Program on Public School Performance." School Demonstration Project. Louisiana Scholarship Program Evaluation Report 4 (2016): 1.
- Figlio, David. & Hart, Cassandra. Competitive Effects of Means-Tested School Vouchers. *Academic Economic Journal: Applied Economics* 6, no. 1 (2014): 133-156.
- Huntsberry, Will. "True or False? Free And Reduced-Priced Lunch = Poor." NPR, January 30, 2015, accessed May 15, 2016, <http://www.npr.org/sections/ed/2015/01/30/379330001/true-or-false-free-and-reduced-price-lunch-poor>.
- "Just the FAQs-School Choice." The Center for Education Reform. Accessed May 1, 2016. <https://www.edreform.com/2011/11/just-the-faqs-school-choice/>.
- Rouse, Cecilia E. "Private School Vouchers and Student Achievement: An Evaluation of the Milwaukee Parental Choice Program." *The Quarterly Journal of Economics* 113 no. 2 (1998): 553-602.
- Rouse, Cecilia E., Jane Hannaway, Dan Goldhaber, and David Figlio. "Feeling the Florida Heat? How Low-Performing Schools Respond to Voucher and Accountability Pressure." *American Economic Journal: Economic Policy* 5, no 2. (2013): 251-281.
- "School Choice: Educational Choice Scholarship Program." The Friedman Foundation for Educational Choice. Accessed May 1, 2016. <http://www.edchoice.org/school-choice/programs/ohio-educational-choice-scholarship-program/>.
- "School Choice: Florida Tax Credit Scholarship Program." The Friedman Foundation for Educational

Choice. Accessed May 1, 2016. <http://www.edchoice.org/school-choice/programs/florida-tax-credit-scholarship-program/>.

“School Choice Today: Education Tax Credit Laws Across the States 2015.” The Center for Education Reform. Last modified 2015. <https://www.edreform.com/wp-content/uploads/2015/10/Education-Tax-Credit-Laws-Across-the-States-Ranking-and-Scorecard-2015.pdf>.

Strauss, Valerie. “Ohio passes legislation aimed at cleaning up scandal-ridden charter school sector,” The Washington Post. October 8, 2015. Accessed May 3, 2016. <https://www.washingtonpost.com/news/answer-sheet/wp/2015/10/08/ohio-passes-legislation-aimed-at-cleaning-up-scandal-ridden-charter-school-sector/>.

Strauss, Valerie. “The new push for school vouchers at state, federal levels.” The Washington Post. February 12, 2014. Accessed May 1, 2016. <https://www.washingtonpost.com/news/answer-sheet/wp/2014/02/12/the-new-push-for-school-vouchers-at-state-federal-levels/>.

“What is School Choice?” The Friedman Foundation for Educational Choice. Accessed May 1, 2016. <http://www.edchoice.org/school-choice/what-is-school-choice/>.

Welsh-Higgins, Andrew. “Official resigns after some charter schools’ Fs excluded.” The Columbus Dispatch. July 19, 2016. Accessed May 3, 2016. <http://www.dispatch.com/content/stories/local/2015/07/18/oh-charter-school-official-resigns.html>.

Winters, Marcus A., and Jay P. Greene. “Public School Response to Special Education Vouchers: The Impact of Florida’s McKay Scholarship Program on Disability Diagnosis and Student Achievement in Public Schools.” *Educational Evaluation and Policy Analysis* 33, no. 2 (2011): 138-158.

*Zelman v. Simmons-Harris*, 536 U.S. 639 (2002).

“*Zelman v. Simmons-Harris*.” Oyez. Chicago-Kent College of Law at Illinois Tech, n.d. Accessed May 1, 2016. <https://www.oyez.org/cases/2001/00-1751>.

Table 3. School Choice Literature Broken Down by Author

Author	Program Studied	Target Population	Data	Method	Findings
Matthew Carr	Ohio's Educational Choice Program	Students living in districts with underperforming public schools	Reading and math scores for 4 <sup>th</sup> , 6 <sup>th</sup> grade students from 2002-2008 from Ohio Department of Education	School-level fixed effects regression	4 <sup>th</sup> grade reading proficiency rates increased by 2.7 percentage points  Percentage of students at limited proficiency on 4 <sup>th</sup> grade math and 6 <sup>th</sup> grade reading and math tests decreased by statistically significant amounts  Percentage of students scoring above proficient increased by statistically significant amount on 4 <sup>th</sup> grade math and reading exams and 6 <sup>th</sup> grade reading exams
David Figlio	Florida's Tax Credit Scholarship Program	Students enrolled in a public school and receiving free and reduced price lunch	Data on test scores from Florida Department of Education and Florida Comprehensive Achievement Test during 2006-2007 school years	Fixed effects difference-in-differences regression	An increase of one standard deviation in any of the competition measures (number of private schools and religious institutions within a five-mile radius) led to an increase in test scores between 0.015 and 0.027 standard deviations
Cassandra Hart					All four variables measuring competition were statistically significant at the one percent level for schools right on the threshold of losing their Title I funding

