

The Future of Public Education: Exploring the Role of Charter Schools and its Impact on Students

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<u>ABSTRACT</u>

As charter schools continue to increase their presence throughout the U.S., there remains a considerable debate over charter schools' impact on student achievement. Appearing at the end of the 20th century, the push for this new form of education has largely arisen from families who are unsatisfied with their traditional school districts and demand for more school options to accommodate their student's own unique needs. Charter schools, granted greater autonomy over their curriculums, have been promoted as a better alternative to the traditional district school, particularly in promoting access to higher quality education for students in economically depressed communities. But whether they truly do so is quite nuanced – as well as their impacts on remaining traditional public schools. After juxtaposing the funding structures of charters and district schools to establish background for the debate, this research dives into numerous empirical studies detailing charter school effectiveness on student achievement by comparing the English and Math test scores of students from charter schools against their traditional district school peers. While the results are quite mixed, there does seem to be consistent improvement among "effective" urban charter school and specific charter school networks. If circumstances were to remain, there also arises questions over what policies should be implemented to help expand student access to these effective charter schools. In response, this article considers three recommendations – some already being tested in select cities – for policymakers to consider as the search to promote education equity and access for every student in American cities continues.

Introduction

The proliferation of charter schools has often been the center of educational reform conversations across the nation. Making its first appearance in the 1990's in a few select cities, the charter school program has expanded to roughly 7,700 schools and campuses serving more than 3.4 million students in 2022 (White & Hieronimus, 2022). Partnering with "school choice" programs, these schools seek to improve education by giving families – especially in less affluent communities – more options when considering where they want to send their child to school. While charter schools do receive formal government recognition and state funding similar to public schools, they retain a greater degree of autonomy that allows them to implement unique focuses and alternative learning styles for their students. In exchange for this flexibility, charter schools must comply with strict regulations that help ensure an acceptable quality of student outcome. Otherwise, they may be closed if certain standards fail to be met. With such a model, these hybrid public-private institutions have appealed to some families as a better alternative to their local traditional public schools.

But as charter school enrollment continues to climb, it also gives rise to an empirical question: Is the current expansion of charter schools – taking into account numerous studies of charter school impact in different settings – continuing the improvement of student's academic outcomes and bridging of achievement gaps among socioeconomic classes? And if such schools are to become mainstream, what public policy work can be implemented to promote equity of access to effective charter schools?



These concerns have been largely debated by lawmakers and policymakers who are concerned about charter schools' influence on future success of America's education system and traditional public schools. Proponents have argued that charter schools' individualistic educational practices help uplift traditional public schools through competitive pressures. On the other hand, critics warn that charter schools draw students and resources away from traditional public schools and are susceptible in failing to provide a thorough and efficient education (Clark et al., 2015). Since charter schools are also publicly funded, policymakers need to make sure that taxpayer dollars and government funds are 1) being spent properly and effectively and 2) achieving positive outputs and results.

Given that the charter debate covers a wide range of topics, this research will primarily focus on examining the relationship between charter and public schools' academic outcomes by surveying some of the most influential studies done on this issue. In order to first understand how charter schools have evolved, this paper will begin by contextualizing how traditional public school funding inequity has encouraged the push for school options such as charter schools. Next, fundamental charter school policies and principles will be juxtaposed with their traditional school peers to set the stage for a discussion on how effective charter school are in increasing student achievement. Analyzing the success of charter schools compared to their public-school counterparts proves to yield a complex answer with some limitations. Yet, from the research detailed in this paper along with keeping its limitations in mind, several recommendations for public policy work will be made for policymakers in pursuit of creating a system that provides a thorough and efficient education for all students.

Connecting Public School Funding Disparities to the Rise of School Choice

Public schools have long been essential in guaranteeing quality education to every child in the country. Many families, politicians, and teachers view the public education system, as the AFL-CIO states, central "to the development of an informed and engaged citizenry, without which no democracy can exist and flourish" (American Federation of Labor and Congress of Industrial Organizations, 2010). Clearly, these schools are important to many people; however, the system is not entirely free from facing inequity challenges. When discussing how such challenges arise – along with resources schools need to operate – it is first important to understand the funding structures of public schools.

Although public school funding varies from state to state, public schools are all primarily funded in three ways:

- Federal Government Funds. These funds account for very little less than 10% of the overall public-school funding budget. Such government funds are generally restricted to students with special needs and services. For example, some programs currently sponsored by the government include Title I (which aims to help low-income families and areas), Individuals with Disabilities Education Act (which provides resources to students with disabilities), and English Language Acquisition (which helps schools that admit English Language Learners) (Chen, 2022).
- 2. State Government Funds. Accounting for around 40% of overall funding, these funds are collected through sales taxes, state income taxes, tolls, and other taxes and fees. The amount that reaches schools are dictated by state-specific funding formulas that take into consideration enrollment statistics, student characteristics, and community wealth to calculate the amount necessary that schools need to provide an adequate education (Gartner, n.d.).
- 3. **Local Revenue.** This fund accounts for the bulk of public-school funding around 50%. These funds are primarily supplied by local property taxes, although there may be some other local revenue sources available that are secondary to the property taxes (National Center for Education Statistics, 2022). This dependence on property taxes often results in inequity among school districts; higher property values in wealthier communities result in more property tax revenue that is spent on their local public school and students, ensuring that



they have better funded schools than less wealthy communities. State funding is generally aimed at helping to reduce differences that a reliance on property tax causes; however, due to factors such as economic recessions that reduce state budgets, they can be ineffective at doing so.

Once the local treasury obtains the total budget from all three sources, they are granted autonomy over how many dollars they allocate to school districts and families. Such matters can be extremely complicated and lead to funding disparities because there is no standard method or formula for this allocation, which poses challenges when dealing with large districts that have huge variances in enrollment or student need from one school to another (Gartner, n.d.). For example, a wrong allocation method can lead to a situation where the highest need students are effectively draining away education from other students in the district and such a situation may not always lead to public agreement with budgetary decisions.

There has been a lot of discussion and debate over what constitutes a "just" and "equal" allocation method in terms of how much money is distributed to certain district schools. Obviously, parents want to send their child to a school that is provided with the necessary support systems to help their children reach their highest potential. However, a rigid bureaucratic system poses some challenges. For instance, the parents of students in the middle may see students with higher needs receive extra benefits and believe they are getting the short end of the stick. On the other hand, if the situation were reversed, parents of students who have special needs may think that the public education institution is not sufficiently focused on their child and not doing enough to give them a thorough enough education as possible. Thus, this creates circumstances where parents, whatever their situation, believe the schools fail to be sensitive to the needs of their child. This is not to say the public schools were entirely incapable, rather that the parents think their students could do better in a different setting

To help address these issues and further a more efficient education system, policymakers and educators have experimented with a relatively new type of school: the charter school

Charter School Policies and Influence

First introduced in Minnesota in 1991, charter schools were founded to give more school choice options to families and students other than their traditional district schools and private schools. Charter schools experience more autonomy than traditional district schools but in exchange are held accountable for the results they produce. As such, charter schools have often been presented an alternative to failing public schools and have attracted the attention of parents through their pursuit of school choice, educational innovation, and student achievement accountability measures.

While charter schools are required to adhere to the same major regulations and laws that also pertain to traditional district schools, they are given a certain level of freedom that allows them to tailor their curriculum and programs to specific needs of their students. Some focus on the traditional basics of reading, writing, and math, while others also provide special arts or music programs. However, in determining whether these schools are truly effective at what they do, as with all public schools, charter schools' success depends on the way policies support the way they operate.

Charter schools are authorized through a state charter school law. This law has a large influence over how successful charter schools within that state can be. Their regulations include:

- 1. Restrictions on the number of charter schools available throughout the state and the number of students who can attend such schools. Stronger charter laws will incorporate a looser restriction as to how many charter schools can be available, leading to more options for parents to exercise school choice (Center for Education Reform, n.d.).
- 2. Limits on the number of authorizers, which can be school boards or independent entities that are approved by the state legislature, allowed to bring charter schools into existence through a contract. As such,



authorizers are a fundamental part of the charter school structure. They approve charter applications and serve to monitor the school's success, ensuring the educational quality of the charter school and also holding responsibility of closing the charter school if necessary. Essentially serving as managers and monitors for a charter school, authorizers hold charter schools accountable for state and federal requirements. Fewer authorizers would mean fewer charter start-ups and fewer options for school families (Center for Education Reform, 2011).

3. A per-pupil funding formula for charters and a certain level of freedom in the way charter schools control their own finances to run efficiently. Charter schools are funded by state and local taxes similar to their traditional public schools; however, charter and district schools allocate their revenues differently. Unlike traditional district schools, charter schools are not guaranteed funding to secure a facility. School founders who start up charter schools must find other independent means of tackling this problem. There is a federal grant provided by the Charter School Program which is dedicated to the creation of public charter schools but at its current funding level of \$440 million, it makes up to less than 1% of the overall K-12 federal spending budget (Center for Education Reform, n.d.). Additionally, the proportions of state to local funds that charter schools receive differ dramatically from state to state. Although the states typically allocate the same amount of funds to both charter and public district schools, the disparity exists because district schools also draw upon local revenues that the charters seldom have access to (Batdorff et al., 2014). For example, in Ohio, most charter schools receive zero funding from local taxes (Churchill, 2015). Yet, on the other side of the debate, public-district schools are required to honor growing pensions and medical insurance obligations to their current and retired employees. Both charters and districts argue that one over the other is enjoying a financial advantage; however, the conditions vary so widely that it is often hard to do so.

But to the extent of system that allocates per-pupil funds and allows a charter school to obtain money without having evidence that their registered students are actually engaging or participating in that program, it can create opportunities for mischief. For instance, the Economic Classroom of Tomorrow (ECOT) was found in 2016 to have claimed millions of dollars in excess funds by sharing figures to the state of how many students signed up – not necessarily how many were truly engaging with their services (Electronic Classroom of Tomorrow v. Ohio State Board of Education, 2021). ECOT, once being Ohio's largest online charter program, demonstrates the validity of this concern and gives reason for states to close off any loopholes that may allow this to happen again in the future.

In general, when a student departs their district school to attend a charter school, the district school loses the federal and state funds associated with that child except the local funds. District revenues can be expected to decline when a student leaves for the charter sector, and this can be particularly damaging to district schools especially in economically depressed areas. Yet, a analysis done by the Hoover Institution found that sometimes it is not always the case. In states that have most of their educational revenue come from local sources, such as Illinois and New Hampshire, an increase in charter school enrollments can actually improve the fiscal situation of district schools as long as the amount being redirected to the charter school is affordable for the district. Since district schools keep their local revenue, there will be more resources left behind to distribute to the remaining district school students (Egalite, n.d.). However, this situation most often applies primarily to district schools whose bulk of their funding comes from local revenues. For those district schools who heavily rely on state funding, they may not have as much local revenue to redistribute, and this consequently threatens the quality of education they can provide their students.

Yet regardless of the charter movement's impacts on the traditional public school system, charters remain a popular option for many parents who are dissatisfied with their local schools.



Judging Charter School Effectiveness

Assessing whether charter schools are effective academic institutions has proved to be extremely challenging since there are countless variables that affect student performance.

Many studies have examined lottery-based admissions for oversubscribed charter schools, which takes advantage of the randomization associated with the lottery admission system and creates nearly identical comparison groups by analyzing the results of lottery-winners versus lotter-losers. Such lottery-based studies have mostly focused on urban charter schools since they generally have the highest excess of student applications over available slots. Researchers who have utilized lottery studies have generally found that lottery winners – and thus urban charters – experience a higher increase in student achievement. (Chabrier et al., 2016). For example, in a study focused on Boston, Abdulkadiroglu et al. found that both middle and charter high schools substantially increased their students' academic scores in English / Language Arts and Math (Abdulkadiroglu et al., 2011). Mirroring these results, many other researchers such as Cohodes et al. studying the Boston area had even found levels of improvement ranging up to around 22 days of additional learning (0.27 standard deviation¹) in English language arts and 29 days of additional learning (0.36 SD) in math per year (Cohodes et al., 2013).²

There have also been lottery-based studies on a larger national scale. In a study surveying 36 charter middle schools from 15 different states, Gleason et al. found that on average, there were positive but not significant improvements in student output of lottery winners when compared to their lottery loser peers. Looking more closely at the data however, there were significant student achievement variation between schools. Magnitudes between -0.43 to 0.33 SD were observed with reading scores and magnitudes between -0.78 to 0.65 SD were observed with math scores. They found that charter schools whose student population consisted of more low income or low achieving students had much higher positive effects on academic scores. Such charter schools also adopted a "No Excuses" approach that emphasized stricter discipline values and academically intensive mentoring for their students (Gleason et al., 2010).

However, lottery-based studies, although informative, come with some caveats. These oversubscribed schools whose students are mostly low-income or minority are almost exclusively urban charter schools, which means they cannot be generalized to charter schools as a whole. Additionally, as far as we can tell, only around 26% of charter middle schools were likely to be oversubscribed in the 2006-2007 school year (Chabrier et al., 2016).

One organization has taken a different research approach to address this problem. The Center for Research on Education Outcomes (CREDO) at Stanford University gathers student level data provided by the states to match a charter student with up to seven traditional public-school students based on their academic reports and other characteristics. CREDO claims that the use of this process, called the Virtual Control Record protocol, leaves the decision to attend either a charter or traditional public school in the urban region as the only significant variable (Aldis & O'Leary, 2015).

CREDO's 2013 National Charter School Study, which surveyed twenty states over a six-year time frame, found very little impact of charter enrollment on student outcome; reading scores improved by 0.01 SD (equivalent to 7 additional days of learning), and math scores showed no significant difference at all (Center for Research on Education Outcomes, 2013). Two years later, CREDO published a second study focusing on the effects of urban charter schools. The results were much more favorable, with students achieving an improvement of 0.06 SD in math (equivalent to 40 additional days of learning) and 0.04 SD in reading (28 additional days of learning). Learning gains were particularly prominent among low-income, English Language Learners, Black, and Hispanic students. Yet, similar to Gleason's study mentioned earlier, CREDO had also found great variation in student outcomes in different regions, some to very distressing degrees. For example, charter students in Las Vegas experienced a decline of -0.14 SD

¹ Abbreviated as "SD" in further references.

² Growth in standard deviations used in studies discussed throughout the paper will be translated through a conversion table provided by CREDO's 2013 National Charter Study into gains in days of learning to help non-technical readers be able to better judge its "real world" impact.



(decrease in 108 days of learning) in math scores, while Boston experienced a gain of 0.32 SD (increase of 216 days of learning) when compared to their traditional public-school peers (Center for Research on Education Outcomes, 2015).

The literature outlined above makes clear that student achievement in charter schools varies from state to state. In some cases, the district schools do just as well as the charter schools do. Although the results may seem mixed, there do exist a few themes and patterns that consistently have impacts on student learning. For example, schools that employed a No Excuses approach have proved impressively effective at improving academic scores of on students of color and poverty in an urban setting. This can be especially useful in our pursuit to help bridge the current achievement gap in the status quo.

While charter schools are continually pitted against their traditional district peers, it is also important to return to one of the original rationales for charter schools. Following what is called the "Ripple" effect, charter schools were designed to generate friendly pressures that would push both charter and non-charter alike to pursue new heights of quality education (Center for Education Reform, n.d.).³

Recommendations

If circumstances are to continue, it may be worth to acknowledge more "effective" charter schools. Based on the preceding literature review, this section advocates for three policy recommendations that aim to increase equity and access of effective charter schools with the goals of promoting students' academic excellence in mind.

Assisting charter school growth and enrollment through proven charter networks

Researchers have often found mixed results regarding charter schools' academic output. However, particular charter school networks hold a shared set of values that have proved to be particularly successful. More specifically, the Knowledge Is Power Program (KIPP) – the nation's largest charter school network – has sponsored schools that have continually shown positive student impacts of up to 0.4 SD in math and English - equivalent to around 29 days of extra learning (Angrist et al., 2010; Gleason et al., 2014). A study on the Noble Network of high school chartersanother charter school network located in Chicago – found that their high schools increased college enrollment by 13% (Davis & Heller, 2019). By assisting these "proven" charter school networks to scale up their outreach, they can create a more profound positive impact on the education landscape. Forms of assistance to aid these "proven" charter networks can include making an expedited process for renewal and approval of charters or accepting longer contracts. States can also help these effective charter networks by providing financial incentives. For example, grants can be more easily renewed for high performing charters to support their growth. Specialized school choice bills that give more students the option to attend charter schools if they so wish may also help, though their effects are more nuanced. Ohio's Backpack Bill is one example of a school choice bill that if enacted would allow more students -regardless of rising family income – to be eligible to obtain school vouchers under the current EdChoice program that they can then use to attend a school of their liking (McClory, 2022); however, it does not require these students to attend "proven" charter networks. Additionally, with its implementation in Ohio where most charter schools receive very minimal local tax revenue, its push to encourage students to transfer to private and charter schools will likely be very detrimental to district schools. There is also speculation about whether the bill may adequately uphold accountability measures for charter school sponsors. While this section recommends easing some of the limitations for "proven" charter networks, it is important to note that this should never include compromising charter school authorizer accountability measures or quality in any way.

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³ It is also important to keep in mind that using test scores to gauge a picture of charter schools' effectiveness has its limitations.



Creating a common enrollment system across district and charter sectors

In the spirit of enabling all families to have access to all their available school options, states should encourage the creation of common enrollment system in the district and charter sectors. The goal is to simplify an application process that can be burdensome or overwhelming for some parents and deter them from pursuing all their school options. By creating a more transparent, streamlined application for district and charter enrollment, this system can be not only more efficient and fairer for families but also promote equity in enrollment. Such a system is currently experimented with in New Orleans with their OneApp system, a centralized enrollment system that has already shown to increase efficiency in how families choose from an assortment of charter and traditional public schools (Harris et al., 2015).⁴ In Denver, common enrollment systems have also been seen to substantially increase the number of minority and English Learner students within their charter schools (Winters, 2015).

Continuing strict measures that ensure charter school authorizer quality

Charter school authorizers are at the core of determining how well charter school succeed. In order to promote more effective charter schools that provide the highest quality of education possible to students, ensuring authorizer quality through strict accountability measures must be carefully considered especially for states who currently lack such adequate policies and plan to incorporate charter schools into their mainstream education system in the future. Examples of such strict accountability measures can be seen in Ohio as they require periodic formal evaluation for overall charter school and authorizer performance through the state department and demand incompliant authorizers to propose a plan outlining the necessary remedies needed to resolve the condition within fourteen days (Hastings et al., 2016, p. 48:3). For states that currently implement sufficient authorizer quality measures, it is important to continue reviewing their practices and regulations to certify that any new legislation does not interfere or obstruct such accountability measures.

Conclusion

Charter schools and the idea of school choice have been a relatively recent development in our education system in the last two decades. Although studies discussed in this article do discuss varying degrees of charter school student achievement, benefits and improvement are consistently found in urban charter schools serving low-income, minority students. If more charter schools are to grow to become mainstream, it is important to recognize how we can continue to promote equity in access and academic excellence of such effective charter schools.

The recommendations listed are assuredly not the only solutions. But by taking such steps, our education system will progress to not only provide parents and students with more quality school choices but also promote equity in areas that have struggled to do so and work to ensure that every child has access to a thorough and efficient education.

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⁴ It is important to also note that New Orleans has recently been transitioning all of its traditional public schools into charter schools in the wake of Hurricane Katrina's devastation.



References

- Abdulkadiroglu, A., Angrist, J. D., Dynarski, S. M., Kane, T. J., & Pathak, P. A. (2011). Accountability and flexibility in public schools: Evidence from boston's charters and pilots. *The Quarterly Journal of Economics*, 126(2), 699-748. https://doi.org/10.1093/qje/qjr017
- Aldis, C. L., & O'Leary, J. D. (2015, October). CREDO's latest findings: Virtual charter school students are not learning nearly enough. Thomas B. Fordham Institute. Retrieved July 30, 2022, from https://fordhaminstitute.org/national/commentary/credos-latest-findings-virtual-charter-school-students-are-not-learning-nearly
- The American Federation of Labor and Congress of Industrial Organizations. (2010, August 5). Fighting for the Importance of Public Education For Our Children, Our Economy, Our Communities and Our Future. AFL-CIO. Retrieved July 24, 2022, from https://aflcio.org/about/leadership/statements/fighting-importance-public-education-our-children-our-economy-our
- Angrist, J. D., Dynarski, S. M., Kane, T. J., Pathak, P. A., & Walters, C. R. (2010). Inputs and impacts in charter schools: KIPP lynn. *American Economic Review*, 100(2), 239-243. https://doi.org/10.1257/aer.100.2.239
- Batdorff, M., Maloney, L., May, J. F., Speakman, S. T., Wolf, P. J., & Cheng, A. (2014, April). *Charter School Funding: Inequity Expands*. Department of Education Reform, University of Arkansas. http://www.uaedreform.org/wp-content/uploads/charter-funding-inequity-expands.pdf
- Center for Education Reform. (n.d.). *Choice and Charter Schools*. Retrieved July 25, 2022, from https://edreform.com/2021/03/just-the-faqs-charter-schools/
- Center for Education Reform. (2011, December). *The Importance of Multiple Authorizers in Charter School Laws*. Retrieved July 25, 2022, from https://edreform.com/wp-content/uploads/2012/05/CERPrimerMultipleAuthorizersDec2011.pdf
- Center for Research on Education Outcomes. (2013). *National Charter School Study*. Stanford University. https://credo.stanford.edu/wp-content/uploads/2021/08/ncss 2013 final draft.pdf
- Center for Research on Education Outcomes. (2015). *Urban Charter School Study Report on 41 Regions*. Stanford University.

 http://urbancharters.stanford.edu/download/Urban%20Charter%20School%20Study%20Report%20on%2041%20Regions.pdf
- Chabrier, J., Cohodes, S., & Oreopoulos, P. (2016). What can we learn from charter school lotteries? *Journal of Economic Perspectives*, 30(3), 57-84. https://doi.org/10.1257/jep.30.3.57
- Chen, G. (2022, June 22). *An Overview of the Funding of Public Schools*. Public School Review. Retrieved July 24, 2022, from https://www.publicschoolreview.com/blog/an-overview-of-the-funding-of-public-schools
- Churchill, A. (2015, January 12). *Straightening the record on charters and local tax revenue*. Thomas B. Fordham Institute. Retrieved August 7, 2022, from https://fordhaminstitute.org/ohio/commentary/straightening-record-charters-and-local-tax-revenue
- Clark, M. A., Gleason, P. M., Tuttle, C. C., & Silverberg, M. K. (2015). Do Charter Schools Improve Student Achievement? *Educational Evaluation and Policy Analysis*, *37*(4).



- Cohodes, S. R., Setren, E. M., Walters, C. R., Angrist, J. D., & Pathak, P. A. (2013, October). *Charter School Demand and Effectiveness: A Boston Update*. Boston Foundation. https://seii.mit.edu/wp-content/uploads/2013/10/Charter-School-Demand-and-Effectiveness.pdf
- Davis, M., & Heller, B. (2019). No excuses charter schools and college enrollment: New evidence from a high school network in chicago. *Education Finance and Policy*, *14*(3), 414-440. https://doi.org/10.1162/edfp_a_00244
- Egalite, A. J. (n.d.). *The National Charter School Landscape*. Hoover Institution. https://www.hoover.org/sites/default/files/research/docs/egalite_webreadypdf_revised.pdf
- Electronic Classroom of Tomorrow v. Ohio State board of Education, 182 N.E. 1170 (Oct. 5, 2021).
- Gartner, J. (n.d.). *Where Does Education Funding Come From and How Is It Spent?* Allovue. Retrieved July 24, 2022, from https://blog.allovue.com/where-does-education-funding-come-from?hsLang=en
- Gleason, P., Clark, M., Tuttle, C. C., & Dwoyer, E. (2010, June). *The Evaluation of Charter School Impacts:*Executive Summary. NCEE 2010-4029, National Center for Education Evaluation and Regional Assistance,
 Institute of Education Sciences, US Department of Education.

 https://ies.ed.gov/ncee/pubs/20104029/pdf/20104030.pdf
- Gleason, P. M., Tuttle, C. C., Gill, B., Nichols-barrer, I., & Teh, B.-R. (2014). Do KIPP schools boost student achievement? *Education Finance and Policy*, 9(1), 36-58. https://doi.org/10.1162/EDFP a 00119
- Harris, D. N., Valent, J., & Gross, B. (2015). The New Orleans OneApp: Centralized enrollment matches students and schools of choice. *Education Next*, 15(4), 17-22.
- Hastings, S. C., Jaffe, D. A., Manaloff, R. D., & Sharb, M. L. (2016). *Ohio School Law* (2016-2017 ed.). Thomson Reuters.
- McClory, E. (2022, June 15). Wide-ranging education bill headed to DeWine's desk. *Dayton Daily News*. https://www.daytondailynews.com/local/wide-ranging-education-bill-headed-to-dewines-desk/T2KG34EGX5B63NVA66CG36EWRA/
- National Center for Education Statistics. (2022). Public School Revenue Sources. *Condition of Education*. U.S. Department of Education, Institute of Education Sciences. https://nces.ed.gov/programs/coe/indicator/cma
- Peterson, P. E. (2020, November). *Toward Equitable School Choice*. Hoover Institution. https://www.hoover.org/sites/default/files/research/docs/peterson_webready.pdf
- White, J., & Hieronimus, M. (2022, May 22). *How Many Charter Schools and Students Are There?* National Alliance for Public Charter Schools. Retrieved July 22, 2022, from https://data.publiccharters.org/digest/charter-school-data-digest/how-many-charter-schools-and-students-are-there/
- Winters, M. A. (2015, December 10). *Narrowing The Charter- Enrollment Gap: Denver's Common- Enrollment System*. Manhattan Institute. https://media4.manhattan-institute.org/sites/default/files/R-MW-1215.pdf