

Funding Students Instead of Institutions

The Economic Impacts of Universal
Education Savings Accounts in Georgia



Corey A. DeAngelis, Ph.D.



**Funding Students Instead of Institutions:
The Economic Impacts of Universal Education Savings Accounts in Georgia**

Corey A. DeAngelis, Ph.D.

Director of School Choice, Reason Foundation

Executive Director, Educational Freedom Institute

Adjunct Scholar, Cato Institute

Corey.DeAngelis@gmail.com

ORCID: 0000-0003-4431-9489

January 27, 2021

Executive Summary

The COVID-19 pandemic has put a spotlight on the massive power imbalance in K-12 public education in Georgia. Private businesses, including private schools and daycares, have already opened, or are fighting to reopen. Many public schools have been fighting for the opposite. A nationwide survey also found that private schools and public charter schools generally adapted better to remote learning than district-run public schools in the spring of 2020.¹ A primary difference is one of incentives. One of these sectors receives funding from families regardless of how well they meet their needs and, in this case, regardless of whether the institutions even open their doors for business.

The solution to this uneven power dynamic is to fund students directly so that institutions have real incentives to cater to the needs of families. Funding students, as opposed to systems, would benefit families by empowering them to choose the education provider that best meets their needs – public or private, in-person or remote.

But what kinds of economic impacts would such a policy have overall?

This report reviews the evidence on the topic and estimates the long-term economic impacts of funding Georgia students directly through a statewide education savings account program. This report also debunks some of the most common myths in the school choice debate.

Applying cautious estimates from each outcome (academic achievement, educational attainment and crime reduction), this study finds that an education savings account program serving 5% of Georgia students would be expected to provide the following long-run economic benefits:

- \$1.7 billion in economic benefits from higher lifetime earnings associated with increases in academic achievement
- \$1 billion in economic benefits from additional high school graduates
- \$13 million from reductions in the social costs associated with crimes

While education savings account programs vary in size, this study estimates the benefits of a program serving 5% of the student population. These estimated economic benefits arguably should not be combined and should be assessed separately because of potential overlap. For example, higher academic achievement increases the likelihood of high school graduation, and receiving a high school diploma reduces the likelihood of incarceration. It is also possible that results would differ in Georgia based on context, geographic location and implementation. Readers should therefore exercise considerable caution when examining these types of economic forecasts. That said, the preferred models in this study rely on cautious assumptions about the estimated effectiveness of expanding access to private school choice programs in Georgia.

¹ Private Schools Are Adapting to Lockdown Better Than the Public School Monopoly. Reason Magazine. Retrieved from <https://reason.com/2020/07/17/private-schools-are-adapting-to-lockdown-better-than-the-public-school-monopoly/>

Introduction

The COVID-19 pandemic shined a light on the reality that families are essentially powerless when it comes to K-12 education in Georgia. It's one thing for many district-run public schools to fail to meet the needs of families year after year. But the situation got even worse for families in 2020. Many district-run public schools retained children's education funding despite the fact that they did not give families the option of in-person instruction. According to data published by Education Week in September 2020, eight of the 10 largest public school districts in Georgia were not planning on providing in-person learning options to any students.² MCH Strategic Data similarly indicates that, according to its database, only about 19% of the public school districts in the state were planning to reopen with full-time, in-person instruction.³

This response was in stark contrast to the response from other sectors. A nationally representative survey found that teachers at private schools and public charter schools were over twice as likely to meet with students each day than teachers at district-run public schools during the spring 2020 school closures (Henderson et al., 2020). Parents of students in private schools and public charter schools similarly reported substantially higher levels of satisfaction with the instruction provided during the closures than parents of children in district-run public schools. These results make sense. The leaders of private schools and public charter schools understand that families can walk away if they do not deliver.

Private businesses, including private schools and daycares, have already opened or have been fighting to reopen. Many public schools have been fighting for the opposite. A primary difference is one of incentives. One of these sectors receives funding from families regardless of how well they meet their needs and, in this case, regardless of whether the institutions even open their doors for business. Imagine if your neighborhood grocery store received the same amount of money from your family each week regardless of whether it opened its doors. That grocery store would have a much different set of incentives than it has today. Indeed, it would have a particularly strong incentive to keep its doors closed since providing goods and services is costly and families would not have the option to take their money elsewhere. That does not mean the leaders of such institutions have bad motives – it just means that monopoly power reduces the incentive to cater to the needs of individual families (Chubb & Moe, 1988; DeAngelis & Holmes Erickson, 2018; DeAngelis & Makridis, 2020; Friedman, 1955). This uneven power dynamic favoring institutions over families is arguably the main problem with the K-12 education system in the United States.

Funding students directly, instead of school systems, would remedy this power imbalance by giving families access to meaningful alternatives. Many other taxpayer-funded initiatives already direct funding to individuals instead of institutions. Pell Grant and GI Bill funding for higher education goes to individual students who are then able to take those dollars to the public or private college or university of their choosing. The same is true for many state-funded pre-K programs, including Georgia's Pre-K Program. In Georgia, the pre-K education dollars follow children to the public or private provider of their choosing, which also includes for-profit childcare learning centers.⁴ Taxpayers fund families directly when it comes to food stamps as well. The government does not force low-income families to spend their food stamp dollars at residentially assigned, government-run grocery stores. Instead, the funding goes to individual families who can then take that money to Walmart, Whole Foods, Trader Joe's, Safeway, or just about any other provider of their choosing. This logic also applies to programs such as Medicaid and Section 8 housing vouchers. We should do the same thing when it comes to K-12 education and fund students directly.

² School Districts' Reopening Plans: A Snapshot. Education Week. Retrieved from <https://www.edweek.org/ew/section/multimedia/school-districts-reopening-plans-a-snapshot.html>

³ COVID-19 IMPACT: School District Status Updates for Fall 2020. MCH Strategic Data. Accessed on Nov. 23, 2020. Retrieved from <https://www.mchdata.com/covid19/schoolclosings>

⁴ Program Components. Georgia's Pre-K. Georgia Department of Early Care and Learning. Retrieved from <http://www.dec.state.ga.gov/PreK/ProgramComponents.aspx>

Georgia already has some things right when it comes to funding students instead of systems. Georgia families have access to two private school choice programs that fund students.

- The Georgia Special Needs Scholarship Program, enacted and launched in 2007, served 4,873 students in the 2018-19 school year.⁵ Students must have been enrolled in a Georgia public school for the entire previous school year and must have received special education services under an Individualized Education Plan in order to qualify for the program. About 10% of K-12 students in Georgia are eligible for this program. The average amount of state funding received by students with special needs participating in the program was \$6,814, about 55% of the average amount spent per student in the state's public schools (\$12,304) according to the latest data from the U.S. Census Bureau (2018).
- Georgia's Qualified Education Expense Tax Credit, enacted and launched in 2008, served 13,895 students in the 2018-19 school year.⁶ This program is available to all students in the state who were enrolled in a public school for at least six weeks prior to receiving a scholarship, or about 89% of K-12 students in Georgia. Although the vast majority of students are eligible for this program, the state caps the amount of available tax credits, which effectively limits the number of scholarships to about 2% of students in Georgia. The scholarships are allowed to be funded at \$10,387 per student, but the average scholarship amount was only \$4,008 in the most recent school year, or about a third of the average per student spending amount in the state's public schools – likely because of this cap on funding.

These two programs are a step in the right direction toward empowering families. However, the eligibility and funding limitations of these programs mean that only 1.1% of the school-age population actually use them (Catt, 2020). If Georgia funded students directly, instead of funding institutions, all families would have the opportunity to choose the providers of educational services that work best for their children. A statewide education savings account program would empower all families and prioritize the needs of students over the system that is supposed to serve them.

But what kinds of effects would funding students directly have on broader society? This report estimates the long-term economic impacts of funding Georgia students directly that are associated with expected improvements in academic achievement, educational attainment and crime reduction.

Academic Achievement

Seventeen random-assignment evaluations have examined the effects of private school choice programs on math or reading test scores in the United States. Similar to medical trials, random-assignment evaluations of private school choice programs largely eliminate selection bias because all students in the treatment and control groups chose to enter the lottery. Given a large enough sample size, and effective random assignment, we can be fairly confident the group of students who won the lottery to attend a private school is roughly equivalent to the group of students who lost the lottery on all background characteristics such as income, family structure and motivation.

The majority of the 17 random-assignment studies on the topic find some evidence of positive effects of private school choice programs on students' math or reading test scores (DeAngelis & Wolf, 2019b; EdChoice, 2020; Egalite & Wolf, 2016; Wolf & Egalite, 2019). Specifically, 10 of the 17 experimental studies detect statistically significant positive effects on math or reading test scores overall or for student subgroups (Barnard et al., 2003; Cowen, 2008; Greene, 2000; Greene, Peterson & Du, 1999; Jin et al., 2010; Howell et al., 2002 (three locations); Rouse, 1998; Wolf et al., 2013).

Four of the 17 studies do not detect any statistically significant effects on test scores (Bettinger & Slonim, 2006; Bitler et al., 2015; Krueger & Zhu, 2004; Webber et al., 2019). However, because private school

⁵ Georgia Special Needs Scholarship Program. EdChoice. Retrieved from <https://www.edchoice.org/school-choice/programs/georgia-special-needs-scholarship-program/>

⁶ Georgia Qualified Education Expense Tax Credit. EdChoice. Retrieved from <https://www.edchoice.org/school-choice/programs/georgia-qualified-education-expense-tax-credit/>

vouchers are publicly funded at substantially lower amounts than per pupil spending in district-run public schools, statistically insignificant results imply a positive return on investment for taxpayers (DeAngelis, 2019a; Shakeel, Anderson & Wolf, 2017). In the District of Columbia, for example, the average voucher amount is about \$9,531 per year,⁷ whereas per pupil spending in district-run public schools is about \$28,000 each year.⁸ In other words, the latest evaluation of the D.C. voucher program found that the private schools achieved the same math and reading results as the public schools at around a third of the cost (Webber et al., 2019).⁹ Only two of the 17 studies, both of the highly regulated Louisiana Scholarship Program, find negative effects on math or reading test scores (Abdulkadiroğlu, Pathak & Walters, 2018; Mills & Wolf, 2019). One study found mixed results (Lamarche, 2008).

Shakeel, Anderson and Wolf (2016) conducted a meta-analysis including 15 of these experimental evaluations and concluded that private school choice programs increased or had no effect on academic achievement in the United States. The overall average math and reading effects across all studies, calculated by Shakeel, Anderson and Wolf (2016), ranged from 0% of a standard deviation to 7% of a standard deviation.

Zimmer et al. (2019) recently summarized the random assignment evaluations of public charter schools in the United States and similarly concluded that “lottery-based analyses have generally shown strong positive effects on student achievement of charter school admission and enrollment.” Betts and Tang (2019) similarly performed a systematic review and meta-analysis of 38 rigorous studies and found that public charter schools increased reading achievement by 2% of a standard deviation and increased math achievement by 3.3% of a standard deviation. The Center for Research on Education Outcomes (CREDO) (2015) found that public charter schools in Atlanta increased reading achievement by 3.1% of a standard deviation and increased math achievement by 1.8% of a standard deviation.¹⁰

To link the potential achievement effects of private school choice in Georgia to changes in lifetime earnings, I combine the academic achievement literature with findings from Stanford University economist Eric Hanushek. Hanushek (2011) observed that an increase in student achievement of one standard deviation is associated with a 13% increase in lifetime earnings.¹¹ Following the methodology from previous evaluations (e.g., DeAngelis, 2018; DeAngelis, 2020a; DeAngelis, 2020b; DeAngelis, 2020c; DeAngelis, 2020d; DeAngelis et al., 2019; DeAngelis & DeGrow, 2018; DeAngelis & Flanders, 2018; Wolf et al., 2014), because 70% of learning is retained from one year to the next (Hanushek, 2011), it is possible to forecast the potential effects of private school choice programs on lifetime earnings.

Using the more cautious estimate of the effects of school choice on student achievement reported by CREDO (2015) – a 1.8% of a standard deviation positive effect on math scores – the following two equations can be used to forecast the possible effects of private school choice on lifetime earnings in Georgia:

$$\text{Avg Lifetime Earnings} * [1 + (0.018) * (0.13/SD) * (0.70)]^{13} = \text{Expected Lifetime Earnings} \quad (1)$$

$$\text{Expected Lifetime Earnings} - \text{Avg Lifetime Earnings} = \text{Gain in Lifetime Earnings} \quad (2)$$

To calculate the net present value of lifetime earnings in 2020 dollars, I assume that each student will work for 46 years, or from ages 25 to 70. Using a discount rate of 3%, and the median wage in Georgia in

⁷ School Choice – District of Columbia Opportunity Scholarship Program. EdChoice. Retrieved from <https://www.edchoice.org/school-choice/programs/district-of-columbia-opportunity-scholarship-program/>

⁸ Revenues and Expenditures for Public Elementary and Secondary Education: School Year 2014–15 (Fiscal Year 2015). National Center for Education Statistics. Retrieved from <https://nces.ed.gov/pubs2018/2018301.pdf>

⁹ DeAngelis, C. A. (2019). School choice works – for a third of the cost. Washington Examiner. Retrieved from <https://www.washingtonexaminer.com/opinion/school-choice-works-for-a-third-of-the-cost>

¹⁰ CREDO (2013) found mixed results for public charter schools in the whole state of Georgia. In this study, public charter school attendance in Georgia was associated with 14 additional “days of learning” in reading but 14 fewer “days of learning” in math.

¹¹ Chetty, Friedman, and Rockoff (2014) found similar results to Hanushek (2011). The estimated relationship between academic achievement and lifetime earnings found by Chetty, Friedman, and Rockoff (2014) only differed from Hanushek (2011) by around two-percentage points.

2019 (\$36,930)¹² from the U.S. Department of Labor Bureau of Labor Statistics, the net present value of median lifetime earnings in Georgia is \$918,939. This number is the best approximation available for the expected lifetime earnings of individuals educated in district-run public schools in the state, given that about 86% of students attend district-run public schools in Georgia.¹³

Inserting this information into equation (1) produces an expected lifetime earnings of \$938,700 for students attending private schools for their entire K-12 education. Inserting this information into equation (2) produces an expected gain in lifetime earnings of \$19,761 for each child using a private school choice program in the state.

$$\$918,939 * [1 + (0.018) * (0.13/SD) * (0.70)]^{13} = \$938,700 \quad (1)$$

$$\$938,700 - \$918,939 = \$19,761 \quad (2)$$

According to the National Center for Education Statistics, 1,767,200 students were projected to be enrolled in public K-12 schools in Georgia in the 2021-22 school year.¹⁴ If Georgia were to design a program that served 5% of the population of students, 88,360 students would benefit from additional educational options in the first year.¹⁵ An additional \$19,761 in lifetime earnings for each student accessing the program would amount to an economic benefit of about \$1.7 billion (88,360 x \$19,761).

These projected results can be found in Table 1. Results are also reported for models based on the larger positive results for reading test scores found in Atlanta by CREDO (2015) and for math and reading test scores reported by Betts and Tang (2019) (Columns 4 through 6 in Table 1).

Table 1: Projected Increases in Enrolled Students and Lifetime Earnings (In Billions of 2020 Dollars)

Year	Students	CREDO (2015) – Math	CREDO (2015) – Reading	Betts & Tang (2020) – Math	Betts & Tang (2020) – Reading
2021-22	88,360	\$1.7	\$3.0	\$3.2	\$1.9

Source: Author's calculations

The estimates of economic benefits reported in this section should be assessed with caution because effects on standardized test scores may not always be strong proxies for effects on lifetime earnings. Although studies such as Hanushek (2011) and Chetty, Friedman, Rockoff (2014) suggest that higher standardized test scores tend to be associated with higher earnings, two reviews of the school choice literature suggest that schools' effects on standardized test scores often do not successfully predict their effects on long-term outcomes such as educational attainment (DeAngelis, 2019a; Wolf, Hitt & McShane, 2018).

¹² May 2019 State Occupational Employment and Wage Estimates – Georgia. Bureau of Labor Statistics. United States Department of Labor. Retrieved from https://www.bls.gov/oes/current/oes_ga.htm

¹³ Catt, D. (2020). U.S. states ranked by educational choice share, 2019. EdChoice. Retrieved from <https://www.edchoice.org/engage/u-s-states-ranked-by-educational-choice-share-2020/>

¹⁴ Enrollment in public elementary and secondary schools. Table 203.20. National Center for Education Statistics. Retrieved from https://nces.ed.gov/ipeds/data/ipeds-tables/dt19_203.20.asp?current=yes

¹⁵ The 5% participation rate is based on data from the D.C. Opportunity Scholarship Program, when launched in 2004-05 and the Milwaukee Parental Choice Program when expanded in 1998-99 (DeAngelis & Wolf, 2016; Wolf et al., 2008; Wolf, 2012).

Educational Attainment

Educational attainment includes high school graduation, college enrollment, college persistence and college completion. The evidence linking private school choice programs to these educational attainment outcomes leans positive. Foreman (2017) reviewed this evidence and found that all five studies on the subject indicated statistically significant positive effects of private school choice programs on at least one educational attainment outcome overall or for subgroups of students. EdChoice (2020) similarly found that four out of six rigorous studies on the subject indicated attainment benefits of private school choice programs in the United States overall or for student subgroups. None of the reviewed studies found negative effects of private school choice programs on attainment outcomes overall or for student subgroups.

Most recently, DeAngelis and Wolf (2019b) reviewed the literature on private school choice and educational attainment and found eight rigorous evaluations on the subject. Six of the eight evaluations found statistically significant positive effects of private school choice programs on at least one measure of educational attainment overall or for student subgroups (Cheng, Chingos & Peterson, 2019; Chingos, Monarrez & Kuehn, 2019; Chingos & Peterson, 2015; Cowen et al., 2013; Wolf et al., 2013; Wolf, Witte & Kisida, 2019). For example, Wolf et al. (2013) found that winning a lottery to use a voucher to attend a private school in the District of Columbia increased the likelihood of graduating from high school by 21 percentage points. Cowen et al. (2013) found that students using the Milwaukee Parental Choice Program were about 4 percentage points more likely to graduate from high school than their carefully matched peers in public schools. The two remaining evaluations did not find any statistically significant effects of school choice on educational attainment overall in Louisiana (Holmes Erickson, Mills & Wolf, 2019) or the District of Columbia (Chingos, 2018).

Holmes Erickson and Scafidi (2020) conducted the only study linking a private school choice program to attainment outcomes in Georgia. The researchers found that students participating in Georgia's Greater Opportunities for Access to Learning (GOAL) Scholarship Program had a 17-percentage-point higher likelihood (99% versus 82%) of graduating from high school and a 19-percentage-point higher likelihood (87% versus 68%) of enrolling in college than students in the state's public schools overall. The researchers found these attainment advantages were even more pronounced for students who qualified for the federal free or reduced-price lunch program. Scholarship students in this subgroup had a 21-percentage-point higher likelihood (98% versus 77%) of graduating from high school and a 26-percentage-point higher likelihood (84% versus 58%) of enrolling in college than their peers in public schools.

In a commentary on their study, Holmes Erickson and Scafidi also reported significantly higher educational attainment across racial and ethnic groups among GOAL students relative to their peers in public schools.¹⁶ For example, black students using GOAL scholarships had an 18-percentage-point higher likelihood of graduating from high school than black students in public schools. This difference in the likelihood of high school graduation favoring GOAL students was 22 percentage points for Hispanic students, 13 percentage points for white students, and 16 percentage points for students from other racial backgrounds.

Although these findings are Georgia-specific, the researchers were not able to control for differences in student background characteristics because they did not have student-level data on public school students. If the GOAL students were more advantaged than students in the comparison group in unobserved ways, the estimated effects on attainment would be higher, and vice versa.

Bluestone and Warner (2018) found that attending a public charter school in Georgia increased the likelihood of high school graduation by 4 percentage points and increased the likelihood of enrolling in college by 6 percentage points. The researchers also found that students in public charter schools were 8 percentage point more likely to persist in college for two consecutive semesters and were 2 percentage

¹⁶ Holmes Erickson, H., & Scafidi, B. (2020). Analysis of Georgia's Tax Credit Scholarship Program Is Based on Evidence. Education Economics Center at Kennesaw State University. Retrieved from <https://coles.kennesaw.edu/education-economics-center/docs/Erickson-and-Scafidi-response.pdf>

points more likely to earn a college degree or certificate than their carefully matched peers in nearby district-run public schools.

It is possible to forecast expected economic benefits associated with access to private school choice in Georgia by linking these estimates to information about the economic value of additional high school graduates. High school graduates produce economic benefits to society through higher productivity, additional tax revenues from higher earnings, and reductions in social costs associated with tax-funded healthcare, crime and welfare. Vining and Weimer (2019) estimated the net present value of an additional high school graduate at about \$300,000. Levin (2009) estimated the net present value of economic benefits associated with an additional high school graduate was \$209,100 in 2004 dollars. According to the U.S. Department of Labor's Bureau of Labor Statistics, Levin's (2009) estimate for the economic value of an additional high school graduate is equal to about \$291,262 in 2020 dollars after adjusting for inflation. This analysis relies on the more cautious estimate found by Levin (2009).

As stated earlier, although the large positive estimates found by Holmes Erickson and Scafidi (2020) apply directly to Georgia, the researchers were not able to control for differences in student backgrounds. This study's preferred model relies on the smaller positive results found by Cowen et al. (2013) to provide cautious estimates of economic impacts. These results suggest private school choice could increase high school graduation rates by at least 4 percentage points in Georgia. This result is also similar to Bluestone and Warner's (2018) finding that Georgia's public charter schools increased high school graduation rates by 4 percentage points relative to traditional public schools. The estimates from Levin (2009) and Cowen et al. (2013) can be combined with the expected number of students using private school choice programs in Georgia each year to forecast economic benefits. Equations (3) and (4) show the forecasted economic benefits accrued by the 88,360 students that would benefit from the program in the 2021-22 school year if Georgia were to design a program that served 5% of the student population.

$$88,360 \text{ students} * 0.04 = \mathbf{3,534} \text{ additional graduates} \quad (3)$$

$$3,534 \text{ additional graduates} * \$291,262 = \mathbf{\$1 \text{ billion}} \text{ in economic benefits} \quad (4)$$

As shown in equation (3), a 4-percentage-point increase in high school graduation rates would be expected to produce 3,534 additional high school graduates. Equation (4) estimates that a 3,534-student increase in high school graduates would be expected to translate to about \$1 billion in additional economic benefits over their lifetimes (Table 2). Results are also reported for a model based on the larger positive result found by Holmes Erickson and Scafidi's (2020) evaluation of Georgia's GOAL scholarship program (Columns 5 and 6 in Table 2).

Table 2: Projected Increases in High School Graduates and Economic Benefits

Year	Students	Cowen et al. (2013)		Holmes Erickson & Scafidi (2020)	
		Additional High School Graduates	Additional Economic Benefits (Billions of 2020 Dollars)	Additional High School Graduates	Additional Economic Benefits (Billions of 2020 Dollars)
2021-22	88,360	3,534	\$1.03	15,021	\$4.38

Source: Author's calculations

Crime Reduction

School choice programs could reduce crime through competitive pressures to improve behavioral outcomes, improvements in discipline policies, and by providing access to cultures and peer groups that discourage risky behaviors (DeAngelis & Wolf, 2019a). Six rigorous peer-reviewed studies link access to school choice to crime outcomes in the United States. Each of the six studies finds statistically significant positive effects on crime reduction overall or for subgroups of students (DeAngelis & Wolf, 2019a; DeAngelis & Wolf, 2020; Deming, 2011; Dills & Hernández-Julián, 2011; Dobbie & Fryer, 2015; McEachin et al., 2020).¹⁷ The two random-assignment studies on the topic both find that winning a school choice lottery largely reduces incarceration rates for male students (Deming, 2011; Dobbie & Fryer, 2015). For example, Dobbie and Fryer (2015) found that winning a lottery to attend a public charter school in New York City reduced incarceration for male students by 4.4 percentage points. Deming (2011) found that winning a lottery to attend a public school of choice reduced criminal activity by about 50% for high-risk male students. DeAngelis and Wolf (2019a) similarly found that students who used the Milwaukee Parental Choice Program for at least four years were around 3 percentage points less likely to be found guilty of a felony than their carefully matched peers in nearby public schools.

McEachin et al. (2020) found that North Carolina students entering public charter schools in the ninth grade were 0.9 percentage points less likely to commit any crimes, 0.7 percentage points less likely to be convicted of a misdemeanor, and 0.4 percentage points less likely to be convicted of a felony than their matched peers in traditional public schools. McEachin et al. (2020) also found that students who stayed in a public charter school in the ninth grade relative to those who switched back to traditional public schools in the same year were marginally less likely to be convicted of any crimes. McEachin et al. (2020) also found evidence suggesting access to public charter schools improved other behavioral outcomes by reducing chronic absenteeism and suspensions.

The costs of crimes can be divided into four categories: direct economic losses suffered by victims, indirect losses suffered by victims, criminal justice system costs, and negative effects on job prospects and productivity for criminals (McCollister, French & Fang, 2010). Based on the average social costs of crimes estimated by McCollister, French and Fang (2010) and the average social cost of a felony estimated by Flanders and DeAngelis (2018), it is possible to forecast the economic impact of private school choice in Georgia. Using the sample of crimes reported in a longitudinal evaluation of the Milwaukee voucher program, Flanders and DeAngelis (2018) estimated the average cost of a felony to be \$35,950 in 2017 dollars, or about \$37,800 in 2020 dollars.

Using the more cautious estimate of a 0.4-percentage point reduction in felonies found by McEachin et al. (2020), equations (5) and (6) can be used to forecast economic benefits:

$$88,360 \text{ students} * -0.004 = \mathbf{353 \text{ fewer felons}} \quad (5)$$

$$353 \text{ fewer felons} * \$37,800 = \mathbf{\$13 \text{ million in economic benefits}} \quad (6)$$

If we observe similar crime-reducing benefits in Georgia, access to education savings accounts could be associated with a reduction of around 353 felons if the program served 5% of the student population in the first year. This reduction in felons would be expected to produce about \$13 million in economic benefits by reducing the social costs associated with crimes. Results are also reported for a model based on the larger positive result found by DeAngelis and Wolf's (2019a) evaluation of a private school choice program in Milwaukee. (Columns 5 and 6 in Table 3).

¹⁷ Duchini, Lavy, and Machin (2020) similarly found that a 10-percentage point expansion of charter-like converter academies in London was associated with a 3-percentage point reduction in juvenile property and violent crimes.

Table 3: Projected Reductions in Felons and Economic Benefits

Year	Students	<i>McEachin et al. (2020)</i>		<i>DeAngelis & Wolf (2019a)</i>	
		Reduction in Felons	Additional Economic Benefits (Millions of 2020 Dollars)	Reduction in Felons	Additional Economic Benefits (Millions of 2020 Dollars)
2021-22	88,360	353	\$13	2,651	\$100

Source: Author's calculations

Social Benefits

This report probably underestimates the true economic benefits of school choice initiatives because the above calculations do not capture social benefits associated with improved civic outcomes, satisfaction and equity. Allowing education dollars to follow children to the educational environment that works best for them has other benefits that are not easily quantifiable in terms of dollars and cents. For example, six reviews have summarized the rigorous literature linking school choice to civic outcomes such as political knowledge, political participation, voluntarism, civic engagement, charitable activity and tolerance of others. All six reviews find that access to private school choice generally improves civic outcomes (DeAngelis, 2017; DeAngelis & Wolf, 2019b; EdChoice, 2020; Greene, 2005; Wolf, 2007; Wolf, 2020).

Wolf (2007) reviewed 21 studies on the topic that reported 59 different findings. Wolf (2007) reported that a majority (33 of 59) of the findings indicated statistically significant positive effects of access to private and charter schools, whereas only three of the findings revealed the opposite. More recently, Wolf (2020) updated his initial review and found similar positive results. He found 34 studies reporting a total of 86 findings on the relationship between access to private schools and civic outcomes. He found a majority (50 of 86) of the findings demonstrated a statistically significant advantage for private schools relative to public schools. Three of the 86 findings indicated a statistically significant advantage for traditional public schools. The remaining 33 results indicated no statistically significant differences between sectors.

Limiting search results to rigorous evaluations of private school choice programs, DeAngelis (2017) performed a systematic review of the literature and found 11 evaluations on the topic. A majority of those evaluations found statistically significant positive effects of private school choice programs on civic outcomes. None of the evaluations found statistically significant negative effects overall. DeAngelis and Wolf (2019) updated this review and found that seven out of 12 studies on the topic detected statistically significant positive effects of private school choice on civic outcomes overall. None of the 12 studies detected statistically significant negative effects overall. EdChoice (2020) reviewed 11 studies on the topic and found six detected statistically significant positive effects and none reported negative effects.

Families choose specific educational alternatives for their children for a host of reasons. Parents consistently rank safety near the top of the list of their priorities when seeking educational options (Bedrick & Burke, 2018; Catt & Rhinesmith, 2017; Holmes Erickson, 2017; Kelly & Scafidi, 2013). DeAngelis and Wolf (2019) summarized the evidence linking private school choice to safety and found six studies on the topic, each reporting statistically significant positive effects on safety as reported by students, parents or principals. More recently, Schwalbach and DeAngelis (2020) reviewed the evidence and found 11 rigorous studies on the topic. Each found private school safety advantages as reported by parents, students or faculty (DeAngelis & Lueken, 2020; Dyehouse et al., 2020; Fan, Williams & Corkin, 2011; Farina, 2019; Howell & Peterson, 2006; Lleras, 2008; Shakeel & DeAngelis, 2018; Waasdorp et al., 2018; Webber et al., 2019; Witte et al., 2008; Wolf et al., 2010).

Families are overwhelmingly satisfied when they have access to private school choice. Rhinesmith (2017) found 19 studies linking private school choice to parental satisfaction, and each revealed positive effects. EdChoice (2020) more recently reviewed this body of evidence and found that 29 of 30 studies on the topic revealed a positive relationship between private school choice and parental satisfaction. Eight random-assignment studies each find that winning a lottery to use a private school choice program improved satisfaction as reported by students or their parents (Greene, 2001; Howell & Peterson, 2002 (four locations); Kisida & Wolf, 2015; Peterson & Campbell, 2001; Webber et al., 2019). Another study

using a nationally representative sample found “public charter schools and private schools outperform traditional public schools on six measures of parent and student satisfaction” after controlling for several differences in student and family background characteristics between sectors (DeAngelis, 2019b).

It is also possible that universal education savings accounts could save taxpayer funding because they are typically funded at an amount below what would have been spent in district-run public schools. For example, Holmes Erickson and Scafidi (2020) estimated that Georgia’s Qualified Education Expense (QEE) Tax Credit Scholarship Program saved taxpayers in the state about \$53.2 million in the 2018-19 school year. Lueken (2019) similarly estimated that the QEE program saved Georgia taxpayers about \$179 million between 2010-11 and 2017-18. EdChoice (2020) summarized the evidence and found that 49 of 55 studies on the topic indicate that private school choice programs save taxpayer money (e.g. Aud, 2007; Lueken, 2018; Trivitt & DeAngelis, 2020; Wolf & McShane, 2013).

School Choice Myth-Busting

Many myths in the school choice debate crumble under the slightest bit of scrutiny (DeAngelis & McCluskey, 2020). The most common myth by far is the claim that “school choice siphons money away from public schools.” The reality is that public schools siphon money away from families. School choice initiatives simply return that money to the hands of the people it is meant for – the students and their families. Families still have the opportunity to take those dollars back to the same district-run public school if they want. Imagine if someone claimed that allowing families to choose their grocery store “siphons money away from Safeway” or that allowing students to take their Pell Grants to private universities “siphons money away from state-run community colleges.” Everyone would understand those claims would be ridiculous because the funding does not belong to any particular institution. K-12 education funding similarly does not belong to any particular institution, public or private. Put simply, education funding is meant for educating children.

The argument that “school choice siphons away money from public schools” also raises a question: Why would giving families a choice result in less funding for public schools? This claim is an admission that defenders of the public school monopoly understand there are families that will choose alternatives when given a choice. If the public schools were meeting the needs of families then opponents of school choice would have nothing to fear. In fact, surveys find fewer than half of the families with students in district-run public schools would keep their children in them if given meaningful options to educate their children elsewhere (e.g. DiPerna, Catt & Shaw, 2020; Schultz, 2020). No wonder opponents of educational freedom fight so hard to prevent families from having an exit option.

There is another problem with this particular myth. Public schools are largely funded based on student enrollment in the nation, but not *completely* funded based on student enrollment. In Georgia, for example, only about 39% of funding is based on the number of students enrolled in the public school district.¹⁸ In other words, district-run public schools in Georgia get to keep substantial amounts of funding for children even after they leave to a private school. In this sense, district-run public schools financially benefit on a per student basis when students leave for private schools (DeAngelis & Trivitt, 2016; Holmes Erickson & Scafidi, 2020; Lueken & Scafidi, 2020; Scafidi, 2012). Imagine if Safeway were able to keep a substantial portion of your grocery funding each week after you started shopping at Trader Joe’s. That would be a fantastic deal for Safeway. District-run public schools, similarly, are getting a fantastic deal. Public schools should be happy they get to keep any money at all for students they no longer serve.

A related myth is that school choice would “harm the children left behind in public schools.” But it is also possible that the children who remain in district-run public schools will be better off for two reasons: District-run public schools end up with more money per student, and school choice competition incentivizes public schools to improve. A large body of evidence suggests competitive pressures from private school choice leads to improvements in outcomes for children who remain in the public school

¹⁸ Student-based allocation: Doling out dollars based on student needs. Edunomics Lab at Georgetown University. Retrieved from <https://edunomicslab.org/our-research/student-based-allocations/>

system (Ladner, 2020). This is likely because district-run public schools tend to change their approaches for the better to avoid losing any of the funding associated with students who choose to leave.

As EdChoice (2020) has documented, 26 of 28 studies on the topic find statistically significant positive effects of school choice competition on outcomes in public schools (e.g. Chakrabarti, 2013; Egalite & Mills, 2019; Figlio, Hart & Karbownik, 2020; Hoxby, 2000; Rouse et al., 2013). Egalite (2013) similarly found that 20 of 21 studies revealed positive effects of private school competition. More recently, the most comprehensive meta-analysis of the evidence on this topic found statistically significant positive effects on public schools overall (Jabbar et al., 2019). Put differently, private school choice is a rising tide that lifts all boats. As a result of competitive pressures, students do not even have to participate in school choice programs to benefit from them. This body of evidence is generally positive. But the right of families to choose the educational setting that works best for their own children should not hinge on the competitive response of a government-run institution. And besides, these kinds of arguments aren't used to prevent advantaged families from choosing the school that works best for their children. They should not be used to take similar opportunities away from less advantaged families, either.

Opponents of educational freedom argue that school choice leads to inequities. But trapping disadvantaged students in public schools that have been failing them for decades exacerbates inequities. Funding students directly leads to more equity by allowing more children to have educational opportunities. Advantaged families already have school choice. They are more likely to have the resources to pay for private education out of pocket or to purchase a residence that happens to be assigned to the best district-run public school in the area (Cheng, 2020). Inequities are inherent in the district-run public school system because of artificial barriers to accessing the best schools created by residential assignment and inequitable funding through property taxes. Parents have been fined or even thrown in jail for lying about their home address to get their children into better public schools (Lowrey, 2019). Advantaged families can even buy attendance at some top public school districts that charge tuition for students living outside their attendance zones (Barnard, 2019). In this way, many district-run public schools are not “public” in any meaningful sense of the word. They are not open to the public because they discriminate on the basis of ZIP code. They are not true “public goods” because they are excludable and rivalrous (DeAngelis, 2018).

Allowing the money to follow the child to the best educational setting leads to more equity because it allows less-advantaged families to access alternatives (Wolf, 2018). Universal school choice would lead to more equity as well, but the vast majority of existing private school choice programs are targeted to less-advantaged families by income, special need or the quality of their child's residentially assigned public school.¹⁹ Some studies also suggest that out of the relatively disadvantaged group of eligible families, the less-advantaged families are generally more likely to apply for access to school choice programs, perhaps because their children are less likely to be adequately served by their residentially assigned public schools (Anderson & Wolf, 2017; Hart, 2014; Figlio, Hart & Metzger, 2010).²⁰

Conclusion

This report estimates that funding all students directly through a statewide education savings account program would have substantial economic benefits. If Georgia were to design a program that served 5% of the student population, the most cautious model suggests that such a program would provide about \$1.7 billion in economic benefits from higher lifetime earnings associated with increases in academic achievement. This report also estimates that such a program would provide at least \$1 billion in economic benefits associated with additional high school graduates and \$13 million in economic benefits from crime reduction.

This report suggests funding students directly would provide substantial economic benefits to society. But the logic behind school choice goes beyond dollars and cents. The COVID-19 pandemic has illuminated

¹⁹ Who uses school choice programs? EdChoice. Retrieved from <https://www.edchoice.org/engage/faqs/who-uses-school-choice-programs/>

²⁰ DeAngelis, C. A. (2018). Vouchers tend to serve the less advantaged. Education Next. Retrieved from <https://www.educationnext.org/vouchers-tend-serve-less-advantaged/>

the power imbalance that exists between institutions and families when it comes to K-12 education in Georgia and the rest of the nation. Many families are scrambling to find alternatives to the system that holds on to their children's education dollars despite failing to meet their needs. These families are starting to realize they are getting a bad deal. Families are also understanding now more than ever that there are no legitimate reasons to fund institutions when we can fund students directly instead. In fact, the latest nationwide survey on the topic found that support for school choice surged by 10 percentage points between April and August – from 67% to 77% (Schultz, 2020).

It seems logically inconsistent for people to oppose funding students directly when it comes to K-12 education while supporting funding individuals directly when it comes to Pell Grants, pre-K programs and food stamps. The only way to explain this apparent logical inconsistency is the difference in power dynamics. Choice is the norm when it comes to higher education, pre-K and groceries. The norm in K-12 education is that institutions are guaranteed large portions of children's education dollars regardless of the wishes of individual families. This guarantee creates a special interest in protecting particular institutions by fighting against allowing families to take their children's education dollars elsewhere. That does not mean that those who push to protect the status quo have bad intentions. They are responding rationally to the incentives baked into the system. Now, however, it is time to prioritize and empower families by funding students directly.

About the author: Corey A DeAngelis, Ph.D., is Director of School Choice at Reason Foundation, Executive Director of the Educational Freedom Institute, and an Adjunct Scholar at Cato Institute.

About the Georgia Public Policy Foundation: Established in 1991, the Foundation is a trusted, independent resource for voters and elected officials. The Foundation provides actionable solutions to real-life problems by bringing people together. Nothing written here is to be construed as necessarily reflecting the views of the Georgia Public Policy Foundation or as an attempt to aid or hinder the passage of any bill before the U.S. Congress or the Georgia Legislature.

© Georgia Public Policy Foundation (January 27, 2020). Permission to reprint in whole or in part is hereby granted, provided the author and his affiliations are cited.

References

- Abdulkadiroğlu, A., Pathak, P. A., & Walters, C. R. (2018). Free to choose: can school choice reduce student achievement? *American Economic Journal: Applied Economics*, 10(1), 175-206.
- Anderson, K., & Wolf, P. (2017). Evaluating school vouchers: Evidence from a within-study comparison. EDRE Working Paper No. 2017-10. Retrieved from <https://ssrn.com/abstract=2952967>
- Aud, S. L. (2007). Education by the Numbers: The Fiscal Effect of School Choice Programs, 1990-2006. School Choice Issues in Depth. Milton & Rose D. Friedman Foundation. Retrieved from <http://www.edchoice.org/wp-content/uploads/2015/09/Education-by-the-Numbers-Fiscal-Effect-of-School-Choice-Programs.pdf>
- Barnard, C. (2019). Some People Are Buying Their Way Into Top Public Schools. That's Not How School Choice Should Work. Reason Magazine. Retrieved from <https://reason.com/2019/06/21/some-people-are-buying-their-way-into-top-public-schools-thats-not-how-school-choice-should-work/>
- Barnard, J., Frangakis, C. E., Hill, J. L., & Rubin, D. B. (2003). Principal stratification approach to broken randomized experiments: A case study of school choice vouchers in New York City. *Journal of the American Statistical Association*, 98(462), 299-323.
- Bedrick, J., & Burke, L. M. (2018). Surveying Florida scholarship families: Experiences and satisfaction with Florida's tax-credit scholarship program. EdChoice.
- Bettinger, E., & Slonim, R. (2006). Using experimental economics to measure the effects of a natural educational experiment on altruism. *Journal of Public Economics*, 90(8-9), 1625-1648.
- Betts, J. R., & Tang, Y. E. (2019). The effect of charter schools on student achievement. *School choice at the crossroads: Research perspectives*, 67-89.

- Bitler, M., Domina, T., Penner, E., & Hoynes, H. (2015). Distributional analysis in educational evaluation: A case study from the New York City voucher program. *Journal of Research on Educational Effectiveness*, 8(3), 419-450.
- Bluestone, P., & Warner, N. (2018). The Effects of Start-Up Charter Schools on Academic Milestones. The Center for State and Local Finance. Georgia State University. Retrieved from <https://cslf.gsu.edu/files/2018/05/Charter-Schools-Academic-Milestones-April-2018.pdf>
- Catt, A. D. (2020). U.S. States Ranked by Educational Choice Share, 2020. EdChoice. Retrieved from <https://www.edchoice.org/engage/u-s-states-ranked-by-educational-choice-share-2020/>
- Catt, A. D., & Rhinesmith, E. (2017). Why Indiana Parents Choose: A Cross-Sector Survey of Parents' Views in a Robust School Choice Environment. EdChoice. Retrieved from <https://eric.ed.gov/?id=ED579213>
- Center for Research on Education Outcomes (2013). National Charter School Study. Stanford, CA: Stanford University. Retrieved from https://credo.stanford.edu/sites/g/files/sbiybj6481/f/ncss_2013_final_draft.pdf
- Center for Research on Education Outcomes (2015). Urban Charter School Study Report on 41 Regions. Stanford, CA: Stanford University. Retrieved from <https://urbancharters.stanford.edu/summary.php>
- Chakrabarti, R. (2013). Impact of voucher design on public school performance: Evidence from Florida and Milwaukee voucher programs. *The BE Journal of Economic Analysis & Policy*, 14(1), 349-394.
- Cheng, A. (2020). Myth: School choice only helps the rich get richer. In C. A. DeAngelis & N. McCluskey (Eds.), *School choice myths: Setting the record straight on education freedom* (pp. 113-128). Washington, D.C.: Cato Institute.
- Cheng, A., Chingos, M. M., & Peterson, P. E. (2019). Experimentally Estimated Impacts of School Voucher on Educational Attainments of Moderately and Severely Disadvantaged Students. EdWorkingPaper No. 19-76. Annenberg Institute at Brown University.
- Chetty, R., Friedman, J. N., & Rockoff, J. E. (2014). Measuring the impacts of teachers II: Teacher value-added and student outcomes in adulthood. *American economic Review*, 104(9), 2633-79.
- Chingos, M. M. (2018). The effect of the DC school voucher program on college enrollment. Washington, D.C.: Urban Institute. Retrieved from <https://www.urban.org/research/publication/effect-dc-school-voucher-program-college-enrollment>
- Chingos, M. M., Monarrez, T., & Kuehn, D. (2019). The effects of the Florida Tax Credit Scholarship Program on college enrollment and graduation: An update. Washington, D.C.: Urban Institute. Retrieved from <https://www.urban.org/research/publication/effects-florida-tax-credit-scholarship-program-college-enrollment-and-graduation>
- Chingos, M. M., & Peterson, P. E. (2015). Experimentally estimated impacts of school vouchers on college enrollment and degree attainment. *Journal of Public Economics*, 122, 1-12.
- Chubb, J. E., & Moe, T. M. (1988). Politics, markets, and the organization of schools. *American Political Science Review*, 82(4), 1065-1087.
- Cowen, J. M. (2008). School choice as a latent variable: Estimating the “complier average causal effect” of vouchers in Charlotte. *Policy Studies Journal*, 36(2), 301-315.
- Cowen, J. M., Fleming, D. J., Witte, J. F., Wolf, P. J., & Kisida, B. (2013). School vouchers and student attainment: Evidence from a state-mandated study of Milwaukee’s parental choice program. *Policy Studies Journal*, 41(1), 147-168.
- DeAngelis, C. A. (2017). Do self-interested schooling selections improve society? A review of the evidence. *Journal of School Choice*, 11(4), 546-558.
- DeAngelis, C. A. (2018). Is Public Schooling a Public Good? An Analysis of Schooling Externalities. Policy Analysis No. 842. Cato Institute.
- DeAngelis, C. A. (2019a). Divergences between effects on test scores and effects on non-cognitive skills. *Educational Review*, DOI: 10.1080/00131911.2019.1646707
- DeAngelis, C. A. (2019b). School Sector and Satisfaction: Evidence from a Nationally Representative Sample. EdWorkingPaper No. 19-147. Annenberg Institute at Brown University. Retrieved from <https://www.edworkingpapers.com/sites/default/files/ai19-147.pdf>

- DeAngelis, C. A. (2020a). Economic impacts of school choice in Kentucky: Understanding the impact of charter schools on Louisville. A Pegasus Institute and Reason Foundation Report. Retrieved from https://923c91f5-6c37-4af9-ac8a-aca1b179cc9c.filesusr.com/ugd/45f2de_d847380cd2ef4d04984a87159df20e4f.pdf
- DeAngelis, C. A. (2020b). Funding Students Instead of Systems: The Economic Impacts of Statewide Education Savings Accounts in North Carolina. Civitas Institute.
- DeAngelis, C. A. (2020c). Kickstarting K-12 Education in Tennessee: Avenues for Systemic Transformation. Political Economy Research Institute at Middle Tennessee State University. Retrieved from <https://www.mtsu.edu/peri/docs/K12-Policy-Study.pdf>
- DeAngelis, C. A. (2020d). Unleashing Educational Opportunity: The Untapped Potential of Expanded Tax Credit Scholarships. Commonwealth Foundation. Retrieved from <https://www.commonwealthfoundation.org/policyblog/detail/unleashing-educational-opportunity>
- DeAngelis, C. A., & DeGrow, B. (2018). Doing more with less: The charter school advantage in Michigan. A Mackinac Center Report. Mackinac Center for Public Policy.
- DeAngelis, C. A., & Flanders, W. (2018). Counting dollars and cents: The economic impact of a statewide education savings account program in Tennessee. Beacon Center of Tennessee.
- DeAngelis, C. A., & Holmes Erickson, H. (2018). What leads to successful school choice programs: A review of the theories and evidence. *Cato Journal*, 38(1), 247-263.
- DeAngelis, C. A., & Lueken, M. F. (2020). School Sector and Climate: An Analysis of K–12 Safety Policies and School Climates in Indiana. *Social Science Quarterly*, 101(1), 376-405.
- DeAngelis, C. A., & Makridis, C. A. (2020). Are School Reopening Decisions Related to Union Influence? Available at SSRN 3684867. Retrieved from <https://ssrn.com/abstract=3684867>
- DeAngelis, C. A., & McCluskey, N. P. (2020). *School Choice Myths: Setting the Record Straight on Education Freedom*. Washington, D.C.: Cato Institute.
- DeAngelis, C. A., & Trivitt, J. R. (2016). Squeezing the public school districts: The Fiscal effect of eliminating the Louisiana scholarship program on state education expenditures. EDRE Working Paper 2016-10. Retrieved from <https://scholarworks.uark.edu/scdp/20/>
- DeAngelis, C., Wolf, P., Maloney, L., & May, J. (2019). A good investment: The updated productivity of public charter schools in eight US cities. EDRE Working Paper No. 2019-09.
- DeAngelis, C. A., & Wolf, P. J. (2016). Whether to Approve an Education Savings Account Program in Texas: Preventing Crime Does Pay. EDRE Working Paper No. 2016-20.
- DeAngelis, C. A., & Wolf, P. J. (2019a). Private school choice and crime: Evidence from Milwaukee. *Social Science Quarterly*, 100(6), 2302-2315.
- DeAngelis, C. A., & Wolf, P. J. (2019b). What does the evidence say about education choice? A comprehensive review of the literature. In L. M. Burke & J. Butcher (Eds.), *The Not-So-Great-Society*. Washington, DC: The Heritage Foundation.
- DeAngelis, C. A., & Wolf, P. J. (2020). Private School Choice and Character: More Evidence from Milwaukee. *Journal of Private Enterprise*, 35(3), 13-48.
- Deming, D. J. (2011). Better schools, less crime? *Quarterly Journal of Economics*, 126(4), 2063-2115.
- Dills, A. K., & Hernández-Julián, R. (2011). More choice, less crime. *Education Finance and Policy*, 6(2), 246-266.
- DiPerna, P., Catt, A., & Shaw, M. (2020). Schooling in America: K–12 Education and School Choice Reforms. Retrieved from <https://www.edchoice.org/research/schooling-in-america-k-12-education-and-school-choice-reforms/>
- Dobbie, W., & Fryer Jr, R. G. (2015). The medium-term impacts of high-achieving charter schools. *Journal of Political Economy*, 123(5), 985-1037.
- Duchini, E., Lavy, V., & Machin, S. (2020). Youth Crime in the Era of School Takeovers. Evidence from London Secondary School Academies. Retrieved from https://warwick.ac.uk/fac/soc/economics/staff/educhini/duchini_lavy_machin_school_autonomy_and_youth_crime.pdf
- Dyehouse, M., Benz, M., Kisa, Z., & Herrington, C. D. (2020). Parental Satisfaction and Experiences Regarding the Hope Scholarship Program 2018-19. Florida Department of Education. Retrieved from <http://www.fldoe.org/core/fileparse.php/5606/urlt/HopeEvalReport1819.pdf>

- EdChoice (2020). The 123s of school choice: What the research says about private school choice programs in America, 2020 edition. Retrieved from <https://www.edchoice.org/wp-content/uploads/2020/04/123s-of-SchoolChoice-2020.pdf>
- Egalite, A. J. (2013). Measuring competitive effects from school voucher programs: A systematic review. *Journal of School Choice*, 7(4), 443-464.
- Egalite, A. J., & Mills, J. N. (2019). Competitive impacts of means-tested vouchers on public school performance: Evidence from Louisiana. *Education Finance and Policy*.
- Fan, W., Williams, C. M., & Corkin, D. M. (2011). A multilevel analysis of student perceptions of school climate: The effect of social and academic risk factors. *Psychology in the Schools*, 48(6), 632-647.
- Farina, K. A. (2019). Promoting a Culture of Bullying: Understanding the Role of School Climate and School Sector. *Journal of School Choice*, 13(1), 94-120.
- Figlio, D. N., Hart, C., & Karbownik, K. (2020). Effects of Scaling Up Private School Choice Programs on Public School Students (No. w26758). National Bureau of Economic Research.
- Figlio, D., Hart, C. M., & Metzger, M. (2010). Who uses a means-tested scholarship, and what do they choose? *Economics of Education Review*, 29(2), 301-317.
- Flanders, W., & DeAngelis, C. A. (2018). Mississippi's game changer: The economic impacts of universal school choice in Mississippi. Mississippi State University Institute for Market Studies Working Paper.
- Foreman, L. M. (2017). Educational attainment effects of public and private school choice. *Journal of School Choice*, 11(4), 642-654.
- Friedman, M. (1955). *The role of government in education*. Collected Works of Milton Friedman Project records. Hoover Institution Archives, Stanford, CA.
- Greene, J. P. (2000). The effect of school choice: An evaluation of the charlotte children's scholarship fund program. *Civic Report*, 12, 1-15.
- Greene, J. P. (2001). Vouchers in Charlotte. *Education Matters*, 1(2), 55-60.
- Greene, J. P. (2005). *Education myths: What special interest groups want you to believe about our schools--and why it isn't so*. Rowman & Littlefield Publishers.
- Greene, J. P., Peterson, P. E., & Du, J. (1999). Effectiveness of school choice: The Milwaukee experiment. *Education and Urban Society*, 31(2), 190-213.
- Hanushek, E. A. (2011). The economic value of higher teacher quality. *Economics of Education Review*, 30(3), 466-479.
- Hart, C. M. (2014). Contexts matter: Selection in means-tested school voucher programs. *Educational Evaluation and Policy Analysis*, 36(2), 186-206.
- Holmes Erickson, H. (2017). How do parents choose schools, and what schools do they choose? A literature review of private school choice programs in the United States. *Journal of School Choice*, 11(4), 491-506.
- Holmes Erickson, H., Mills, J. N., & Wolf, P. J. (2019). The effect of the Louisiana Scholarship Program on college entrance. EDRE Working Paper No. 2019-12.
- Holmes Erickson, H., & Scafidi, B. (2020). An analysis of the fiscal and economic impact of Georgia's Qualified Education Expense (QEE) Tax Credit Scholarship Program. Education Economics Center at Kennesaw State University.
- Howell, W. G., Wolf, P. J., Campbell, D. E., & Peterson, P. E. (2002). School vouchers and academic performance: Results from three randomized field trials. *Journal of Policy Analysis and Management*, 21(2), 191-217.
- Howell, W. G., & Peterson, P. E. (2006). *The education gap: Vouchers and urban schools*. Washington, D.C.: Brookings Institution Press.
- Hoxby, C. M. (2000). Does competition among public schools benefit students and taxpayers? *American Economic Review*, 90(5), 1209-1238.
- Jabbar, H., Fong, C. J., Germain, E., Li, D., Sanchez, J., Sun, W. L., & Devall, M. (2019). The Competitive Effects of School Choice on Student Achievement: A Systematic Review. *Educational Policy*.

- Jin, H., Barnard, J., & Rubin, D. B. (2010). A modified general location model for noncompliance with missing data: Revisiting the New York City School Choice Scholarship Program using principal stratification. *Journal of Educational and Behavioral Statistics*, 35(2), 154-173.
- Kelly, J. P., & Scafidi, B. (2013). More than scores: An analysis of why and how parents choose private schools. Indianapolis, IN: The Friedman Foundation for Educational Choice.
- Kisida, B., & Wolf, P. J. (2015). Customer satisfaction and educational outcomes: Experimental impacts of the market-based delivery of public education. *International Public Management Journal*, 18(2), 265-285.
- Krueger, A. B., & Zhu, P. (2004). Another look at the New York City school voucher experiment. *American Behavioral Scientist*, 47(5), 658-698.
- Ladner, M. (2020). Myth: School choice harms children left behind in public schools. In C. A. DeAngelis & N. McCluskey (Eds.), *School choice myths: Setting the record straight on education freedom* (pp. 97-112). Washington, D.C.: Cato Institute.
- Lamarche, C. (2008). Private school vouchers and student achievement: A fixed effects quantile regression evaluation. *Labour Economics*, 15(4), 575-590.
- Levin, H. M. (2009). The economic payoff to investing in educational justice. *Educational Researcher*, 38(1), 5-20.
- Lleras, C. (2008). Hostile school climates: Explaining differential risk of student exposure to disruptive learning environments in high school. *Journal of School Violence*, 7(3), 105-135.
- Lowrey, A. (2019). Her Only Crime Was Helping Her Kids. The Atlantic. Retrieved from <https://www.theatlantic.com/ideas/archive/2019/09/her-only-crime-was-helping-her-kid/597979/>
- Lueken, M. F. (2018). The fiscal effects of tax-credit scholarship programs in the United States. *Journal of School Choice*, 12(2), 181-215.
- Lueken, M. F. (2019). Updated Fiscal Effects of Georgia's Qualified Education Expense Tax Credit. EdChoice. Retrieved from <https://www.aaascholarships.org/wp-content/uploads/2019/11/Updated-Fiscal-Effects-of-Georgias-QEE-Tax-Credit-Program-EdChoice-20190910.pdf>
- Lueken, M. F., & Scafidi, B. (2020). Myth: School choice siphons money from public schools and harms taxpayers. In C. A. DeAngelis & N. McCluskey (Eds.), *School choice myths: Setting the record straight on education freedom* (pp. 79-96). Washington, DC: Cato Institute.
- McCollister, K. E., French, M. T., & Fang, H. (2010). The cost of crime to society: New crime-specific estimates for policy and program evaluation. *Drug and Alcohol Dependence*, 108(1-2), 98-109.
- McEachin, A., Lauen, D. L., Fuller, S. C., & Perera, R. M. (2020). Social returns to private choice? Effects of charter schools on behavioral outcomes, arrests, and civic participation. *Economics of Education Review*, 76(June).
- Mills, J. N., & Wolf, P. J. (2019). *The effects of the Louisiana Scholarship Program on student achievement after four years*. EDRE Working Paper No. 2019-10.
- Peterson, P. E., & Campbell, D. E. (2001). An evaluation of the Children's Scholarship Fund. KSG Working Paper No. RWP02-020.
- Rhinesmith, E. (2017). A review of the research on parent satisfaction in private school choice programs. *Journal of School Choice*, 11(4), 585-603.
- Rouse, C. E. (1998). Private school vouchers and student achievement: An evaluation of the Milwaukee Parental Choice Program. *Quarterly Journal of Economics*, 113(2), 553-602.
- Rouse, C. E., Hannaway, J., Goldhaber, D., & Figlio, D. (2013). Feeling the Florida heat? How low-performing schools respond to voucher and accountability pressure. *American Economic Journal: Economic Policy*, 5(2), 251-81.
- Scafidi, B. (2012). The fiscal effects of school choice programs on public school districts. The Friedman Foundation for Educational Choice. Retrieved from <https://www.edchoice.org/wp-content/uploads/2015/07/The-Fiscal-Effects-of-School-Choice-Programs.pdf>
- Schultz, T. (2020). Support for School Choice Surges as Schools Start. RealClear Opinion Research. American Federation for Children. Retrieved from <https://www.federationforchildren.org/support-for-school-choice-surges-as-schools-start/>
- Schwalbach, J., & DeAngelis, C. A. (2020). School sector and school safety: a review of the evidence. *Educational Review*, DOI: 10.1080/00131911.2020.1822789

- Shakeel, M., Anderson, K., & Wolf, P. (2016). The participant effects of private school vouchers across the globe: A meta-analytic and systematic review. EDRE Working Paper No. 2017-07.
- Shakeel, M. D., Anderson, K., & Wolf, P. J. (2017). The juice is worth the squeeze: A cost-effectiveness analysis of the experimental evidence on private school vouchers across the globe. In APPAM International Conference, Brussels, Belgium.
- Trivitt, J. R., & DeAngelis, C. A. (2020). Dollars and Sense: Calculating the Fiscal Effects of the Louisiana Scholarship Program. *Journal of School Choice*, 14(3), 349-370.
- United States Census Bureau (2018). Table 11, Summary Tables, 2018 Public Elementary-Secondary Education Finance Data. Retrieved from <https://www.census.gov/data/tables/2018/econ/school-finances/secondary-education-finance.html>
- Waasdorp, T. E., Berg, J., Debnam, K. J., Stuart, E. A., & Bradshaw, C. P. (2018). Comparing social, emotional, and behavioral health risks among youth attending public versus parochial schools. *Journal of School Violence*, 17(3), 381-391.
- Webber, A., Rui, N., Garrison-Mogren, R., Olsen, R., & Gutmann, B. (2019). Evaluation of the DC Opportunity Scholarship Program: Impacts After Three Years. NCEE 2019-4006. National Center for Education Evaluation and Regional Assistance.
- Witte, J. F., Wolf, P. J., Cowen, J. M., Fleming, D. J., & Lucas-McLean, J. (2008). *MPCP longitudinal educational growth study: Baseline report*. SCDP Milwaukee Evaluation Report# 5. School Choice Demonstration Project.
- Wolf, P. J. (2007). Civics exam: Schools of choice boost civic values. *Education Next*, 7(3), 66-72.
- Wolf, P. J. (2012). The comprehensive longitudinal evaluation of the Milwaukee Parental Choice Program: Summary of final reports. School Choice Demonstration Project, University of Arkansas.
- Wolf, P. J. (2018). Programs benefit disadvantaged students. *Education Next*, 18(2).
- Wolf, P. J. (2020). Myth: Public schools are necessary for a stable democracy. In C. A. DeAngelis & N. McCluskey (Eds.), *School choice myths: Setting the record straight on education freedom* (pp. 39-58). Washington, D.C.: Cato Institute.
- Wolf, P. J., Gutmann, B., Puma, M., Kisida, B., Rizzo, L., & Eissa, N. (2008). Evaluation of the DC Opportunity Scholarship Program: Impacts after Two Years. Executive Summary. NCEE 2008-4024. National Center for Education Evaluation and Regional Assistance.
- Wolf, P. J., Gutmann, B., Puma, M., Kisida, B., Rizzo, L., Eissa, N., & Carr, M. (2010). Evaluation of the DC Opportunity Scholarship Program: Final Report. NCEE 2010-4018. Washington, D.C.: National Center for Education Evaluation and Regional Assistance. Retrieved from <https://eric.ed.gov/?id=ED510451>
- Wolf, P. J., Hitt, C., & McShane, M. Q. (2018). *Exploring the achievement-attainment disconnect in the effects of school choice programs*. Paper presented at the conference "Learning from the Long-Term Effects of School Choice in America" Program on Education Policy and Governance, Kennedy School of Government, Harvard University, Cambridge, MA. Retrieved from <https://sites.hks.harvard.edu/pepg/conferences/learning-from-longterm-effects-2018/papers/panel-ii-wolf-et-al.pdf>
- Wolf, P. J., Kisida, B., Gutmann, B., Puma, M., Eissa, N., & Rizzo, L. (2013). School Vouchers and Student Outcomes: Experimental Evidence from Washington, DC. *Journal of Policy Analysis and Management*, 32(2), 246-270.
- Wolf, P. J., & McShane, M. (2013). Is the juice worth the squeeze? A benefit/cost analysis of the District of Columbia opportunity scholarship program. *Education Finance and Policy*, 8(1), 74-99.
- Wolf, P. J., Witte, J. F., & Kisida, B. (2019). Do voucher students attain higher levels of education? Extended evidence from the Milwaukee Parental Choice Program. EdWorkingPaper No. 19-115. Annenberg Institute at Brown University.
- Zimmer, R., Buddin, R., Smith, S. A., & Duffy, D. (2019). Nearly three decades into the charter school movement, what has research told us about charter schools? EdWorkingPaper No. 19-156. Annenberg Institute at Brown University.