



Boosting Graduation Rates in Texas through Education Savings Accounts

by Dr. Patrick J. Wolf



Key Points

- Research indicates that attending a private Catholic school could completely eliminate the white-minority gap in graduation rates.
- Private school choice is one of the most demonstrably effective drop-out prevention programs in the U.S.
- Access to private schooling increases the likelihood of a student graduating from high school.
- High-quality statistical research has established that attending a private school increases a student's likelihood of earning a high school diploma.
- Low-income and minority students are likely to experience the largest increase in their graduation rates due to access to private school choice, thereby reducing inequalities in the Lone Star State.

Abstract

Graduating from high school is a crucial outcome for young people. Unfortunately, 12 percent of Texas students fail to earn the vital credential of a high school diploma. Private school choice has a proven track record of increasing graduation rates. In this study I draw upon prior research, Texas demographics, and conservative assumptions to forecast that the launch of a universal private school choice program in the form of Education Savings Accounts in the fall of 2017 would generate 11,809 additional high school graduates in the Lone Star State by 2022. In other words, **of those students attending high school today, or entering high school within a year, an additional 11,809 students will graduate with the passage of ESAs in Texas.** This is a conservative projection and the numbers will also grow over time.

Introduction

When it comes to education, how far you go matters more than how much you know. People who attain high school diplomas earn more money over their lifetime, are more likely to avoid the criminal justice and welfare systems, and live longer and healthier lives than similar people who drop out. Getting a diploma matters more than student test scores in predicting these important life outcomes. There is a good reason why we throw parties for high school graduates.

Unfortunately there were no parties for the estimated 45,670 Texas students who failed to graduate from high school with their cohort in 2014.¹ The overwhelming majority of Texas dropouts are low-income students of minority race or ethnicity, thus perpetuating inequality in the Lone Star State.

Private school choice in the form of Education Savings Accounts (ESAs) holds the prospect of boosting high school graduation rates in Texas, especially for low-income and minority students. ESAs are arrangements whereby a portion of the amount of money that the government would spend to educate a child in the traditional public school system is placed in a spending account controlled by parents. Parents can use the money to customize their child's education by paying for approved educational services including private school tuition, tutoring, and educational resources such as textbooks or software programs.² Some ESA programs permit parents to apply unspent K-12 funds to their child's college costs. ESA programs have been passed in Arizona, Florida, Mississippi, Nevada, and Tennessee.

ESAs increase access to private schooling, especially for disadvantaged students. Four statistical studies have examined the effect of private schooling on high school graduation rates.³ All four report that access to private schooling increases the likelihood of a student graduating from high school instead of dropping out. The positive effect of private schooling on high school graduation rates ranges from 7 percentage points to 30 percentage points, depending on the study. **Private school choice is one of the most demonstrably effective drop-out prevention programs in the U.S.** Based on very conservative estimates, I forecast that a universal ESA program in Texas would lead to 11,809 additional high school graduates within five years.

Importance of High School Graduation

The social science evidence is crystal clear that graduating from high school, as opposed to dropping out, is transformative for young people in America. A high school diploma is

an essential credential for entry into higher education or the working world. It signals to potential employers that a young person has fulfilled his or her responsibilities as a student and followed through on an important project: finishing high school.

One of the best policies for increasing the number of high school graduates is expanding private school choice.

Because a high school diploma signals to others that a person is responsible and conscientious, graduating from high school is associated with a long list of important quality-of-life outcomes. Economists Ana Ferrer and W. Craig Riddell have determined that a high school diploma leads to lifetime income that is 9 to 13 percent higher.⁴ Cecelia Rouse, former chair of President Obama's Council of Economic Advisors, has calculated that a high school diploma is worth \$260,000 to a young person in terms of higher future earnings and other benefits.⁵ In her longitudinal analysis, graduates were 16 percentage points more likely to be employed and, when employed, earned \$12,000 more per year in average income. Higher earnings result in an average of \$60,000 more in state and federal taxes paid over the lifetime of a high school graduate compared to a dropout, according to Rouse's conservative calculations.

Mitchell D. Wong and his colleagues have determined that the average high school graduate lives 9.2 years longer than the average dropout.⁶ People who earn high school diplomas tend to be healthier than dropouts during their longer lifetime. They also are much less likely to commit crimes, as their higher employment prospects create a powerful incentive for them to safeguard their future by avoiding contact with the criminal justice system.⁷

Private Schools Boost Graduation Rates

Since scholars and policymakers agree that graduating from high school is essential to success, they should support education policies with a proven track record of boosting graduation rates. One of the best policies for increasing the number of high school graduates is expanding private school choice.

Private school choice is any government policy that makes educational resources available to families to assist them with choosing a private schooling option for their child.⁸ It takes four different forms: government-issued school vouchers, privately-issued scholarships funded by government tax credits, tax credits or deductions provided to families who have already enrolled their child in a private school, and Education Savings Accounts (ESAs).⁹ School vouchers, tax-credit scholarships, and ESAs have received the bulk of the attention in the school choice arena because they are designed to enable more students to transfer from public to private schools of choice.

High-quality statistical research has established that attending a private school increases a student's likelihood of earning a high school diploma. Four studies have been conducted on the topic and all four find a positive and statistically reliable relationship between private schooling and graduating. The lowest estimate of the extent to which access to private schooling boosts high school graduation rates is 7 percentage points and the highest estimate is 30 percentage points.

Economist Derek Neal was the first researcher to examine the effect of private schooling on high school graduation rates.¹⁰ Using a national database and focusing on urban areas because they contained a substantial number of Catholic school options, he determined that attending a private Catholic high school instead of a public high school increased the likelihood of graduating by 17 percentage points for white students, from 75 percent to 92 percent, and 30 percentage points for minority students, from 62 percent to 92 percent.¹¹ Because the positive effect of Catholic schooling on graduation rates was so much higher for minority students in Neal's study, attending a private Catholic school completely eliminated the white-minority gap in graduation rates.

Derek Neal's pioneering research on the effect of private Catholic schools on boosting high school graduation rates, especially for minority students, was exciting but limited. It used data from the 1970s and 80s, and focused only on Catholic schools in urban areas. Would private school choice programs in later years with a greater variety of types of private schools have similar positive effects on graduation rates? The answer is "yes".

Three studies of the effects of means-tested private school choice programs confirm that the positive effect of private

school choice on the likelihood of high school graduation is not limited to Catholic schools.

The most rigorous study of the effect of a private school choice program on high school graduation rates was an experimental analysis that I led for the U.S. Department of Education.¹² The District of Columbia Opportunity Scholarship Program (OSP) is the only federally funded private school choice program in the U.S. When the OSP was launched in 2004 more students wanted to participate in the program than there were Opportunity Scholarships to provide to them.¹³ A lottery was held to decide which students would or would not receive a scholarship. Since mere chance decided who would have access to private school choice through the OSP and who would not, we can be confident that the group of scholarship winners (the experimental “treatment” group) and scholarship losers (“control” group) were similar in relevant respects except for the fact that the OSP students had access to private school choice. All of the students in the experiment were low-income and 99 percent of them were African American or Hispanic. Five years later we determined that using an Opportunity Scholarship increased a student’s likelihood of graduating from high school by 21 percentage points, from 70 percent to 91 percent.¹⁴ Michael Q. McShane and I calculated that 442 additional students graduated from high school due to the positive effects of the targeted and capped DC OSP over its first five years of operation.¹⁵

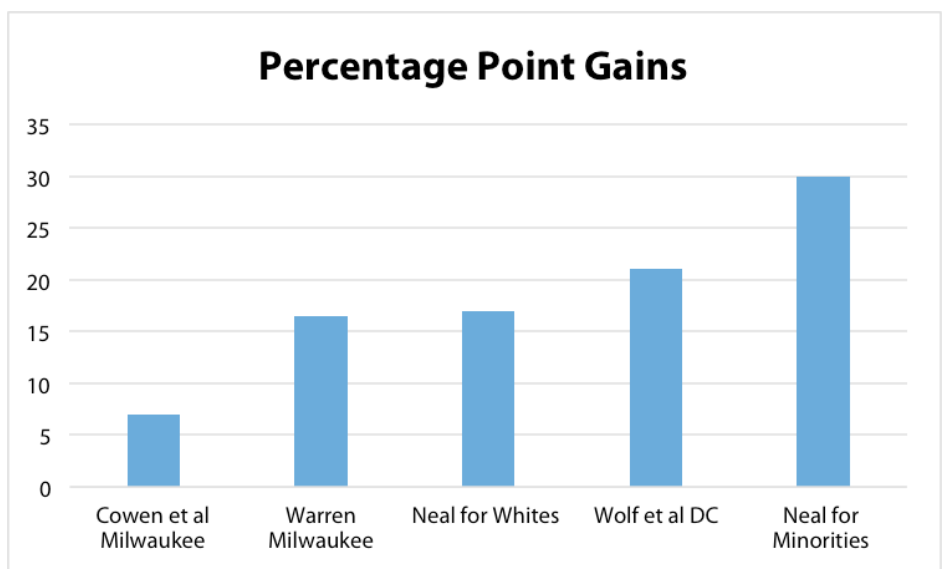
Sociologist John Robert Warren compared the graduate rates of students in private schools participating in the Milwaukee Parental Choice Program (MPCP) with those of Milwaukee public schools (MPS) across the five graduation classes of 2003 through 2007.¹⁶ The MPCP is the oldest and largest urban school choice program in the U.S. Although a substantial number of the private schools participating in the MPCP are Catholic, a majority of them are affiliated with a non-Catholic religion or are secular. Thus, Milwaukee provides an excellent venue to determine the effect of private school choice, and not just Catholic schooling, on the likelihood of a student graduating from high school.

On average, the private schools in the MPCP graduated students at a rate of almost 85 percent, which was 16.5 percentage points higher than the MPS rate of slightly more than 68 percent. Warren concluded that nearly 3,000 Milwaukee students would have graduated high school over that five-year period, instead of dropping out, if Milwaukee public schools had achieved the high school graduation rate observed in the private school choice program.

The Warren study relied upon graduation data that were averaged at the school level. It is possible that shifts in the student population across the public and private school sectors during his study might have biased his results. I led a longitudinal study with colleagues at the University of Wisconsin that examined the effect of the MPCP on high school graduation rates using student-level data.¹⁷ We carefully matched the 801 ninth-grade students in the MPCP in the fall of 2006 with 801 similar ninth-graders in MPS. All of the students were low-income and 89 percent of them were African American or Hispanic. Four years later, the students in the private school choice program graduated on time at a rate of 76 percent, 7 percentage points higher than the 69 percent rate in the matched public school sample.

Four scientific studies have considered if access to private schooling increases the likelihood of a student graduating from high school. All of them find that private school choice has a clear positive effect on graduation rates, with Neal finding separate positive effects for white students and

Figure 1. Positive Effects of Private School Choice on High School Graduation Rates



minority students (Figure 1). The lowest estimate of the graduation rate gains from school choice, from our study of the Milwaukee program, is 7 percentage points. The highest estimate of the graduation rate boost from private (specifically Catholic) schooling, from Derek Neal’s national study of urban areas, is 30 percentage points for minority students. The gains of 21 percentage points from our DC study, 17 percentage points for white students in Neal’s study, and 16.5 percentage points from Warren’s analysis all lie between those end points in the range. The evidence is clear that access to private school choice boosts high school graduation rates, especially for low-income and minority students. The only disagreement is about the size of the boost.

Education Savings Accounts

Previous studies of the effect of private school choice on improving high school graduation rates have focused on private school voucher programs or private schooling in general. An Education Savings Account (ESA) program is likely to produce graduate rate gains at least as large as those observed in other private school choice programs. ESAs allow for greater customization of a child’s education to fit their particular needs, and permit parents to use unspent funds for college costs, making high school graduation both more likely and more valuable to students who participate.

An ESA is an expenditure account controlled by parents to make purchases in support of their child’s education. The funds in the ESA are placed there by the state government and represent a portion of the amount the government would have spent on the child in the traditional public school system. Children who participate in ESA programs cannot simultaneously be enrolled in a public school. Their parents can use ESA funds for approved educational expenses including private school tuition, tutoring, educational resources and educational therapy.¹⁸ **ESAs have the reputation of being “the iPhone” of private school choice policies because they are easy to use and allow for a high degree of customization,** although over 80 percent of ESA funds tend to be used for private school tuition.¹⁹

Application to Texas

A universally available ESA program launched in Texas in 2017 would likely produce 11,809 additional high school graduates by 2022 and many more beyond that five-year forecasting window. I use a five-year time span for estimating the high school graduation effects of a Texas ESA because the short run is both important to policymakers and easier to forecast than the long run.

My forecast is the result of adding together the results from the following five equations:

1. $Extra\ Grads_{cohort\ 1} = \sum_{grades\ 8-12} (Enrollment * ParticipationRate * GradBoost)$
2. $Extra\ Grads_{cohort\ 2} = \sum_{grades\ 9-12} (Enrollment * ParticipationRate * GradBoost)$
3. $Extra\ Grads_{cohort\ 3} = \sum_{grades\ 10-12} (Enrollment * ParticipationRate * GradBoost)$
4. $Extra\ Grads_{cohort\ 4} = \sum_{grades\ 11-12} (Enrollment * ParticipationRate * GradBoost)$
5. $Extra\ Grads_{cohort\ 5} = \sum_{grade\ 12} (Enrollment * ParticipationRate * GradBoost)$

The logic of the first equation is that the number of extra graduates from the first cohort of participating students, who would enroll in the program in the fall of 2017, would be the sum of the number of extra graduates across the five grades (8-12) capable of on-time graduation by 2022. The total for each grade is customized to fit what has happened in the initial years of previous private school choice programs. Total enrollment comes from forecasts by the U.S. Census Bureau.²⁰ Enrollments in both eighth and ninth grades are assumed to be about 1/13th of the total K-12 enrollment for the state, as those grades tend to have enrollments that are proportionate to the entire school-age population. Enrollments are assumed to be slightly higher than the standard grade-level proportion of 1/13th in the lower elementary grades of K-3, though those estimates are not relevant to this forecast, and 5 percent lower in each subsequent grade after ninth grade due to drop-outs.

Program participation rates are assumed to be twice the rates actually experienced in the DC Opportunity Scholarship Program in its first year. The OSP was a means-tested program restricted to students who qualified for free or reduced price lunch and limited to just 1,700 scholarships based on its annual appropriation. It is both reasonable and conservative to assume that Texans would participate in a universal ESA program at twice the rate of OSP participation. Thus the participation rates are projected to be 7.2 percent for eighth-graders, 8.6 percent for ninth-graders, 6 percent for 10th-graders, 3 percent for 11th-graders, and 1.2 percent for 12th-graders.

The assumed graduate rate boost of 7 percent is the lowest point from the range generated by the four high school graduation rate studies. The lowest rate in the range is used to make the estimate very conservative and because Texas already has a comparatively high graduate rate that would make it unlikely that program participants would experience the much larger gains observed in the studies of private school choice in DC and in urban areas nationally.

The full positive effect of private school choice on graduation rates of 7 percentage points is only applied to ninth-grade initial users because they are the only cohort positioned for four straight years of ESA use in high school. The boost for initial eighth-graders is assumed to be half that, due to the 50 percent program attrition rate when moving from K-8 to ninth grade experienced in the Milwaukee Parental Choice Program.²¹ The boost for initial 10th-graders is assumed to be 75 percent of the boost for ninth-graders because they only get the experience of the ESA for three years, with 50 percent for 11th-graders and 25 percent for 12th-graders. The extra graduates across each initial grade

level are totaled to generate the number of additional graduates for each of the five cohorts. The numbers get smaller for each cohort after the first one only because fewer grade levels of students in them will have reached on-time graduation by 2022.

Based on the experiences of other private school programs, the demographics of Texas, and reasonably conservative assumptions, I forecast that a universal ESA program launched in the fall of 2017 will produce an extra 11,809 high school graduates for the Lone Star State by 2022 (Table 1).

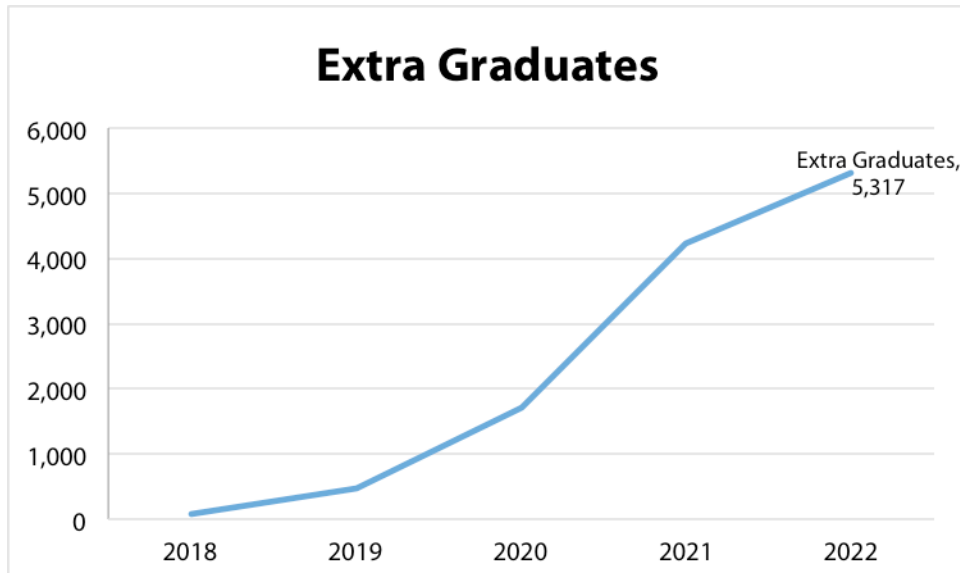
Table 1. Forecast of Extra High School Graduates Generated by Universal Private School Choice in Texas by 2022

Cohort 1, Fall 2017	Enrollment	Part. Rate	Participants	Grad Boost	Extra Grads
Grade 8	415,369	0.0720	29,907	0.0350	1,047
Grade 9	415,369	0.0860	35,722	0.0700	2,501
Grade 10	394,601	0.0600	23,676	0.0525	1,243
Grade 11	374,871	0.0300	11,246	0.0350	394
Grade 12	356,127	0.0120	4,274	0.0175	75
Cohort 1 Total					5,259
Cohort 2, Fall 2018					
Grade 9	419,110	0.0860	36,043	0.0700	2,523
Grade 10	398,155	0.0600	23,889	0.0525	1,254
Grade 11	378,247	0.0300	11,347	0.0350	397
Grade 12	359,335	0.0120	4,312	0.0175	75
Cohort 2 Total					4,250
Cohort 3, Fall 2019					
Grade 10	401,709	0.0600	24,103	0.0525	1,265
Grade 11	381,623	0.0300	11,449	0.0350	401
Grade 12	362,542	0.0120	4,351	0.0175	76
Cohort 3 Total					1,742
Cohort 4, Fall 2020					
Grade 11	385,000	0.0300	11,550	0.0350	404
Grade 12	365,750	0.0120	4,389	0.0175	77
Cohort 4 Total					481
Cohort 5, Fall 2021					
Grade 12	365,750	0.0120	4,389	0.0175	77
Cohort 5 Total					77
Grand Total					11,809

Note: Total K-12 enrollment for Texas calculated from U.S. Census, 2015 Digest of Statistics, Table 203.20 as 5,399,800 in 2017; 5,448,433 in 2018; 5,497,067 in 2019; 5,545,700 in 2020; and 5,594,333 in 2021.

Low-income and minority students are likely to experience the largest increase in their graduation rates due to access to private school choice...

Figure 2. Forecast of Extra High School Graduates Generated by Universal Private School Choice in Texas by 2022



Although the additional number of graduates generated by the program within five years grows smaller with each cohort, simply because the later cohorts contain fewer grades that will face on-time graduation by 2022, the number of extra graduates due a universal ESA in Texas will increase over time as more cohorts enter the program and at least one initial grade level from each cohort reaches the cutoff for on-time graduation (Figure 2).

In 2018 only the 12th-graders from Cohort 1 will have experienced a high school graduation boost from the program, producing 75 extra graduates. In 2019, the 11th-graders from Cohort 1 and the 12th-graders from Cohort 2 will combine to deliver 469 extra graduates, etc., until 2022 when five program cohorts will combine to produce 5,317 extra high school graduates that year due to the Texas ESA.

Conclusion

A skeptic might object that my estimates are not sufficiently conservative, as participation rates might not be so high

as 1.2-8.6 percent in the upper grades under a universal ESA program in Texas. The supply of seats in Texas private high schools might not be able to accommodate so many participants, one might claim, so we might expect the program's positive effect on graduation rates to be smaller. Cutting the forecast in half, Texas still would generate 5,905 additional high school graduates by 2022 due to a universal ESA.

Another skeptic might object that my assumptions are too conservative. When private school choice is made available statewide and to families within a wide income range, most participants are minority children in urban areas.

Private school choice programs have demonstrated their largest positive effects on minority students in the inner city, including graduation rate gains of up to 30 percentage points. Thus, the graduation boost from a universal ESA in Texas might be much higher than the very conservative rate of 7 percentage points used in my estimate. Increasing my primary forecast by 50 percent, we see a Texas ESA program could boost the number of high school graduates in the state by 17,714 within five years.

While it is helpful to present a range of forecasts of the likely effects of a policy intervention, I think that my primary forecast of a gain of 11,809 high school graduates for Texas by 2022 is the best estimate of the important positive effect that a universal Education Savings Account Program would have on Texans. Low-income and minority students are likely to experience the largest increase in their graduation rates due to access to private school choice, thereby reducing inequalities in the Lone Star State. ★

Endnotes

- ¹ Calculated from the U.S. Census 2015 Digest of Statistics, table 203.20, and the *Education Week* “[Diplomas Count](#)” Adjusted Cohort Graduation Rate for 2014.
- ² Jonathan Butcher and Lindsey M. Burke, [The Education Debit Card II: What Arizona Parents Purchase with Education Savings Accounts](#) (Friedman Foundation, Indianapolis; February 2016).
- ³ Patrick J. Wolf, Brian Kisida, Babette Gutmann, Michael Puma, Nada Eissa, and Lou Rizzo, “School Vouchers and Student Outcomes: Experimental Evidence from Washington, DC,” *Journal of Policy Analysis and Management* 32, no. 2 (April 2013): 246-270; Joshua M. Cowen, David J. Fleming, John F. Witte, Patrick J. Wolf, and Brian Kisida, “[School Vouchers and Student Attainment: Evidence from a State-Mandated Study of Milwaukee’s Parental Choice Program](#),” *Policy Studies Journal* 41, no. 1 (Winter 2013): 147-167; John Robert Warren, “Graduation Rates for Choice and Public School Students in Milwaukee, 2003-2009” (School Choice Wisconsin, Milwaukee, WI, January 2011); Derek Neal, “The Effects of Catholic Secondary Schooling on Educational Achievement,” *Journal of Labor Economics* 15, no. 1 (January 1997): 98-123.
- ⁴ Ana Ferrer and W. Craig Riddell, “[Sheepskin Effects and the Returns to Education](#)” (conference paper, November 2001).
- ⁵ Cecelia Elena Rouse, “Consequences for the Labor Market,” in *The Price We Pay: Economic and Social Consequences of Inadequate Education*, ed. Clive R. Belfield and Henry M. Levin (Washington, D.C.: Brookings Press, 2007).
- ⁶ Mitchell D. Wong, Martin F. Shapiro, W. John Boscardin, and Susan L. Ettner, “Contribution of Major Diseases to Disparities in Mortality,” *New England Journal of Medicine* 347, no. 20 (2002): 1585-92.
- ⁷ Lance Lochner and Enrico Moretti, “The Effect of Education on Crime: Evidence from Prison Inmates, Arrests, and Self-Reports,” *American Economic Review* 94, no. 1 (2004): 155-89; Rouse, “Consequences for the Labor Market...” op cit.
- ⁸ Patrick J. Wolf, “Vouchers,” in *The International Encyclopedia of Education*, ed. Gary McCulloch and David Crook (London: Routledge, 2008), 635-36.
- ⁹ Friedman Foundation for Educational Choice, *The ABCs of School Choice: The Comprehensive Guide to Every Private School Choice Program in America* (Indianapolis, 2016).
- ¹⁰ Derek Neal, “The Effects of Catholic Secondary Schooling...” op cit.
- ¹¹ Neal, *Ibid.*, p. 112. Concerned about the fact that more motivated students might have self-selected into Catholic schools, Neal used the concentration of Catholic parishioners and the concentration of Catholic schools in an area as instrumental variables, thereby recovering unbiased estimates of the true effect of attending a Catholic high school on graduation rates.
- ¹² Wolf et al., “School Vouchers and Student Outcomes...” op cit.
- ¹³ Patrick Wolf, Babette Gutmann, Michael Puma, and Marsha Silverberg, *Evaluation of the D.C. Opportunity Scholarship Program: Second Year Report on Participation*, U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance (Washington, DC: GPO, 2006).
- ¹⁴ Wolf et al, “School Vouchers and Student Outcomes...” op cit.
- ¹⁵ Patrick J. Wolf and Michael McShane, “Is the Juice Worth the Squeeze? A Benefit/Cost Analysis of the District of Columbia Opportunity Scholarship Program,” *Education Finance and Policy* 8 no. 1 (Winter 2013): 74-99.
- ¹⁶ Warren, “Graduation Rates for Choice and Public School Students...” op cit.
- ¹⁷ Cowen et al., “School Vouchers and Student Attainment...” op cit.
- ¹⁸ Butcher and Burke, “The Education Debit Card II...” op cit.
- ¹⁹ *Ibid.*, p. 1.
- ²⁰ 2015 Digest of Statistics, Table 203.20.
- ²¹ Joshua M. Cowen, David J. Fleming, John F. Witte, and Patrick J. Wolf, “Going Public: Who Leaves a Large, Longstanding, and Widely Available Urban Voucher Program?” *American Educational Research Journal* 49, no. 2 (Spring 2012): 231-256.

About the Author



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