

SCHOOL CHOICE POLICIES

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Summary

Surveying a large body of high-quality empirical studies, this paper finds a strong research consensus that vouchers and charter schools improve academic outcomes, democratic values, racial integration, special education, and outcomes at public schools.

Abstract

The effects of school choice policies, such as vouchers and charter schools, have been well studied. Contrary to widespread opinion, a large body of high-quality empirical research has produced a strong consensus on the effects of these policies. Studies using random assignment, the gold standard for social science, have produced an extremely strong consensus that vouchers improve academic outcomes. There is also a research consensus in favor of positive effects on democratic values, racial integration, special education, and outcomes at public schools affected by vouchers. The research also supports a more moderate positive effect on academic outcomes at charter schools, as well as a positive charter-school effect on regular public schools. Insufficient research exists on other forms of school choice, such as magnet schools, inter-district transfers, and home schooling.

Introduction

The effect of school choice policies is one of the most contentious subjects of public discussion. Numerous competing claims are made about the effects of school choice on academic outcomes, segregation levels, and democratic values, as well as its impact on the public school system. As it happens, an extensive body of sound empirical research exists on these questions. In some cases—such as the academic effects of school vouchers—there is a strong research consensus in favor of a particular conclusion. Unfortunately, this evidence is rarely permitted to affect policy debates. It is true that every study has its limits, and for this reason there is always room for more research to provide further information and clarification. However, this is not a good reason to wait for more research to be conducted before the existing scientific consensus is permitted to affect debate. Quite the contrary, it is a reason not to keep waiting until all possible empirical research has been conducted before science is allowed to speak, since that point can never arrive. When all or most of the best-quality research points in the same direction, and there is enough of it to confirm that we are not relying on what may be an anomalous finding, it is time for that evidence to be given the weight it deserves.

Key Principles

Use School Vouchers to Improve Academic Outcomes

School vouchers give families the ability to send their children to private schools instead of public schools, allowing them to choose their child's school rather than being assigned a school based on residence. Voucher programs reimburse parents for private-school tuition up to a set dollar amount. Some voucher programs are publicly funded, while others are funded by private donors; the source of funding makes no difference to the functioning of the program from the students' or the parents' perspective, so research on both publicly and privately funded vouchers should be considered together. Public voucher programs exist in various forms in Wisconsin, Ohio, Florida, Washington D.C., Maine, Vermont, Arizona, and Utah. Philanthropists have funded private voucher programs in New York City, Washington D.C., Charlotte, Dayton, and other cities. A similar form of school choice is private school scholarships funded by private donations that are in turn eligible for a tax credit, and are thus publicly subsidized. Such tax-funded scholarships exist in Arizona, Pennsylvania, Florida, Iowa, and Rhode Island. While these scholarships are not vouchers because they are administered by private charitable organizations and funded through the tax code, they can be expected to have academic effects similar to vouchers because they also provide students with private school choice.

The highest quality empirical research consistently shows that vouchers improve academic outcomes for students who receive them. The results of voucher research are very frequently described as “mixed and inconclusive.” But they are only “mixed” with regard to the scope and magnitude of vouchers' benefits. While there is still much that can be learned about the effects of school vouchers, enough is known with sufficient certainty that the research cannot be accurately described as “inconclusive.”

There have been eight studies of school voucher programs using random assignment, the gold standard for scientific method. Every one of them finds that vouchers raised academic outcomes for either all or most participants. In seven of the eight studies, the benefits for voucher recipients are statistically significant, meaning that we can have high confidence that the academic gains observed are not merely the product of chance; as we will see, the eighth study would also have achieved statistical significance if its method had been more scientifically rigorous. It is true that the studies differ on whether they find benefits for all students or only for participants who were African-American and on whether the academic gains occur in both reading and math or only in math. But this does not detract from the research consensus that vouchers improve academic outcomes.

Random assignment is the research design commonly employed in medical research. Subjects are assigned at random to either a treatment group that receives the treatment being studied or to a control group that does not. Since random chance determines which subjects are in which group, the treatment and control groups are likely to be similar in background characteristics such as race, income, parental involvement, motivation to learn, and so on. By making the treatment and control groups very similar, random assignment allows researchers to have greater confidence that any observed differences between the treatment and control groups are produced by the treatment and not by the subjects' other characteristics. This is especially important in education research for two reasons: students' characteristics exert a strong effect on educational outcomes, and in the absence of random assignment these characteristics are hard to observe and control statistically.

There are also studies of vouchers that do not use random assignment. However, their inability to control adequately for the influence of background characteristics means that their results are much less reliable than those of random-assignment studies. In particular, existing studies of the voucher program in Cleveland have either lacked a control group or have relied on inadequate control groups that are known to possess systematically different characteristics from the treatment group. Given that there are eight studies using random assignment, any evaluation of the research on vouchers should focus on these studies.

The Milwaukee school choice program has been the subject of two random-assignment studies. The first was conducted by Jay Greene, then of the University of Texas at Austin, and Paul Peterson and Jiangtao Du of Harvard University. It found that after four years in the program, students who won voucher lotteries outperformed a control group of students (who lost those lotteries and returned to Milwaukee public schools) by 6 percentile points in reading and 11 percentile points in math (1998, see also Greene, Peterson, & Du 1999).¹ Cecilia Rouse of Princeton University conducted the second study, also looking at the effect after four years in the program, but using a slightly different set of test scores. She found that voucher students outperformed the control group by 8 percentile points in math, but found no statistically significant difference in reading² (Rouse, 1998). These studies had a large amount of missing data, especially by the fourth year of the program. There is nothing to suggest that the missing data biases the findings, but uncertainty about missing information does justify turning to other evidence in order to confirm the findings.

Privately funded scholarship programs have also provided opportunities for random-assignment research. John Barnard of deCODE Genetics, Constantine E. Frangakis of Johns Hopkins University, Jennifer L. Hill of Columbia University, and Donald B. Rubin of Harvard University studied a privately funded voucher program in New York City. They found that after one year of participation, voucher students benefited by 4.7 percentile points in

math (2003). In a Manhattan Institute study of a program in Charlotte, N.C., Greene (2001) found that voucher recipients outperformed the control group by 6 percentile points in combined reading and math scores after one year of participation. The Charlotte study lacked baseline test scores, showing their achievement before entering the program. This limits the study's ability to estimate the size of achievement gains and compensate for mobility in the study populations. As with the missing data in Milwaukee, this does not invalidate the study; it simply requires that we be cautious about resting too much weight on this one study alone.

William Howell of the University of Wisconsin at Madison, and Harvard's Peterson conducted a series of random-assignment studies of privately funded vouchers. In Dayton, OH, they found that African-American voucher recipients outperformed African-American students in the control group in combined reading and math scores by 6.5 percentile points after two years in the program. In New York City they found that African-American participants outperformed the control group by 9.2 percentile points after three years, and in Washington D.C. they found that African-American participants outperformed a control group by 9.2 percentile points after two years. These studies did not find significant effects for non-African-American students. There were few such students in the study, which may have made it harder for any voucher effects on their performance to achieve statistical certainty. It may also be that non-African-American students had been better served in public schools and had less to gain from vouchers. Another complication in the Washington study is that after three years only 29% of the voucher students were still receiving the vouchers, which would have hindered the study's ability to detect voucher effects. Howell and Peterson found no statistically significant effects after three years of participation in the DC program (Howell & Peterson, 2002).

Alan Krueger and Pei Zhu of Princeton University have conducted a re-analysis of Howell and Peterson's New York City data. They altered the method by which students were classified by race, and included in their analysis students whose baseline test information was missing, as in the Charlotte study. They found that the effect of vouchers for African-American students remained positive, but did not achieve statistical significance, meaning that we cannot have high confidence that these results are distinguishable from vouchers having no effect (Krueger & Zhu, 2003).

Krueger and Zhu's changes are of dubious scientific validity. Howell and Peterson used the race of each student's mother to classify students by race, which is the method recommended by federal research guidelines. Krueger and Zhu used racial identification from both mother and father, a method that doesn't reflect the way most students really identify themselves by race and is not recommended by federal research guidelines. Adding students with missing data into the study sample reduces the quality of the study's data. When data for a given factor are missing for

all students (as in Charlotte), researchers simply have to go without it, but it makes no sense to add students with missing data to the sample where we already have plenty of students for whom those data are present. More importantly, Howell and Peterson have shown that Krueger and Zhu were highly selective in their choice of statistical models; Howell and Peterson analyzed the data using 120 different statistical models and reported that all 120 find positive voucher effects, 108 of them finding statistically significant positive effects³ (Peterson & Howell, 2004). In other words, you have to set up the statistical model exactly right in order to get results that don't achieve statistical significance.

In short, every random-assignment study of the effect of vouchers except one finds statistically significant benefits on test scores for at least some groups of students. Even the one other study still found positive effects from vouchers; it only failed to achieve statistical significance, and then only after resorting to highly selective and unorthodox methods.

Use School Vouchers to Improve Democratic Values

In addition to teaching academics, schools have the responsibility of preparing students for participation in the nation's civic life. Many people believe that only government-operated schools can ensure that students are inculcated with democratic values like toleration, political participation, and volunteerism. The evidence, however, consistently shows that private schools and voucher programs are actually better at conveying these values than public schools. Rather than undermining students' adherence to democratic values, private schools and vouchers actually enhance it.

Democratic values may seem like something too abstract to be studied empirically, but this isn't the case. Social scientists have developed valid methods for measuring the extent to which people are tolerant of the political rights of others, participate in the democratic process, and volunteer to help achieve common goals. Whether private schools and vouchers undermine democratic values is an issue that can be addressed with evidence.

Most studies of political tolerance use a method refined by social scientists over the last few decades in which subjects are asked to identify their least liked group, sometimes from a list of groups provided by the researchers. People often pick groups like the Ku Klux Klan, Nazis, Communists, pro-life or pro-choice groups, or gay activists or the religious right. Subjects are then asked whether they would be willing to let members of this least liked group engage in political activities such as marching in their town, running for elected office, or having a book in the library. Subjects are said to have a higher level of tolerance if they are more willing to let members of their least liked group engage in these political activities.

Patrick Wolf of Georgetown University conducted a sys-

tematic review of the research on democratic values. On the subject of political tolerance, Wolf (2002) identified 12 studies providing 18 analyses of the effects of private schooling. Ten of the analyses showed statistically significant benefits to private education on levels of tolerance, seven showed inconclusive results, and one showed significant benefits to public schools. For example, in a large random-assignment study David Campbell (2002) of Notre Dame University examined levels of tolerance among students who used privately funded vouchers to attend private schools, comparing them to a control group of students who remained in public school after losing a lottery for the voucher. He found that "one year in a private school leads to a considerable increase in students' average level of political tolerance" compared to the control group. Using a voucher to attend private school for one year increased students' tolerance by as much as 33% on the index Campbell used.

Studies of political participation have focused on the rates at which people vote in elections. Wolf's review found three studies of the effects of private schools on political participation, providing four analyses. Three of the four analyses found a statistically significant increase in political participation resulting from private schooling, while the fourth analysis was inconclusive. Jay Greene, Joseph Giammo, and Nicole Mellow (1999) of the University of Texas at Austin studied data from a nationally representative survey of adult Latinos and found that more years of private schooling increased voting rates. A subject who received all his education from private schools would be 16% more likely to have voted in the most recent election. In another study, Greene, Mellow, and Giammo (1999) surveyed a representative sample of adults in Texas, finding that people who received some of their education in a private school were 9% more likely to report having voted in the most recent election. Private schooling also produces greater political participation among parents (Smith & Sikkink, 1999).

On volunteering for charitable activities, Wolf's (2002) review found eight studies providing 12 analyses. Eight of these 12 analyses find statistically significant benefits from private schools on volunteerism, three find no significant effect, and one finds a significant benefit from public schools. Kenneth Godwin and Frank Kemerer (2002) of the University of North Texas surveyed a sample of 2,000 8th graders in New York City and Dallas/Ft. Worth. In addition to controlling for demographic differences, they used instrumental variable analysis to account for the possibility that private schools might attract parents who were more likely to volunteer. They found that private school students were 21% more likely to report volunteering than were comparable public school students.

Wolf's (2002) review of the research included other kinds of studies on democratic values. Of the 44 total analyses he identified, 21 find that private schools do a better job of promoting democratic values than public schools. Two find the opposite. Thus the evidence supports the conclusion that private schools generally and school vouchers

in particular promote civic values like tolerance, political participation, and volunteerism.

Use School Vouchers to Improve Racial Integration

Many believe that private schools are havens for white students fleeing racial integration, and that school vouchers would only enable more whites to flee. But the research indicates that private schools are, on average, less segregated than public schools, and that vouchers move students from more segregated public schools into less segregated private schools. Because private schools are not restricted by residence and are more attractive to parents than public schools, they can draw from a larger geographic area, mitigating the segregation produced by racial patterns in neighborhood residence. However, there is a monetary barrier for entry to private schools that minority students are less likely to overcome than white students. Vouchers remove the monetary barrier, allowing private schools to achieve their potential in reducing segregation.

Unfortunately, much of the research on school segregation is based on improper understandings of what counts as “integration” and how to measure it. There are four conceptual errors that render most of the research on choice and integration inadequate: 1) confusing a greater number of minority students with greater integration, 2) confusing evenness of racial distribution within a given school system with greater integration, 3) adopting the racial composition of regular public schools as the normative benchmark for measuring levels of integration, and 4) comparing choice program participants to non-participants rather than examining whether choice programs lead to greater or lesser levels of school integration.

The first of these errors, calling schools better integrated if they have more minority students, is probably the most common in popular discussion of private schools, and is also the most obviously inadequate. If more minority students really meant better integration, then the “black only” schools under the Jim Crow system were perfectly integrated. Clearly, what we really mean by integration is having a balanced mix of different racial groups, similar to the racial mix of the broader population in the area, rather than just having greater numbers of certain groups.

The second mistake is to measure how evenly distributed racial groups are within a given administrative unit, such as a school system. Examples of this mistaken approach include such commonly used measurements of segregation as the Index of Dissimilarity, the Index of Exposure, and the Gini Index. This approach takes the racial composition of a school system as a given. Segregation occurring at the level of the administrative unit itself, which is very common, will be masked by this approach. For example, a school district that was 98% white would receive the highest possible score on the Index of Dissimilarity if every school within that district had a 98% white student body. But this school district simply is not integrated—espe-

cially if it were next door to a school district that was 98% minority. The Gini Index and the Index of Exposure suffer from the same problem.

The third mistake is to adopt the racial distribution in regular public schools as the normative standard to which schools of choice should be compared. For example, Casey Cobb and Gene Glass (1999) of Arizona State University observed the racial composition of a group of charter schools in Arizona as well as the racial composition in nearby traditional public schools. Cobb and Glass labeled charter schools as segregated if they deviated by too much from the racial composition of the nearby traditional public school. The problem should be obvious: what if the charter schools deviated from the racial composition of regular public schools because the charter schools were better integrated? In fact, reanalysis of their data using an objective standard shows that this was in fact the case.⁴ A study of charter schools in California by Amy Stuart Wells (1999) of the University of California at Los Angeles makes a similar error, condemning charter schools as segregated because they deviate from the racial composition of the school districts in which they were located.

The fourth mistake is comparing the characteristics of those who participate in choice programs to those who do not. Some conclude that vouchers increase segregation if the participants are more likely to be white. But the level of integration produced by school choice is not a description of the choosers, it is an outcome resulting from their movement into different schools. If we offered low-income families housing vouchers to move into houses of their choice, and the program resulted in a larger number of white families moving into new houses, this would not prove that the program had increased segregation. We would have to look at the housing pattern that emerged after their movement to find that out. A widely cited study by J. Douglas Willms and Frank Echols (1993) of the Economic Policy Institute uses this approach to claim that a school choice program in Scotland increased socioeconomic segregation.⁵ Similarly, Jeffrey Henig (1996) of George Washington University criticized a public-school choice program on grounds that “while many minorities participated, their rate of participation was not as great as that of whites” (p.103). A reanalysis of his data shows that the program actually produced more integrated schools, because all those white parents were using the program to choose magnet schools located in predominantly minority areas (see Greene 2002, pp.12-13).

The best measure of segregation is to compare the racial composition of schools to the racial composition of the broader community from which students could reasonably be transported to those schools. A school is integrated if its racial balance resembles that of the broader community—defined not in terms of political or administrative boundaries, such as school district or city lines, but in terms of the whole metropolitan area in which the schools are located. A less ideal but still acceptable approach is to measure racial isolation—schools that are overwhelmingly white or non-white cannot offer a racially mixed

experience, and in any event they are very unlikely to reflect the racial composition of the broader community, because very few metropolitan areas have overwhelmingly white or non-white residents. Schools could reasonably be described as segregated if more than 90% of their student bodies are white or non-white.

Ideally, measurements of segregation should look at racial mixing within schools, such as in classrooms and lunchrooms, and not just at the school building level. Many practices, such as ability tracking and within-school magnet programs, have the effect of re-segregating students within schools.⁶ Examining the racial composition of classrooms or lunchrooms tells us what we really want to know—whether students are really getting an integrated daily experience. However, where data are not available at a finer level, studies of school-level segregation are valid and provide important information.

In addition to the issue of how we define segregation, another methodological pitfall is the need to compare appropriate grade levels. Elementary schools draw from a narrower geographic area than secondary schools, and thus tend to be more segregated. Private schools are disproportionately elementary schools, and any comparison between public and private schools must account for this. A study by Sean Reardon of Pennsylvania State University and John Yun of the Harvard Civil Rights Project falls afoul of this problem. The study combines all grade levels together, so its purported finding that private schools are more segregated is really just a finding that private schools are disproportionately elementary rather than secondary (Yun & Reardon, 2005).

A related problem is the unrepresentative nature of kindergarten; public schools in most states provide only half-time kindergarten, and white parents are more likely than black parents to purchase full-time kindergarten at private schools. This cannot help but prevent us from drawing any generalizations about racial balance in public and private schools from data on kindergarten enrollment. Thus a study based on kindergarten data conducted by Gary Ritter, Alison Rush, and Joel Rush (2002) of the University of Arkansas, which claims to show that private schools are more segregated than public schools, cannot really tell us anything beyond what the kindergarten programs look like.

There are three existing analyses of public and private schools generally, and seven analyses of voucher programs specifically, that avoid these methodological problems. In the first study of public and private schools, Greene (1998) analyzed the racial composition of a national sample of 12th graders in public and private schools. More than half of public school students (54.5%) were in racially homogeneous classrooms—more than 90% white or minority—compared to 41.1% of private school students. In the national data set, 25.6% of students were minority, and another valid way of measuring segregation is to measure how many students are in classrooms with a racial mix similar to this broader standard. More than a third

(36.6%) of private school students were in classrooms that fell between 15% and 35% minority, compared to 18.3% of public school students.

In the second study, Greene and Nicole Mellow (2000) of the University of Texas at Austin observed a random sample of public-school and private-school lunchrooms in Austin and San Antonio, recording how often students sat in racially mixed groups during lunch.⁷ They found that 63.5% of private school students sat in a racially mixed group, compared to 49.7% of public school students. With statistical adjustments for the city, the existence of seating restrictions, the size of the school, and student grade level, 78.9% of private school students and 42.5% of public school students sat in racially mixed groups.

In the third study, Greg Forster of the Milton and Rose D. Friedman Foundation compared the school-level racial composition of public and private schools in the nation's 100 largest metropolitan areas, comparing each school to the racial composition of the school-age population in the metro area. Using regression analysis, with statistical controls for the metro area and school level (elementary or secondary), he found that private schools were statistically more segregated, but that the difference between segregation levels in public and private schools was very small—it amounted to less than two percentage points (that is, the difference between a school that is 68% white and a school that is 70% white in a metro area that is, say, 50% white) (2006a, 2006b).

However, if the question is the effect of school choice, then studies on existing levels of integration in private schools are inadequate. They examine only the currently existing private-school system, not private schools as they might evolve under school choice. Because school choice empowers many more parents to seek schooling in private schools, especially minority parents, it can be expected to have an effect on segregation levels in private schools.

The seven studies that have been conducted on vouchers and segregation all show that private schools participating in voucher programs are less segregated than public schools in the same cities. These findings are not causal, and hence do not establish whether voucher policies are the reason why voucher-participating private schools are less segregated than public schools. However, the findings do establish that voucher programs are moving students from more-segregated public schools into less-segregated private schools, which will provide those students with a less-segregated school experience.

Two studies of the Milwaukee voucher program were conducted by Howard Fuller and George Mitchell (1999) of Marquette University. In the first study, they compared Milwaukee public elementary schools to Catholic elementary schools participating in the voucher program. They found that 58 percent of public elementary students and 38 percent of Catholic elementary students attended schools that were racially homogeneous (more than 90 percent white or 90 percent minority).

In the second study, Fuller and Mitchell (2000) compared Milwaukee public schools to all private schools participating in the voucher program. They found that in public schools 54 percent of elementary students and 37 percent of secondary students attended racially homogeneous schools. Students attending private schools in the voucher program were less likely to be in racially homogeneous schools; Fuller and Mitchell's data tables indicate that, overall, 50 percent of elementary students and 16 percent of secondary students in voucher-participating private schools were in racially homogeneous schools.

In a third Milwaukee study, Howard Fuller of Marquette University and Deborah Greiveldinger of the American Education Reform Council compared racial enrollments in Milwaukee public schools with those of private schools participating in Milwaukee's voucher program. They found in Milwaukee public schools, 58 percent of elementary students and 44 percent of secondary students were in racially homogeneous schools. Students attending private schools in the voucher program were less likely to be in racially isolated schools; the data tables indicate that 50 percent of elementary students and 29 percent of secondary students were in racially homogenous schools (2002).

Examining elementary and middle schools in Cleveland, Greene (1999) measured how many public and private schools had a percentage of white students that fell within 10% of the average proportion of white elementary students in metropolitan Cleveland. He found that nearly a fifth (19%) of voucher recipients attended private schools whose racial makeup was similar to that of the metro area, compared to 5.2% of public school students. More than three-fifths (60.7%) of public school students attended schools that were racially homogenous (more than 90% white or minority), compared to half of voucher recipients.

Greene and Marcus Winters (2005b) of the University of Arkansas analyzed segregation in the new voucher program in Washington D.C. They find that in public schools the percentage of students who are white differs from the percent white of the metro area by an average of 40 points, compared to 34 points for private schools participating in the voucher program. They also find that 85% of public school students attend racially homogeneous schools (more than 90% white or minority), compared to 47% of students in participating private schools. When the definition of "racially homogeneous" is made stricter, such that schools need to be 95% white or minority to qualify, the gap widens. While 84% of public school students attend racially homogeneous schools by this definition, 43% of students in participating private schools do so.

In the two most recent studies, Forster (2006a, 2006b) analyzed public and private schools within the cities of Cleveland and Milwaukee, both of which have longstanding voucher programs. He compared each school to the racial balance of the entire metro area, but he included only schools within the city limits, because the voucher programs are only available there. With a statistical control

for school level (elementary or secondary), his regression analysis found that public schools in Cleveland were more segregated by 18 points. For example, in a metro area that was 50% white, a school that was 60% white and a school that was 78% white would differ in their segregation levels by 18 points. In Milwaukee, he found that public schools were more segregated by 13 points.

Use School Vouchers to Improve Special Education

Concerns are often raised that vouchers will harm disabled students by removing them from the special education system governed by federal law. However, the empirical evidence shows that vouchers provide better services to disabled students. While students lose the ability to sue their schools, they gain the ability to leave schools that are not serving them and seek out schools that will serve them better. Thus, vouchers do not remove disabled students from schools that are accountable for serving them and place them in schools that are not accountable; rather, they remove students from schools that are held accountable under a legal-process compliance model of accountability and place them in schools that are held accountable under a parental choice model of accountability.

Greene and Forster (2003) conducted the only empirical evaluation of Florida's voucher program for disabled students, the McKay Scholarship Program. They gathered data on the services participants had received in their previous public schools, and on the services those same families were now receiving in their private schools. Two-thirds of participating families reported that their previous public schools did not provide all the services they were required to provide under the federal special education law. By contrast, only 12% reported that their private schools didn't provide services they promised to provide. The average class in their private schools was half as large as the average class in their public schools (13 students v. 25 students). Students were victimized by their peers far less often; about half of participants were bothered often by other students in their public schools because of their disabilities, and about a quarter had been physically assaulted in public schools. Only 5% were bothered often and 6% assaulted in their private schools. Behavior problems among participating students were reduced as well (from 40% having behavior problems to 19%). They also found that students were served about the same regardless of race, income, or disability type.

Greene and Forster (2003) also gathered data on the roughly 10% of families who had been in the program in the previous year but were no longer participating. This allowed them to seek out problems with the program that they might not discover if they had only examined current participants, since families encountering problems would be more likely to leave the program. But previous participants also reported that their private schools had served them better than their previous public schools. Over 90%

of them said the program should continue for others, even though they were no longer using it themselves.

Use Charter Schools to Improve Academic Outcomes

Charter schools are public schools that operate outside the regular public school system and are subject to fewer regulations. An authorizing body approves the charter for each school, and is responsible for holding it accountable for its performance. The exact rules under which charter schools are permitted to operate vary a great deal from state to state. In many states, only school districts can authorize the creation of a charter school, ensuring that charter schools serve only those students that the regular public schools do not want to serve. In other states, other bodies that are not part of the regular system (such as a state chartering agency, or universities) can authorize charter schools. As of October 2005, there were about 3,600 charter schools serving about a million students in 40 states and the District of Columbia.⁸

It is extremely difficult to study charter schools because of the need to find a genuinely similar student population to which they can be compared. The problem arises because charter schools are usually targeted specifically to serve the most difficult students to educate: at-risk students, dropouts, juvenile delinquents, etc. Comparing charter schools to the aggregate performance of all regular public schools in a given state or school district is like comparing apples and zebras. If such a study finds that the charter schools outperform the regular public system as a whole, we can have confidence in the finding, since the unfairness of the comparison ran in the opposite direction, in favor of the regular public system. At least two studies have produced such a finding: a study of Ohio charter schools conducted by Matthew Carr and Samuel Staley (2005) of the Buckeye Institute, and a study of California charter schools conducted by Margaret Raymond (2003) of Stanford University. In other cases, however, the incompatibility of the student populations prevents these studies from providing any useful information on the performance of charter schools.

There have been a number of studies that take this problem into consideration and use various empirical methods to compensate for it. Among these studies there is a consensus that charter schools perform somewhat better than regular public schools.

One approach is to obtain specific demographic information on every individual student in the study. A study of Arizona charter schools using individual-level data was conducted by Lewis Solomon of the Goldwater Institute, Kern Paark of Arizona State University, and David Garcia of the Arizona Department of Education. They found that students who were in their first year in a charter school had significantly lower reading scores than comparable students in regular public schools, but students who were in their second and third consecutive years in a char-

ter school had significantly higher reading scores than comparable regular public school students. In math they found that charter school students had lower scores in their first year and higher scores in their second year, but they found no statistically significant difference in their third year (Solomon, Paark, & Garcia, 2001).

Timothy Gronberg and Dennis Jansen (2005) of Texas A&M University conducted a study of students in Texas charter schools using individual-level demographic data. They found that charter school students outperformed similar students in regular public schools, and students in charter schools designated to serve at-risk populations also outperformed similar students in regular public schools, but that high school students in charter schools performed less well than similar high school students in regular public schools.

Another approach is to use a fixed-effects model, which keeps track of each student's performance separately, comparing a student's performance in one year to his performance in the next year, the year after that, and so on. By comparing each student only with himself, this method removes much of the influence of differences in student populations. However, more years of data are needed—a particularly serious problem when studying charter schools, many of which are relatively new. In addition, disadvantaged students may well exhibit slower year-to-year progress in addition to starting with lower test scores. Using a fixed-effects model to study charter schools in Texas, Gronberg and Jansen (2001) found that students in charter schools officially designated as serving at-risk students saw larger test score gains than students in regular public schools.

Still another approach is to compare charter schools to their nearest regular public schools. This is a rougher method, but it does provide at least some improved demographic comparability between student populations. Caroline Hoxby (2004) of Harvard University analyzed a data set that included 99% of all charter school elementary students in the nation. Comparing them to their nearest regular public schools, she found that the charter school students had higher academic outcomes. The effect was large enough that urban students who attended only charter schools would close the achievement gap with their suburban peers within roughly four years.

Finally, researchers can filter out charter schools that are targeted to particular populations, examining only schools that serve the general student population. Greene, Forster, and Winters (2003) examined "untargeted" charter schools in 11 states and compared them to their nearest regular public schools. They found that charter schools had higher year-to-year test score gains than regular public schools. While the charter school effect in the nationwide data set was modest, in Florida and Texas it was much larger, equal to a gain of 7 or 8 percentile points for a student starting at the 50th percentile.

Use Vouchers and Charter Schools to Improve Public Schools

Perhaps the most important question is how school choice programs affect the students who remain in public schools. Clearly the vast majority of students will continue to attend regular public schools for the foreseeable future. If school choice opponents are correct in claiming that it harms public schools by draining resources or by “cream-ing” the best students, that would probably outweigh the benefits it confers on participants. On the other hand, if school choice advocates are correct in claiming that it improves public schools by providing healthy competitive incentives, then the benefits of school choice extend far beyond just the participants to the general population.

A strong body of research on U.S. voucher programs consistently finds that they improve academic outcomes at affected public schools. We are not aware of a single empirical study showing that U.S. public school student performance was reduced by a voucher program. Some researchers have studied policies in foreign countries and drawn conclusions and used this as a basis for claims about the effect school choice will have in the U.S.⁹ But education systems in other countries are fundamentally different from the U.S. system. Residential assignment of students to government-operated schools is not the norm (Glenn, 1988). Other countries have a staggering variety of policies that differ from U.S. policy in ways that would change the effects of a school choice program (public funding of private schools, public school choice, varying centralized and decentralized control over curricula, teacher pay, etc.). Sometimes foreign programs that look nothing like the programs known in the U.S. as “vouchers” are nonetheless described as voucher programs, and are held up as examples of the effects of vouchers. For these reasons, studies of policies in other countries have severely limited application to the U.S.—and it is especially gratuitous to seek them out, given that a solid body of research has been conducted on U.S. programs.

Three separate studies of Florida’s “A-Plus” choice and accountability program have confirmed that it improved academic outcomes at failing public schools targeted for vouchers. The program assigned grades to public schools, and if a school received two failing grades in a four-year period, the state offered vouchers to that school’s students. The three studies all examined whether public schools whose students had been offered vouchers, or were facing the prospect of vouchers, made academic progress that was significantly different from similar Florida public schools not facing voucher competition.

Greene and Winters (2004) found that voucher-eligible schools gained 5.9 percentile points in math relative to other Florida schools. Schools that had received one failing grade, and thus faced the prospect of vouchers, improved by 3.5 percentile points in math and 1.7 points in reading relative to other Florida schools. The authors were able to confirm that these results were not caused by

the statistical phenomenon known as “regression to the mean” by comparing voucher-threatened schools to similarly low-scoring schools not subject to the voucher threat. They were also able to confirm that the improvement was not due simply to the desire to avoid the stigma of a failing grade; schools that had received a failing grade but were no longer subject to the voucher threat due to the passage of time since their failure made no gains relative to other Florida schools (see also Greene & Winters, 2003).

Rajashri Chakrabarti (2004), then of Cornell University, confirms this finding. Chakrabarti examined academic gains between 1999, when the A-Plus program began, and 2002, finding that schools that had failed in 1999 and faced the threat of vouchers made significantly greater academic improvements during this period than schools that had received D grades in 1999. She ruled out regression to the mean by examining the gains made by low-performing schools between 1998 and 1999, before the A-Plus program was adopted. She also ruled out the stigma effect; schools that received a failing grade in 1997, before vouchers were introduced, made no gains relative to other Florida schools.

A third study, conducted by Martin West and Paul Peterson (2005) of Harvard University, finds that the A-Plus program caused significant improvements in academic outcomes for poor students, African-American students, and low-scoring students in affected public schools. The results for other groups did not achieve statistical significance. Since the affected public schools are overwhelmingly poor (about 90%) and overwhelmingly African-American (about 80%), West and Peterson’s results show that the A-Plus program produced gains for almost all affected public school students.

Two studies of Milwaukee’s voucher program find that Milwaukee public schools that were more exposed to the program made greater gains than other Milwaukee public schools. Hoxby (2001) compared public schools with at least 66% of their students eligible for vouchers to schools that were less exposed to voucher competition, finding that the more exposed schools made significantly larger test score gains. Because all Milwaukee public schools were affected by the voucher program to some degree, Hoxby also identified a control group of demographically similar Wisconsin public schools that were unaffected by the program. Milwaukee public schools facing a high level of voucher competition made average annual test score gains that were 3.4 percentile points greater than those of the control group in math, 5.4 percentile points greater in science, 3.1 percentile points greater in language, and 2.7 percentile points greater in social studies. Greene and Forster (2002), rather than dividing public schools into groups facing high and low levels of voucher competition, treat exposure to competition as a continuous variable. They find that exposure to vouchers had a significant positive effect on Milwaukee public schools. The effect was strong enough that a school with all of its students eligible for vouchers would have exceeded the academic gains of a

school with only half of its students eligible by roughly 15 percentile points over a four-year period.

Christopher Hammons (2002) of Houston Baptist University analyzed the effects of century-old “town tuitioning” programs in Maine and Vermont. These programs provide vouchers to residents of small towns that have not built their own public schools. Hammons found that the closer a public high school was to a tuitioning town, the better its academic performance was: “If a town one mile away from a school decided to tuition its students, we would expect that the percentage of students passing the state test at that school would increase by 3.4 points—a gain of 12 percent over existing scores” (p. 2).

Three studies have found that charter schools improve regular public schools. Hoxby (2001) studied charter schools in Arizona and Michigan, finding that regular public school students produced significantly greater test score gains when they went to school in an area with a critical mass of charter schools. The benefit was large enough to bring urban public school students up to the academic performance of their suburban counterparts within 10 years in Arizona and 20 years in Michigan. Greene and Forster (2002) examined whether Milwaukee’s regular public schools had greater test score gains if they were located closer to charter schools. They found that if a new charter school opened one kilometer from a regular public high school, student test scores could be expected to improve by 9 percentile points over a four-year period. If the charter were located five kilometers away, the expected gain would be 3.5 percentile points. Using individual-level student data, Gronberg and Jansen (2005) found that regular public schools in Texas that have lost more students to charter schools had higher academic outcomes than other regular public schools in Texas. Using the number of students lost to charter schools is not as good a measurement of charter school competition, because if public schools successfully respond to competition they will lose fewer students to charter schools. However, this will bias a study against producing a positive finding for competition from charter schools, so it does not invalidate Gronberg and Jansen’s finding.

Finally, research has established that areas where it is easier for families to choose which school district to live in (for example, because there are a large number of small districts rather than just a few large districts) have better academic outcomes. This “residential choice” shows the positive effect of the competition among public school districts to attract residents. Clive Belfield and Henry Levin (2002) of Teachers College, the education school of Columbia University, reviewed the existing research, including 206 analyses from 25 studies. They concluded that “a sizable majority of these studies report beneficial effects of competition across all outcomes, with many reporting statistically significant correlations....The above evidence shows reasonably consistent evidence of a link between competition (choice) and education quality. Increased competition and higher educational quality are positively correlated” (pp. 2, 39). Two of the more noteworthy stud-

ies are one by Hoxby (2002), which found that metro areas that have historically had smaller school districts (and thus greater residential choice) have higher academic outcomes, and one by Greene and Winters (2005b) finding that states that currently have smaller school districts have higher academic outcomes.

Other Forms of School Choice

There are other forms of school choice besides vouchers and charter schools. These options are more difficult to study empirically; in many cases data collection is prohibitively difficult, or researchers have not yet figured out a way to draw valid comparisons between participants and non-participants. Some of these policies are also less likely than vouchers and charter schools to be studied empirically because they are less politically controversial. For these reasons, a smaller amount of sound empirical evidence exists on these programs.

Magnet schools are public schools with special programs and services that are designed to attract students from a wide geographic area. Some are regular public schools that contain “magnet programs” within them; local residents attend the school as with a normal public school, and students from outside the area come in through the magnet program. Other magnet schools are attended entirely by students who opt in through the magnet program. Most magnet schools are designed as tools for desegregation; the hope is that racial residential patterns can be transcended by attracting students from many neighborhoods. Some magnet schools serve other purposes, such as providing specialized curricula or schools for gifted students. The special programs offered at magnet schools vary considerably.

A recent study by the U.S. Department of Education examined 292 magnet schools receiving funds through a federal support program, representing 9% of all U.S. magnet schools aimed at desegregation. While this is not a random sample, and is thus not highly representative, the data at least provide us with descriptive information on these schools. Schools in the study were on average 73% minority and 60% eligible for free and reduced lunch. Adjusting for districtwide demographic trends, the study finds that 17% of the schools reduced minority group isolation by at least 5 percentage points, 28% reduced it by between 1 and 5 percentage points, 7% reduced it by less than 1 percentage point, and 43% did not reduce minority group isolation at all. Finally, the study found that these magnet schools were not successful in meeting or making progress toward their stated academic goals after the first year of operation, and that once demographic characteristics are controlled for, test-score changes in the schools were not significantly different from those of non-magnet public schools in the same states (Christenson, 2003).

Another form of school choice is inter-district transfer policies. Many programs that are called “public school choice” only allow parents to choose their public schools within a school district; these programs hardly deserve

to be called “choice” programs, since they do not offer a choice among school providers. Some states and cities, however, have policies that allow parents to choose public schools in districts other than the one in which they reside. This provides a genuine, though limited, choice of school providers. In all, 40 states have some kind of inter-district transfer option. However, only 18 states require districts to participate in some inter-district transfers; in the other 22 states districts may choose not to participate. Since most transfers will be a disadvantage for either the sending or the receiving district, giving districts the option not to participate must seriously limit the amount of actual choice available. Even most of the 18 states with some mandatory inter-district transfers provide grounds on which districts can veto particular transfers, such as overcrowding or desegregation concerns. Also, most inter-district transfer policies are limited to certain students, such as low-income students or students in failing schools.¹⁰

After Wisconsin enacted its statewide open enrollment policy, the Public Policy Forum gathered data on the first year of implementation. It found that transfer students made up less than 1% of the student population in the average district, that participants and school district officials reported high satisfaction levels with the program, and that the average district spent 57 hours and \$2,642 implementing it.¹¹ Another study conducted the following year found that 90% of participating families reported that their children were receiving an excellent education, and half said they would not send their children to the public schools in their districts. Interestingly, administrators mostly report that parents choose open enrollment for reasons of convenience, while the parents themselves mostly report that they choose it for reasons of school performance.¹²

A final form of school choice is home schooling. This practice is legal in all states, with dramatic variation in the regulations imposed on it. Unfortunately, home schooling is the most difficult form of education to study empirically. Systematically collected data are hard to come by, and even where they are present, we lack a valid comparison group by which to judge the effects of home schooling. In particular, students who are home schooled are likely to have parents who are especially involved in their children’s education and motivated to help them succeed—factors that are known to produce higher academic outcomes independent of the form of education that students receive. We do, however, have descriptive information that tells us what home schooled children look like, even if we cannot disentangle the causal influence of home schooling from the causal influence of more involved parenting.

A study of national survey data conducted for the National Center for Education Statistics by Daniel Princiotta and Stacey Bielick (2006) found that in 2003 over 1 million students were home schooled in the U.S., an increase of 29% since 1999. This represents 1.7% of all U.S. students in grades K-12. Students were statistically more likely to be home schooled if they were in middle school, in fami-

lies with more than two children, and were in two-parent families where only one parent worked outside the home; they were less likely to be home schooled if they were Hispanic or had household incomes above \$75,000 per year. Lawrence Rudner (1999) of the University of Maryland studied data voluntarily collected from a large sample of home schooling families. While this is not a random sample, and is thus not highly representative, it at least allows us to describe the 20,760 students who participated. Students were given a nationally recognized standardized test; their median scores were typically between the 70th and 80th percentile. Student performance was above the national averages for both public and private schools.¹²

Conclusion

The effects of vouchers and charter schools have been well studied. Contrary to widespread opinion, a large body of high-quality empirical research has produced a strong consensus on the effects of these policies. Studies using random assignment, the gold standard for social science, have produced an extremely strong consensus that vouchers improve academic outcomes. There is also a research consensus in favor of positive effects on democratic values, racial integration, special education, and outcomes at public schools affected by vouchers. The research also supports a more moderate positive effect on academic outcomes at charter schools, as well as a positive charter-school effect on regular public schools. These research findings are well established enough that they ought to be relied upon in public policy debates.

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Endnotes

- ¹Greene, Peterson, and Du 1998; see also Greene, Peterson, and Du 1999. The points described here as “percentile points” are actually normal curve equivalent points.
- ²Rouse 1998. The points described here as “percentile points” are actually normal curve equivalent points.
- ³Peterson and Howell 2004; for the table listing all Peterson and Howell’s statistical models, see the unabridged version of the article.
- ⁴If the standard of comparison for Phoenix charter schools and nearby public schools is the racial composition of metropolitan Phoenix, we see that the charter schools are slightly better integrated than are their public-school neighbors. According to the 1990 U.S. Census, the school-aged population of metropolitan Phoenix is 67.4% non-Hispanic white. The average Phoenix charter school examined by Cobb and Glass deviates from this proportion of whites by 21.7 percentage points. The average nearby public school examined by Cobb and Glass deviates by 26.5 percentage points.
- ⁵Willms and Echols 1993, pp. 63-65; Willms and Echols look at segregation by class, not race. But many people, probably correctly, believe that the results on class could apply to race as well because the two are strongly correlated.
- ⁶See for example Chubb and Moe 1996.
- ⁷A racially mixed group was defined as one in which any of the five seats immediately adjacent to each student was occupied by at least one student who was of a different racial group from the student being observed.
- ⁸“All About Charter Schools” 2005.
- ⁹See for example McEwan 2000; Bergstrom and Sandstrom 2003; and Fiske and Ladd 2000.
- ¹⁰“Open Enrollment: 50-State Report” 2005.
- ¹¹“Districts Satisfied with Open Enrollment, Motivated to Retain & Attract Students” 1998.
- ¹²“Open Enrollment: Survey Suggests School Performance Matters” 1999.



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