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The Effects of Vouchers and Private Schools in Improving Academic Achievement: A Critique of Advocacy Research

Christopher Lubienski and Peter Weitzel***

I. INTRODUCTION: VOUCHERS AND ACHIEVEMENT IN PUBLIC AND PRIVATE SCHOOLS

Proposals and programs to use publicly-funded vouchers to move children from public to private schools are perhaps the most controversial educational reform of the last two decades. While there are a number of compelling arguments in support of vouchers, among the most prominent is the idea that they will result in improved student achievement. From the earliest days of voucher proposals, advocates have argued that competitive pressures will drive schools to improve, thereby improving results for children.

In the current educational policy environment, characterized by choice programs such as vouchers, charter schools, and open-enrollment plans, it is increasingly important for reform measures to demonstrate tangible gains in student outcomes. Student achievement scores, as measured by standardized tests, are by far the most prominent of these outcomes and serve as the primary measure for school accountability. Reforms at all scales, from classroom instructional practices to federal initiatives, are evaluated on these grounds, and programs that do not produce results often lose support. As policymakers have increasingly emphasized achievement scores, the argument that choice plans will improve student performance has become increasingly central to school choice advocacy. Choice proponents regularly turn to achievement data to

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demonstrate the effectiveness of choice plans, and some have asserted that there is a consensus that school choice “works” in this regard.

As choice plans have developed over the last generation, we now have a relatively extensive empirical basis from which to evaluate outcomes of programs designed to send children to private schools. However, despite the rhetoric coming from many policy advocates, the overall results reflected in the research do not provide the compelling support for voucher programs that many expected to find. Indeed, a comprehensive review of the research indicates that the initial optimistic expectations from theoreticians and policy advocates for improved academic outcomes are not supported by the growing body of research on this question.

This Article focuses specifically on the use of achievement data in the assessment of vouchers for private schools. Vouchers seem to be the most controversial form of school choice because they distribute public funds directly to schools beyond the purview of public accountability mechanisms. After a brief review of the history of voucher programs and the role of achievement outcomes in voucher advocacy, we examine the initial, influential research on student achievement in public versus private schools and assess the claim that private schools are more effective than public schools at raising student achievement. The superiority of private schools is often presented as common sense, but the research results are far less clear. Turning to more recent research, we analyze the claims of a “consensus” about the effectiveness of voucher programs for improving student outcomes. Researchers supported by voucher advocacy organizations typically use flawed methodology in their attempts to find a positive academic impact for vouchers, misrepresent the findings of other research studies, and selectively ignore studies that contradict their claims. In the final section, we examine recent large-scale studies regarding student achievement in public and private schools. The picture that emerges suggests that public schools do remarkably well in comparison to private schools when student background is considered. This comprehensive evidence indicates that public schools are on average at least as effective, and in some cases more effective, as private schools when measured by student achievement outcomes. We conclude that while improved student achievement remains the most prominent argument in favor of voucher programs, this claim is not supported by the weight of the best available evidence.

A. Vouchers in Theory: Advocacy and Policy

School choice as a reform movement has matured over the past two decades, but the idea of vouchers has been around for over fifty years. Originally proposed by economist Milton Friedman, vouchers are certificates with a particular monetary value that can be applied to tuition costs at participating private schools.¹ On paper, vouchers make it possible for all families, regardless of wealth or income, to select private alternatives for their children. Accordingly, if families are afforded the opportunity to select better schooling options, these students will receive a more appropriate and effective education and will therefore enjoy better academic outcomes.

Friedman and others have argued that the government's monopoly on publicly-funded education and the entrenched bureaucracy of the public school system lead to inefficiency and provide few incentives to improve educational quality.² In this line of thinking—drawing heavily from Public Choice theory—a school's institutional environment, or sector, shapes its organizational structure and the external incentives that drive its internal productive processes.³ Public schools are input-oriented organizations that are accountable to bureaucracies rather than consumers, so they lack structural incentives to innovate, improve, or respond to demands for quality from the groups they serve.⁴ According to this logic, students otherwise consigned to the public sector should be given the opportunity to switch to higher performing schools in the private sector. Indeed, not only are private schools free of much of the bureaucracy and regulation thought to inhibit performance in the public sector, but also, unlike public schools, they are not shielded from competition. Private schools must demonstrate greater

1. See Milton Friedman, *The Role of Government in Education*, in *ECONOMICS AND THE PUBLIC INTEREST* 127 (Robert A. Solo ed., 1955).

2. See generally JOHN E. CHUBB & TERRY M. MOE, *POLITICS, MARKETS, AND AMERICA'S SCHOOLS* (1990); HERBERT J. WALBERG & JOSEPH L. BAST, *EDUCATION AND CAPITALISM: HOW OVERCOMING OUR FEAR OF MARKETS AND ECONOMICS CAN IMPROVE AMERICA'S SCHOOLS* (2003).

3. See generally James S. Coleman, *The Design of Schools as Output-Driven Organizations*, in *AUTONOMY AND CHOICE IN CONTEXT: AN INTERNATIONAL PERSPECTIVE* 249 (Rina Shapira & Peter W. Cookson eds., 1997). For more about Public Choice in education, see also Christopher Lubienski, *Innovation in Education Markets: Theory and Evidence on the Impact of Competition and Choice in Charter Schools*, 40 *AM. EDUC. RES. J.* 395, 395 (2003).

4. See, e.g., CHUBB & MOE, *supra* note 2; Coleman, *supra* note 3, at 259–62.

effectiveness in terms of their outputs in order to attract families willing to pay tuition.

Private schools tend to draw more affluent families that can afford the added costs, but if such schools can achieve superior results with students who attend public schools, then there is a strong argument for policies that encourage students to leave government-run schools for schools in the private sector. Indeed, not only would this approach be a more efficient and effective use of public resources, but it would also address a serious equity concern about forcing poorer families to remain in underperforming public schools. By allowing families to select schools and take a share of public funds with them, voucher programs, in theory, create a powerful incentive for both public and private schools to improve. Although charter schools and open enrollment plans can also create competitive pressures, many school reformers believe vouchers are the best method for creating an educational market because they provide parents with options in both public and private spheres, thereby creating competitive pressures across the sectors.⁵

Vouchers have been particularly controversial in the United States because they redirect public funds to private organizations, including religiously affiliated private schools.⁶ A handful of states have implemented publicly-funded voucher programs, and notable tax-supported programs are operating in Milwaukee, Cleveland, and Washington, D.C.⁷ State courts, however, have struck down voucher programs in both Florida⁸ and Colorado.⁹ Many states and cities also

5. See, e.g., Mark H. Moore, *Introduction to Symposium: Public Values in an Era of Privatization*, 116 HARV. L. REV. 1212, 1224 (2003); Aaron Jay Saiger, *School Choice and States' Duty To Support "Public" Schools*, 48 B.C. L. REV. 909, 912, 923 (2007). But see Lee Anne Fennell, *Beyond Exit and Voice: User Participation in the Production of Local Public Goods*, 80 TEX. L. REV. 1, 75-76 (2001) (concluding that schools do not behave in market-like fashion).

6. See JOHN F. WITTE, *THE MARKET APPROACH TO EDUCATION: AN ANALYSIS OF AMERICA'S FIRST VOUCHER PROGRAM* 5-6 (2000); Jamie Dycus, *Last Opportunity: Bush v. Holmes and the Application of State Constitutional Uniformity Clauses to School Voucher Schemes*, 35 J.L. & EDUC. 415, 415-16 (2006); Fennell, *supra* note 5, at 74, 87 n.126; Irina D. Manta, *Missed Opportunities: How the Courts Struck Down the Florida School Voucher Program*, 51 ST. LOUIS U. L.J. 185, 185-87, 194 (2006); Saiger, *supra* note 5, at 968-69.

7. Goodwin Liu, *Interstate Inequality in Educational Opportunity*, 81 N.Y.U. L. REV. 2044, 2104 n.219 (2006).

8. *Bush v. Holmes*, 919 So. 2d 392, 413 (Fla. 2006).

9. *Colo. Cong. of Parents, Teachers and Students v. Owens*, No. 03 CV 3734, 2003 WL 23870661, at *13 (Colo. Dist. Ct. Dec. 3, 2003).

have privately funded voucher programs that are financially supported by philanthropic groups or political activists.¹⁰ Proponents argue that these programs are a way of enhancing student access to quality educational options, while critics warn of the dangers resulting from increased student sorting by race, class, and ability.¹¹

School choice, whether through vouchers or other mechanisms, has become more pervasive in recent years and represents one of the most celebrated and contested examples of the use of market mechanisms for organizing public services. Charter schools, voucher programs, open-enrollment plans, home schooling, private schooling, and the federal No Child Left Behind (NCLB) Act, which provides exit options for children in failing schools, all illustrate the increasing popularity of choice.

In view of these trends, it appears that vouchers will likely become a permanent fixture on the American education landscape. Indeed, activity in the legislative, legal, community organizing, and advocacy arenas suggests there is little reason to think that vouchers are likely to retreat from their prominent position at the cutting edge of social policy in the United States. However, this remarkable momentum begs the question regarding the true efficacy of vouchers. That is, in view of the passionate advocacy by voucher proponents, we might expect to see compelling evidence of the positive impact of these programs.

B. Expectations for Achievement Gains in Voucher Programs

Voucher programs have been advanced on a number of grounds. Early arguments, especially from liberals and progressives, focused on equity considerations.¹² More recently, some conservatives have adopted this language, arguing that choice is the “new civil right.”¹³

10. See Goodwin Liu & William L. Taylor, *School Choice To Achieve Desegregation*, 74 *FORDHAM L. REV.* 791, 807, 813 n.106 (2005); Stephen D. Sugarman, *The Promise of School Choice For Improving the Education of Low-Income Minority Children*, 15 *LA RAZA L.J.* 75, 76 (2004).

11. See, e.g., James S. Liebman, *Voice, Not Choice*, 101 *YALE L.J.* 259, 281–287 (1991) (reviewing CHUBB & MOE, *supra* note 2).

12. See generally JOHN E. COONS & STEPHEN D. SUGARMAN, *EDUCATION BY CHOICE: THE CASE FOR FAMILY CONTROL* (1978); CHRISTOPHER JENCKS, *INEQUALITY: A REASSESSMENT OF THE EFFECT OF FAMILY AND SCHOOLING IN AMERICA* (1972).

13. See, e.g., MIKEL HOLT, *NOT YET “FREE AT LAST”: THE UNFINISHED BUSINESS OF THE CIVIL RIGHTS MOVEMENT* (1999); Alveda C. King, *Fighting for School Choice: It’s a Civil Right*, *WALL ST. J.*, Sept. 11, 1997, at A14; George Will, *School Choice Is a Civil Right*,

Some also hold vouchers out as a means of changing the organizational behavior of schools. In this line of reasoning, choice creates competitive incentives that force public schools to innovate and improve their productive processes out of fear of losing students and per capita funding. Of course, the ultimate outcome anticipated from vouchers is then a consequent increase in academic achievement. Since parents are afforded the opportunity to seek better, more effective schools, many reformers and market theorists anticipate measurable gains in test scores for both individual students using vouchers as well as for students in neighboring schools.¹⁴ Nobel laureate economist Milton Friedman made this case for academic improvements in competitive education systems: “[A] whole rash of new schools . . . will come into existence. The government school system will improve, and the private school system will improve”¹⁵ Similarly, economist E.G. West noted that competition would have the effect of “reducing costs, increasing quality, and introducing dynamic innovation.”¹⁶ Futurist Lewis Perelman also explains this thinking in some detail:

“Choice” as a synonym for free markets—where consumers are free to choose and vendors are free to create and sell a variety of products and services—is undeniably essential to cure education’s morbid productivity and festering irrelevance However, the need not merely for “choice” but for *commercialization* of education has been overlooked by most would-be reformers. We need commercial choice and competition in education first to goad technical innovation—the profit motive is essential to reward the creation and provision of productive technologies Profit-motivated competition also is necessary to provide quality control.

LINCOLN HERITAGE INSTITUTE (2003), http://www.lincolnheritage.org/About_Us/Resources/Weekly_Magazine/New_Articles/School_choice_is_a_civil_right/school_choice_is_a_civil_right.html.

14. See, e.g., CHUBB & MOE, *supra* note 2; William H. Clune, *Educational Governance and Student Achievement*, in 2 CHOICE AND CONTROL IN AMERICAN EDUCATION 391, 391–94 (William H. Clune & John F. Witte eds., 1990); Paul E. Peterson, *Vouchers and Test Scores*, POL’Y REV., Jan.–Feb. 1999, at 10–15.

15. Milton Friedman, *The Case for Choice*, in VOICES ON CHOICE: THE EDUCATION REFORM DEBATE 91, 101 (K.L. Billingsley ed., 1994).

16. Martin Carnoy, *Do Vouchers Improve Education?*, DOLLARS & SENSE, Mar.–Apr. 1998, at 25 (quoting E.G. West).

Only markets can create the information needed to determine “what works” economically.¹⁷

This consideration is the most widely predicted outcome for school choice policies in the United States.¹⁸ The expectation for improved student achievement is a particularly salient issue in this era of NCLB and has become the primary focus of many voucher advocates. It should be noted that this prediction was initially a hypothetical argument emerging out of economic theory applied to public schooling and was often irrelevant for many families. Indeed, many parents sent their children to private schools primarily for religious, not academic, reasons, and some libertarians saw choice as an end in itself, regardless of whether parents chose more effective schools.¹⁹ But the achievement issue assumed a more immediate tone when researchers began to collect evidence on the performance of students in public and private schools (see below), with an eye toward using policy to address chronic inequities in achievement.²⁰ And since academic achievement is now the predominant consideration in the NCLB era, it has attracted substantial interest from researchers.²¹

Much of the early research advances the commonly held notion that private schools provide a superior education to public schools—a central premise of voucher plans. Policymakers’ belief in the superior organizational attributes of private schools serves as the primary premise for the current generation of school reform—exemplified, for instance, in voucher and charter programs and in the choice provisions of NCLB. The implications for the allocation of

17. LEWIS J. PERELMAN, *SCHOOL’S OUT: HYPERLEARNING, THE NEW TECHNOLOGY, AND THE END OF EDUCATION 184–85* (1993).

18. See generally MILTON FRIEDMAN, *CAPITALISM AND FREEDOM* (1962); Moore, *supra* note 5.

19. See KENNETH ROSS HOWE, *UNDERSTANDING EQUAL EDUCATIONAL OPPORTUNITY: SOCIAL JUSTICE, DEMOCRACY, AND SCHOOLING 109–12* (1997).

20. See, e.g., JENCKS, *supra* note 12; James S. Coleman, *Toward Open Schools*, 9 PUB. INT. 20, 20–27 (1967).

21. See, e.g., Philip T.K. Daniel & Jill Meinhardt, *Valuing the Education of Students with Disabilities: Has Government Legislation Caused a Reinterpretation of a Free Appropriate Public Education?*, 222 EDUC. L. REP. 515, 515 (2007); Michael Heise, *Litigated Learning, Law’s Limits, and Urban School Reform Challenges*, 85 N.C. L. REV. 1419, 1422 (2007); Eric A. Hanushke & Margaret E. Raymond, *Does School Accountability Lead to Improved Student Performance?* 2–3 (Nat’l Bureau of Econ. Research, Working Paper No. 10591, 2004), available at <http://www.nber.org/papers/w10591.pdf>.

government resources are obvious. If the private sector can educate children more effectively (and possibly for less money), then it is difficult to justify the exclusive hold that public schools have on public funding for education.²² So the question becomes, why is it necessary that the government operate schools for the public if the private sector can better serve that function?²³

While it is often presented as common sense that private schools are more effective than public schools, it is essential to examine the relevant research. Although this literature goes back almost three decades, it has become more pointed in recent years in its implications for education reform.

II. PREVIOUS RESEARCH ON ACHIEVEMENT

The most common way of measuring a school's quality is in terms of its effectiveness in raising academic achievement.²⁴ Of course, when researchers compare achievement at private and public schools, private schools consistently demonstrate higher average scores.²⁵ However, this indicates virtually nothing about school effectiveness, since private schools serve, on average, more affluent student populations with fewer risk factors associated with academic failure.²⁶ Simple comparisons of raw scores fail to account for these differences in student background, which have a profound effect on educational outcomes. Voluminous research literature indicates that in-school factors account for less than half of the variance in student achievement, and some studies have estimated that proportion to be relatively minor.²⁷ Furthermore, the in-school mix of demographic

22. See generally Christopher Lubienski, *Instrumentalist Perspectives on the "Public" in Public Education*, 17 EDUC. POL'Y 478 (2003); Christopher Lubienski, *Redefining "Public" Education: Charter Schools, Common Schools, and the Rhetoric of Reform*, 103 TCHRS. C. REC. 634 (2001).

23. See generally FRIEDMAN, *supra* note 18; Friedman, *supra* note 1.

24. See, e.g., U.S. DEP'T OF EDUC., NAT'L CTR. FOR EDUC. STATISTICS, NCES 2006-461, NAT'L ASSESSMENT OF EDUCATIONAL PROGRESS: COMPARING PRIVATE SCHOOLS AND PUBLIC SCHOOLS USING HIERARCHICAL LINEAR MODELING 2 (2006), available at <http://nces.ed.gov/nationsreportcard/pdf/studies/2006461.pdf> [hereinafter NCES 2006-461]; Lewis D. Solomon, *Edison Schools and the Privatization of K-12 Public Education: A Legal and Policy Analysis*, 30 FORDHAM URB. L.J. 1281, 1315-16 (2003).

25. NCES 2006-461, *supra* note 24, at 3, 17, 20.

26. See Henry M. Levin, *Educational Vouchers: Effectiveness, Choice, and Costs*, 17 J. POL'Y ANALYSIS & MGMT. 373, 381 (1998).

27. See ROBERT MARZANO, WHAT WORKS IN SCHOOLS: TRANSLATING RESEARCH INTO ACTION 6-7 (2003).

influences is also a factor in predicting student achievement, since the “peer effect” is known to impact the aspirations and achievement of individual students.²⁸ Hence, achievement across a school population is not simply a function of the school effects, and researchers have to consider additional factors in distinguishing the effectiveness of public and private schools.

When comparing schools with different populations, researchers control for extra-curricular factors, such as the fact that private students tend to come from families with higher incomes, more stable living arrangements, and higher rates of other supportive factors that positively influence achievement outcomes. In the past thirty years, a number of highly regarded, large-scale studies have controlled for student background and provided meaningful comparisons of student achievement in public and private schools.²⁹ Some of these studies have contributed to the “common sense” conclusion that private schools are more effective than public schools.³⁰ Other studies, however, including some of the most recent research, have found no achievement advantage for private school students.³¹

A. Early Studies of Public and Private School Effects

Assumptions of superior private school effects draw from solid, well-respected precedents in the research literature comparing representative samples of schools in public and private sectors. A

28. See generally JAMES S. COLEMAN ET AL., *EQUALITY OF EDUCATIONAL OPPORTUNITY* (1966); RICHARD ROTHSTEIN, *CLASS AND SCHOOLS: USING SOCIAL, ECONOMIC, AND EDUCATIONAL REFORM TO CLOSE THE BLACK-WHITE ACHIEVEMENT GAP* (2004); Eric A. Hanushek et al., *Does Peer Ability Affect Student Achievement?*, 18 *J. APPLIED ECONOMETRICS* 527 (2003); Levin, *supra* note 26; Sarah Theule Lubienski & Christopher Lubienski, *School Sector and Academic Achievement: A Multi-Level Analysis of NAEP Mathematics Data*, 43 *AM. EDUC. RES. J.* 651 (2006); Geoffrey D. Borman & N. Maritza Dowling, *Schools and Inequality: A Multilevel Analysis of Coleman’s Equality of Educational Opportunity Data*, (Apr. 2007) (unpublished paper presented at Annual Conference of the American Educational Research Association in Chicago).

29. See, e.g., U.S. DEP’T OF EDUC., NAT’L CTR. FOR EDUC. STATISTICS HS&B, *HIGH SCHOOL & BEYOND*, available at <http://nces.ed.gov/surveys/hsb/index.asp>; U.S. DEP’T OF EDUC., NAT’L CTR. FOR EDUC. STATISTICS, *NATIONAL EDUCATION LONGITUDINAL STUDY OF 1988* (1988), available at <http://nces.ed.gov/surveys/nels88/>.

30. See e.g., JAMES S. COLEMAN ET AL., *PUBLIC AND PRIVATE HIGH SCHOOLS: A REPORT TO THE NATIONAL CENTER FOR EDUCATIONAL STATISTICS* 232-35 (1981).

31. See, e.g., HAROLD WENGLINSKY, CTR. ON EDUC. POL’Y, *ARE PRIVATE HIGH SCHOOLS BETTER ACADEMICALLY THAN PUBLIC HIGH SCHOOLS?* 2, 15 (2007).

number of influential studies were based on the High School and Beyond (HSB) dataset, a longitudinal study of over 58,000 students in approximately 1000 schools. These data allowed researchers to examine achievement in public and private schools while controlling for a number of school and family variables. The initial report by James Coleman and his colleagues found a notable “private school effect”—inherent advantages for schools in the private sector that resulted in greater academic achievement, even after controlling for differences in student populations.³² Even as these findings were being published, the results were challenged by a number of scholars who contested the methods, disputed the implications the authors drew regarding school choice, or found little or no evidence of a private school effect in the data.³³ Yet in another set of influential studies, Anthony Bryk and colleagues followed this line of inquiry with the HSB data, using the representative sample of Catholic schools and a comparable subsample of public schools.³⁴ This work, highly regarded in the research community, highlighted substantially greater academic achievement independent of student background in Catholic schools, and then focused primarily on *why* such schools were more effective.³⁵ These researchers found a “Catholic school effect,” noting in particular the schools’ unique social and academic organizational characteristics, communities based on shared values, curricula that engage students in core academic subjects, and distinctive forms of school governance.³⁶ In perhaps the most

32. See COLEMAN ET AL., *supra* note 30, at 232–35.

33. See generally Karl L. Alexander & Aaron M. Pallas, *School Sector and Cognitive Performance: When Is a Little a Little?*, 58 SOC. EDUC. 115 (1985); Anthony S. Bryk, *Disciplined Inquiry or Policy Argument?*, 51 HARV. EDUC. REV. 497 (1981); James S. Catterall & Henry M. Levin, *Public and Private Schools: Evidence on Tuition Tax Credits*, 55 SOC. EDUC. 144 (1982); Arthur S. Goldberger & Glen G. Cain, *The Causal Analysis of Cognitive Outcomes in the Coleman, Hoffer and Kilgore Report*, 55 SOC. EDUC. 103 (1982); J. Douglas Willms, *Catholic-School Effects on Academic Achievement: New Evidence from the High School and Beyond Follow-up Study*, 58 SOC. EDUC. 98 (1985).

34. See generally ANTHONY S. BRYK ET AL., *CATHOLIC SCHOOLS AND THE COMMON GOOD* (1993); ANTHONY S. BRYK ET AL., *EFFECTIVE CATHOLIC SCHOOLS: AN EXPLORATION* (1984); Valerie E. Lee & Anthony S. Bryk, *A Multilevel Model of the Social Distribution of High School Achievement*, 62 SOC. EDUC. 172 (1989).

35. See generally BRYK ET AL., *CATHOLIC SCHOOLS AND THE COMMON GOOD*, *supra* note 34; BRYK ET AL., *EFFECTIVE CATHOLIC SCHOOLS*, *supra* note 34; Lee & Bryk, *supra* note 34.

36. See generally BRYK ET AL., *CATHOLIC SCHOOLS AND THE COMMON GOOD*, *supra* note 34; BRYK ET AL., *EFFECTIVE CATHOLIC SCHOOLS*, *supra* note 34; Lee & Bryk, *supra* note 34.

provocative work with the HSB data, Chubb, and Moe tied such findings to Public Choice theory's emphasis on inherent pathologies in public sector institutions—providing empirical justification for programs that would enable students to switch to private or independent schools.³⁷

More recent work on another dataset, the National Education Longitudinal Study of 1988 (NELS), offers additional insights into achievement in public and private secondary schools. This random sample of twenty-five eighth-graders in each of a thousand schools was supplemented by several subsequent rounds of data collection on these same students, providing multi-point data for comparison of students who attended public, Catholic, and other private schools. Drawing on the subsequent follow-up of data collection two years later, researchers noted that Catholic and independent private schools outscored public schools, although the differences in two-year mathematics achievement growth between public schools and other school types were not statistically significant. There was, however, a significant difference between types of private schools, with Catholic school gains outpacing those of independent private schools.³⁸

The NELS data has been subsequently reexamined and reviewed by various scholars. Goldhaber examined a subsample from the NELS data of over 3000 students in mathematics and reading.³⁹ After controlling for the fact that the private school students come from more affluent and educated families, he found no achievement advantage in private schools.⁴⁰ In another NELS study of 4000 students in public, magnet (public), Catholic, and secular private schools in urban areas, Gamoran found advantages for students in magnet schools in several subjects.⁴¹ Catholic schools demonstrated a positive effect in mathematics, while secular private schools offered no advantage over public schools.⁴² Drawing also on the ensuing

37. See generally CHUBB & MOE, *supra* note 2.

38. LESLIE A. SCOTT ET AL., TWO YEARS LATER: COGNITIVE GAINS AND SCHOOL TRANSITIONS OF NELS: 88 EIGHTH GRADERS 65-104 (1995), available at <http://nces.ed.gov/pubs95/95436.pdf>.

39. Dan D. Goldhaber, *Public and Private High Schools: Is School Choice an Answer to the Productivity Problem?*, 15 ECON. EDUC. REV. 93-109 (1996).

40. *Id.* at 102.

41. Adam Gamoran, *Student Achievement in Public Magnet, Public Comprehensive, and Private City High Schools*, 18 EDUC. EVAL. & POL'Y ANALYSIS 9-11 (1996).

42. *Id.* at 10.

wave of NELS data collection (through twelfth grade), Figlio and Stone reported on student achievement for over 5000 students in public, private-religious, and secular private schools.⁴³ Accounting for selection effects, they found evidence of a slight, but significant, negative private school effect for math and science achievement in religious schools relative to public schools,—except for urban minorities who benefited from religious schools—while secular private schools offered a substantive advantage in these subjects.⁴⁴ In addition, Grogger and Neal examined NELS data through the 1994 wave of data collection, finding no significant Catholic school effect on mathematics achievement for suburban students, but a moderate effect for urban white students, and larger gains for urban minority students (as well as a substantial Catholic school impact on other outcomes such as graduation rates and college attendance).⁴⁵ Even more importantly, however, they found that independent private schools did not enhance student achievement any more than did public schools. More recently, Kim and Placier found significant differences in a sub-sample of 144 private schools in the NELS data, with non-Catholic schools outperforming Catholic schools in reading, but not in mathematics.⁴⁶

Taken together, these studies present a rather blurred picture of the impact of different school sectors on student achievement—much more mixed than is commonly assumed in popular wisdom and policy discussions on the superiority of the private school sector. These findings have often varied by subject area, sometimes supporting a somewhat modest private or Catholic sector effect, but often depending on factors such as school location and student ethnicity. Indeed, findings from both HSB and NELS suggest that results are quite sensitive to methodological and sampling issues.⁴⁷

Additionally, there are other limitations to the above studies and the conclusions that can be drawn from them. First, these studies

43. David N. Figlio & Joe A. Stone, *Are Private Schools Really Better?*, in 18 RESEARCH IN LABOR ECONOMICS 115, 117 (1999).

44. *Id.* at 135–36.

45. Jeffrey Grogger & Derek Neal, *Further Evidence on the Effects of Catholic Secondary Schooling*, in BROOKINGS-WHARTON PAPERS ON URBAN AFFAIRS 2000, at 151, 191 (William G. Gale & Janet Rothenberg Pack eds., 2000).

46. Mikyong Minsun Kim & Margaret Placier, *Comparison of Academic Development in Catholic Versus Non-Catholic Private Secondary Schools*, 12 EDUC. POL'Y ANALYSIS ARCH. 9–11, available at <http://epaa.asu.edu/epaa/v12n5/>.

47. Grogger & Neal, *supra* note 45, at 153.

focused on grades eight through twelve, raising the unaddressed question of how achievement patterns in earlier grades might compare. In addition, this literature on public and private sector effects on achievement is becoming somewhat dated. Students represented in the NELS data sets graduated in 1992,⁴⁸ whereas students represented in the HSB data sets graduated in 1980.⁴⁹ In the meantime, substantial changes have occurred in both the public and private educational sectors. For instance, many urban Catholic schools are closing or enrolling higher proportions of minority (and non-Catholic) students, and homeschooling increasingly draws students from both public and private sectors.⁵⁰ Also, NCLB has set aggressive goals for improvements in public school achievement.

Schools are now operating in a different policy context, particularly in regards to school choice. In the HSB literature, researchers were writing at a time when vouchers were just an idea. Similarly, the NELS literature came to the fore when charter schools were just beginning their rapid proliferation, and some researchers also noted the potential significance of their analyses of NELS for the emerging publicly-funded voucher programs, which had not yet been found to be constitutional.⁵¹

B. Voucher Studies

Large-scale datasets such as HSB and NELS allow researchers to control for many demographic and school-level factors known to affect achievement. However, such studies are unable to account for the built-in selection bias arising from the fact that some families choose private schools, while others do not—patterns indicating that there may be some “unobservable” qualitative differences between these two populations (e.g., motivation, commitment) that cannot be captured or controlled by researchers. Consequently, many researchers point to the possibility of constructing quasi-

48. NATIONAL EDUCATION LONGITUDINAL STUDY OF 1988, *supra* note 29.

49. HIGH SCHOOL & BEYOND, *supra* note 29.

50. See STEPHEN P. BROUGHMAN & KATHLEEN W. PUGH, CHARACTERISTICS OF PRIVATE SCHOOLS IN THE UNITED STATES: RESULTS FROM THE 2001–2002 PRIVATE SCHOOL UNIVERSE SURVEY 28 (2004); MARIANNE PERIE, ALAN VANNEMAN & ARNOLD GOLDSTEIN, STUDENT ACHIEVEMENT IN PRIVATE SCHOOLS: RESULTS FROM NAEP 2000–2005 (2005); Grogger & Neal, *supra* note 45, at 185–87; Christopher Lubienski, *A Critical View of Home Education*, 17 EVALUATION & RES. EDUC. 167–78 (2003).

51. See, e.g., Goldhaber, *supra* note 39, at 93.

experimental studies of school effects to approximate randomized medical experiments, thereby controlling for unobservable factors.⁵² For example, when applicants for voucher programs exceed the number of slots available, seats can be assigned through lotteries or other randomizing techniques. This approach creates an experimental group randomly assigned a voucher and a control group randomly denied a voucher—two groups that can be assumed to be similar on all other observable and unobservable characteristics.

Interestingly, research on the achievement effects of voucher programs has generally not produced a clear consensus regarding student performance, while voucher advocates using randomization have tended to show benefits of the programs (although those studies have been heavily contested on methodological grounds).⁵³ Publicly-funded voucher plans are a lightning rod for policy and advocacy battles, and not surprisingly, the older programs in the industrial cities of Milwaukee, Wisconsin and Cleveland, Ohio have attracted the most attention from researchers. The Wisconsin State Legislature started Milwaukee's program as an experiment in providing access for disadvantaged students to secular private schools at state expense. An evaluation component was built into the program.⁵⁴ When official evaluations found no significant private school advantage for voucher students in mathematics and reading achievement, however, the state ended the evaluation and has continued to expand the experiment.⁵⁵ Meanwhile, Paul Peterson and colleagues from Harvard's Program on Education Policy and Governance (PEPG) conducted a secondary analysis of the data using different control groups in a randomized model, demonstrating substantial private school effects for voucher students

52. See, e.g., DAN GOLDBERGER, *URB. INST., WHAT CAN WE INFER FROM RECENT EXPERIMENTS WITH EDUCATIONAL VOUCHERS?* 3-4 (2001), available at http://media.hoover.org/documents/ednext20012unabridged_goldhaber.pdf.

53. See, e.g., HENRY M LEVIN & CLIVE R BELFIELD, *NAT'L CTR. FOR THE STUDY OF PRIVATIZATION IN EDUC. TCHRS. COLL., COLUM. UNIV., VOUCHERS AND PUBLIC POLICY: WHEN IDEOLOGY TRUMPS EVIDENCE* 20 (2004), available at http://www.ncspe.org/publications_files/OP95.pdf.

54. Milwaukee Parental Choice Program, *WIS. STAT. ANN.* § 119.23 (West 2004). The program was subsequently expanded to include religious schools.

55. JOHN F. WITTE, C. THORN & K. PRITCHARD, *FIFTH YEAR REPORT: MILWAUKEE PARENTAL CHOICE PROGRAM 1-2* (1995).

in mathematics and reading.⁵⁶ While these studies were criticized for issues of sample size, attrition, statistical significance, and reporting, Princeton economist Cecilia Rouse conducted a third analysis.⁵⁷ In that study, she found no gains in reading and significant gains in math, but her report indicated that greater academic gains were evident for public school students in smaller classes.⁵⁸ A similar debate unfolded around Cleveland's voucher program, where official evaluations initially found little or no advantages for students using vouchers.⁵⁹ Subsequent re-analyses by PEPG found significant gains for voucher students, but were contested on methodological grounds.⁶⁰ In addition, most recent studies find little advantage, or indicate the possibility of a *negative* effect of using a voucher.⁶¹

While the Milwaukee and Cleveland programs were publicly financed, vouchers funded by private groups have also been examined in a number of cities. In perhaps the most publicized research, Paul Peterson and his colleagues examined programs in

56. JAY P. GREENE, PAUL E. PETERSON & J. DU, THE EFFECTIVENESS OF SCHOOL CHOICE IN MILWAUKEE: A SECONDARY ANALYSIS OF DATA FROM THE PROGRAM'S EVALUATION 27-28 (1996); Jay P. Greene, Paul E. Peterson & Jianstao Du, *School Choice in Milwaukee: A Randomized Experiment*, in LEARNING FROM SCHOOL CHOICE 335, 350-51 (Paul E. Peterson & Bryan C. Hassel eds., 1998).

57. Cecilia Elena Rouse, *Private School Vouchers and Student Achievement: An Evaluation of the Milwaukee Parental Choice Program*, 113 Q. J. ECON. 553 (1998).

58. *Id.* at 592-94.

59. KIM K. METCALF ET AL., EVALUATION OF THE CLEVELAND SCHOLARSHIP AND TUTORING PROGRAM: SUMMARY REPORT 1998-2002 8 (2003) [hereinafter METCALF, SUMMARY REPORT] ("In many ways, the basic classroom characteristics experienced by public and private school students are surprisingly similar."); KIM K. METCALF ET AL., EVALUATION OF THE CLEVELAND SCHOLARSHIP PROGRAM: SECOND YEAR REPORT 24 (1998) ("The effects of the program on scholarship students' academic performance are positive, but are mediated by the schools they attend.")

60. JAY P. GREENE, WILLIAM G. HOWELL & PAUL E. PETERSON, AN EVALUATION OF THE CLEVELAND SCHOLARSHIP PROGRAM 43 (1997); Jay P. Greene, William G. Howell and Paul E. Peterson, *Lessons from the Cleveland Scholarship Program*, in LEARNING FROM SCHOOL CHOICE, *supra* note 56, at 357, 387; Kim K. Metcalf & Polly A. Tait, *Free Market Policies and Public Education: What Is the Cost of Choice?*, 81 PHI DELTA KAPPAN 65, 65-75 (1999); Kim K. Metcalf, Commentary, *Advocacy in the Guise of Science: How Preliminary Research on the Cleveland Voucher Program Was 'Reanalyzed' To Fit a Preconception*, EDUC. WEEK, Sept. 23, 1998, at 34, 39.

61. CLIVE R. BELFIELD, THE EVIDENCE ON EDUCATION VOUCHERS: AN APPLICATION TO THE CLEVELAND SCHOLARSHIP AND TUTORING PROGRAM 20 (2006) ("[T]he [Cleveland voucher] program does not show any substantial gains for voucher users relative to other comparison groups.")

New York City; Dayton, Ohio; and the District of Columbia.⁶² The researchers used quasi-experimental models in comparing students who were randomly selected to receive a voucher to those who applied but were (randomly) denied.⁶³ As discussed below, researchers found no boost in math or reading achievement for White and Hispanic students, but significant gains for African American students who used vouchers to switch from public to private schools.⁶⁴ Like other similar surveys, however, the project's methodology and findings have been heavily criticized following secondary review and analysis of the data.⁶⁵

In general, no clear consensus has emerged regarding evidence of academic gains or losses due to the use of private school vouchers. If any general finding is available, it is that positive academic outcomes stemming from voucher programs are modest at best, do not extend to most groups, and certainly do not rise to the level anticipated by the early optimistic assumptions advancing such programs. Nonetheless, many voucher advocates see an "emerging consensus" in the research using randomized models indicating that vouchers are effective at boosting student achievement. Yet, on closer inspection, it appears that such a consensus is on rather tenuous ground. In fact, the best and most recent evidence suggests that the "private school effect" on which voucher programs are premised is unsubstantiated.

III. ASSESSING THE "CONSENSUS" IN ADVOCACY-DRIVEN RESEARCH ON VOUCHERS

Although research on school-choice outcomes has been mixed at best, influential coalitions are actively advocating for school-choice

62. WILLIAM G. HOWELL ET AL., TEST-SCORE EFFECTS OF SCHOOL VOUCHERS IN DAYTON, OHIO, NEW YORK CITY, AND WASHINGTON, D.C.: EVIDENCE FROM RANDOMIZED FIELD TRIALS 2 (2000); DANIEL P. MAYER ET AL., SCHOOL CHOICE IN NEW YORK CITY AFTER THREE YEARS: AN EVALUATION OF THE SCHOOL CHOICE SCHOLARSHIPS PROGRAM vii (2002).

63. HOWELL ET AL., *supra* note 62, at 3; MAYER ET AL., *supra* note 62, at 2.

64. HOWELL ET AL., *supra* note 62, at 33-35; MAYER ET AL., *supra* note 62, at vii-ix.

65. See U.S. GENERAL ACCOUNTING OFFICE, SCHOOL VOUCHERS: CHARACTERISTICS OF PRIVATELY FUNDED PROGRAMS 5 (2002); Alan B. Krueger & Pei Zhu, *Another Look at the New York City School Voucher Experiment*, 47 AM. BEHAV. SCIENTIST 658, 693-95 (2004) [hereinafter Krueger & Zhu, *Another Look*]; Alan B. Krueger & Pei Zhu, *Inefficiency, Subsample Selection Bias, and Nonrobustness: A Response to Paul E. Peterson and William G. Howell*, 47 AM. BEHAV. SCIENTIST 718, 726-27 (2004).

programs on the grounds that they are effective.⁶⁶ Concerted groups of pro-voucher think tanks, issue organizations, and policy advocates in academia have mobilized in support of the claim that there is a growing consensus on the efficacy of vouchers. These groups have demonstrated a notable ability to shape policy discourse and public perception regarding achievement research.⁶⁷ Yet most of this research has been conducted by pro-voucher advocates and has bypassed traditional scholarly review processes that are designed to instill an element of quality control on knowledge production. Reports from these organizations influence the policy arena, but many lack rigorous research or exhibit highly questionable methodologies. This section examines the research claims made by voucher advocates and the methodological problems present in studies used to support those claims.

A. Consensus Claims Regarding Voucher Research

Much of the research used to support the idea of a consensus on vouchers is both produced and cited by a small group of academics and policy advocates—many of which are associated with Paul Peterson and the PEPG at Harvard University. These researchers have produced a number of studies that find positive achievement effects for participation in voucher programs, and they generally cite each other in finding a consensus on this issue.

For example, Peterson protégé Jay Greene of the Manhattan Institute and University of Arkansas, reviewed studies on school-choice outcomes in a paper that has been published in a number of different forums.⁶⁸ Greene examined nineteen studies of school-choice outcomes in areas such as parental satisfaction, integration,

66. See, e.g., Matthew Ladner, *The Moynihan Challenge*, NAT'L REV. ONLINE, Mar. 23, 2006, <http://www.nationalreview.com/comment/ladner200603230738.asp>.

67. Elizabeth DeBray-Pelot, Christopher A. Lubienski & Janelle T. Scott, *The Institutional Landscape of Interest Group Politics and School Choice*, 82 PEABODY J. EDUC. 204, 226-27 (2007).

68. See generally JAY P. GREENE, A SURVEY OF RESULTS FROM VOUCHER EXPERIMENTS: WHERE WE ARE AND WHAT WE KNOW (2000); Jay P. Greene, *A Survey of Results from Voucher Experiments: Where We Are and What We Know*, in CAN THE MARKET SAVE OUR SCHOOLS? 121 (Claudia R. Hepburn ed., 2001); Jay P. Greene, *The Hidden Research Consensus for School Choice*, in CHARTERS, VOUCHERS, AND PUBLIC EDUCATION 83 (Paul E. Peterson & David E. Campbell eds., 2001); Jay P. Greene, *The Surprising Consensus on School Choice*, 144 PUB. INT. 19 (2001).

and civic values.⁶⁹ Focusing on academic achievement, he highlighted eight reports, identifying “a positive consensus among all eight studies, of five existing choice programs, conducted by four different groups of researchers. To be sure differences exist among these studies, but all have found important benefits of choice for the families that participate in them.”⁷⁰

Another such report was held up as “one of the most comprehensive reviews available on the research on recent school voucher programs in the United States.”⁷¹ The synthesis, produced by Marquette University’s Institute for the Transformation of Learning, indicates “an emerging consensus that school choice programs . . . can lead to . . . improved academic achievement.”⁷² Similarly, Shanea Watkins of the Heritage Foundation highlights seven studies of school voucher programs, concluding, “[t]hey all reached the same conclusion: Students who received vouchers experienced greater math and/or reading achievement gains than did the students who remained in the public school system.”⁷³ PEPG affiliate and University of Arkansas researcher Patrick Wolf cites ten “separate analysis of data produced by six random assignment voucher programs in five different cities” in contending that vouchers “tend to boost test scores.”⁷⁴ A recent report from the pro-voucher Friedman Foundation references “[s]even studies using random assignment, the gold standard for social science, [which] have found statistically significant gains in academic achievement from vouchers, and no such study has ever found negative effects.”⁷⁵ Indeed, the greatest strength of these claims of a consensus centers on the idea of randomization, which some see as “the gold standard” in social science research. However, there are significant limitations to relying on randomized trials alone in weighing these programs, and substantial methodological shortcomings with the studies that are

69. GREENE, A SURVEY OF RESULTS FROM VOUCHER EXPERIMENTS, *supra* note 68, at 2–6.

70. *Id.* at 12.

71. Howard Fuller, Parental Choice: Scarce and Widespread, Spencer Foundation Conference on Values and Evidence in Education Reform (Oct. 24–25, 2006).

72. GERARD ROBINSON, SURVEY OF SCHOOL CHOICE RESEARCH 1 (2005).

73. Shanea Watkins, *Are Public or Private Schools Doing Better? How the NCES Study Is Being Misinterpreted*, HERITAGE FOUND. BACKGROUNDER, Sept. 1, 2006, at 4.

74. Patrick J. Wolf, *School Voucher Programs: What the Research Says About Parental School Choice*, 2008 BYU L. Rev. 415, 416, 436.

75. FRIEDMAN FOUNDATION, THE ABCS OF SCHOOL CHOICE 52 (2007).

commonly cited in support of the consensus claims. These issues are described in detail below.

It is important to note that claims regarding the universal efficacy of vouchers are made by policy advocates who refer primarily to their own studies, to studies conducted by their associates, and to a handful of other studies that are often misrepresented. For instance, of the eight studies cited in Greene's article, five purport to provide clear evidence that vouchers enhance academic achievement.⁷⁶ These five studies were all produced by Greene or his colleagues at PEPG. Three of the studies exist only as working papers, and none were published in peer-reviewed journals.⁷⁷ The other three studies cited by Greene, two of which were peer-reviewed, were much more measured in their conclusions.⁷⁸ Similarly, Wolf refers to ten randomized studies to support his view of the evidence.⁷⁹ At least six of those studies were conducted by Wolf and his PEPG colleagues. Of the other four, two were actually methodological papers primarily attempting to test particular statistical methods rather than voucher efficacy.⁸⁰ The third, the Rouse study, showed voucher gains to be

76. GREENE, A SURVEY OF RESULTS FROM VOUCHER EXPERIMENTS, *supra* note 68, at 12.

77. *Id.* at 14, 16, 19.

78. See GREENE, A SURVEY OF RESULTS FROM VOUCHER EXPERIMENTS, *supra* note 68, at 19; Rouse, *supra* note 57, at 31–33; John F. Witte, *The Milwaukee Voucher Experiment*, 20 EDUC. EVALUATION & POL'Y ANALYSIS 229, 248 (1998). The first study, by Witte, found essentially no academic benefits to vouchers. The second study, by Rouse, found positive effects of vouchers comparable to (and slightly less than) those of public school programs such as smaller class size. The third study, the official evaluation of the Cleveland voucher program, is reported by Greene to show a gain of six "national percentile points" in language and four national percentile points "in science after two years for existing schools." Greene's evaluation project—led by Kim Metcalf, a person Greene characterizes as a supporter of school choice—actually concluded that there were no significant advantages in academic outcomes for students using vouchers. In fact, the evaluator was upset with the mischaracterization of his research findings, and noted that "it is possible that they [Greene and fellow PEPG researchers] are engaged in a deliberate effort to misrepresent the Cleveland data in order to influence educational policy." See METCALF, SUMMARY REPORT, *supra* note 59, at 39.

79. Wolf, *supra* note 74, at 436.

80. See John Barnard et al., *Principal Stratification Approach to Broken Randomized Experiments: A Case Study of School Choice Vouchers in New York City*, 98 J. AM. STAT. ASSOC. 299, 308 (2003). The study attempted to create a model for overcoming attrition and missing data, concluding: "Results from our model in the school choice study do not indicate strong treatment effects for most of the subgroups examined," finding "no advantages in reading, but some mathematics gains for some students from certain schools." *Id.*; see also Joshua M. Cowen, *School Choice as a Latent Variable: Estimating the "Complier Average Causal Effect" of Vouchers in Charlotte*, 35 POL'Y STUD. J. 18 (2007). The paper is an effort to argue for a particular approach to studying vouchers, according to the author, based on

statistically significant in math, but not reading (and gains were outpaced by public school students in smaller classes).⁸¹ And the fourth paper discredited a PEPG report of voucher gains in New York.⁸² Thus, when looking across subjects, the majority of the studies Wolf cites show “no significant gains” for voucher programs.⁸³

Similarly, the Marquette University report claims to be based on twenty-seven studies “which mainly involve peer-reviewed research, by recognized scholars, that has appeared in prestigious journals.”⁸⁴ In fact, only three of the twenty-seven studies appeared in any peer-reviewed journals,⁸⁵ and two of those showed little or no positive effect for using vouchers or an effect similar to that of other public schools.⁸⁶ Of the twenty-seven studies, twenty-four were cited to show positive effects for choice, and all twenty-four of those were produced by researchers associated with the PEPG program at Harvard.⁸⁷ Similarly, the Friedman Foundation report cites “seven studies using random assignment” that demonstrate “statistically significant gains in academic achievement from vouchers” (actually, eight are cited).⁸⁸ Six of those were produced by PEPG associates, while the findings of the other two—the only ones published in respected peer-reviewed journals—are misrepresented in the report.⁸⁹

a small-scale field trial These results, which show positive effects of school vouchers for compliers, should be interpreted with some degree of caution. The data analyzed here are hardly ideal. The most obvious problem is that response rates for study participants were dangerously low. There was no pretest administered to students in any group, so no estimate of a change in scores may be obtained. Moreover, the trial lasted for only one year, and its results must be interpreted as a snapshot in time, now nearly eight years old.

Id. at 17–18.

81. Rouse, *supra* note 57, at 592–93.

82. See Krueger & Zhu, *Another Look*, *supra* note 65.

83. Wolf, *supra* note 74, at 437–38.

84. Fuller, *supra* note 71, at 7.

85. One of the studies cited does not appear in Robinson’s reference list, so it is difficult to determine where it was published. See the reference to “Howell, 2004” as cited in ROBINSON, *supra* note 72, at 10.

86. Some of the studies cited showed little or no impact for vouchers, which is not mentioned in the Robinson synthesis. Instead, they were included apparently because they indicate higher levels of parental satisfaction.

87. See ROBINSON, *supra* note 72, at 10.

88. FRIEDMAN FOUNDATION, *supra* note 75, at 52.

89. See CHRISTOPHER LUBIENSKI, REPORT ON ‘THE ABC’S OF SCHOOL CHOICE’ (2007).

B. Review Processes for Voucher Research

The reliance on research from PEPG in voucher advocacy is no accident. PEPG is directed by Paul Peterson, who has described himself as a “Jedi attacker” on this issue,⁹⁰ and who has been lauded as “the leading advocate of school choice” by Senator Lamar Alexander, the former Secretary of Education under the first Bush Administration.⁹¹ Furthermore, the group is funded by a number of conservative and pro-voucher foundations.⁹² PEPG has brought a notable innovation to the research around school choice, particularly in how its scholars disseminate their findings. Unlike most of the studies by voucher advocates, the majority of research published in respected academic journals goes through impartial peer review prior to publication. This process involves multiple rounds of close scrutiny and critical feedback by experts unaffiliated with the authors—a particularly salient mechanism when dealing with complex, sophisticated, and highly specialized research methodologies. Readers of impartially peer-reviewed publications, even if they lack research expertise themselves, can have some confidence that the studies they are reading have met at least baseline standards for research rigor. Some form of the peer review process is used in virtually all academic fields, and it is widely regarded as the most important gatekeeper for ensuring the quality of research publications.

In view of the admitted prejudice of PEPG on this politicized issue, the substantial funding provided by pro-voucher organizations in support of the research, and the consistently contested methodologies employed by PEPG, one might expect that researchers doing work in this area would look to publish their work in respected, peer-reviewed journals to lend legitimacy to their findings. Yet PEPG associates have pioneered ways around this process in education research. Many of the PEPG reports are released directly to the press as research papers or as reports from think tanks such as the Manhattan Institute after being reviewed (at

90. Paul E. Peterson, *Monopoly and Competition in American Education*, in *I CHOICE AND CONTROL IN AMERICAN EDUCATION* 47, 73 (W.H. Clune & J. F. Witte eds., 1990).

91. Lamar Alexander, Remarks at the National Student Academic Freedom Conference (Apr. 7, 2006).

92. See PEPG Sponsors and Affiliates, http://www.ksg.harvard.edu/pepg/sponsors_affiliates.htm (last visited Mar. 21, 2008).

most) by other PEPG associates.⁹³ PEPG papers also often appear in collections published by Brookings and edited by PEPG scholars.⁹⁴ Furthermore, PEPG has started alternative “peer-reviewed” outlets such as *Education Next* and the *Education Working Paper Archive* (EWPA). *Education Next* is a “journal of opinion and research” edited by Peterson, which includes an editorial board made up exclusively of school-choice advocates at the Hoover Institution.⁹⁵ EWPA is an online publication represented as both a peer-reviewed publication and a working paper outlet under the editorship of Jay Greene and other PEPG affiliates at the University of Arkansas.⁹⁶ While such publications may technically be “peer-reviewed,” they do little to enhance the credibility of the research. Furthermore, the papers on vouchers often lack adequate descriptions of research methods (see *infra*), and primarily cite other pro-voucher authors—suggesting the existence of an academic echo chamber.

Most of the research cited in support of the consensus claim has not gone through normal peer-review processes, even though the PEPG director has employed peer review as a standard in criticizing other people’s work.⁹⁷ Sponsoring organizations are quite successful at getting attention for these reports, but too often they pay little or no attention to counter-evidence, research standards, or peer-reviewed studies in advancing this research. Consequently, we see a research “consensus” that is becoming quite prominent in policy debates but is lacking in terms of academic rigor and standards, and even more so in terms of the actual diversity of perspectives.

93. See, e.g., PAUL E. PETERSON & ELENA LLAUDET, ON THE PUBLIC-PRIVATE SCHOOL ACHIEVEMENT DEBATE (2006).

94. See generally DAVID E. CAMPBELL & PAUL E. PETERSON (eds.), CHARTERS, VOUCHERS, AND PUBLIC EDUCATION (2001); PAUL E. PETERSON & BRYAN C. HASSEL (eds.), LEARNING FROM SCHOOL CHOICE (1988).

95. See <http://www.hks.harvard.edu/about/faculty-staff-directory/paul-peterson> (last visited Mar. 21, 2008) (Peterson’s professional biography); <http://www.hoover.org/publications/ednext> (last visited Mar. 21, 2008) (displaying *Education Next*’s banner and masthead).

96. See <http://www.uark.edu/ua/der/EWPA> (last visited Mar. 21, 2008).

97. See, e.g., *id.*; Julian R. Betts et al., Advertisement, *Charter School Evaluation Reported by the New York Times Fails To Meet Professional Standards*, N.Y. TIMES, Aug. 25, 2004, at A17.

C. Assessing the Research Basis of the Consensus

In addition to concerns about scholarly standards, there are at least two major problems with the body of evidence presented in support of a consensus. First, in their zeal to find gains and ascribe them to vouchers, these reports often mischaracterize the overall findings of the research, including the research from voucher advocates. Even in the best light, that research suggests only minimal achievement benefits from vouchers, and virtually none for white and Hispanic students. These problems may account for the fact that so few of the research reports have been published in respected peer-reviewed journals. For example, in addition to the PEPG reports, many of the consensus claims point to Cecilia Rouse's re-analysis of data on the Milwaukee voucher program in claiming, as does the Friedman Foundation, that "voucher students improved more than the control group by eight points in math over four years."⁹⁸ Indeed, the Rouse study found some gains for students using vouchers,⁹⁹ but Rouse herself suggested that these gains may be attributable not to private schools being inherently more effective than public schools, but to the fact that private schools tended to have smaller classes.¹⁰⁰ In fact, Rouse also noted that gains for students using vouchers for private schools were similar to—or *outpaced by*—gains for public school students in classes similar in size to those in private schools.¹⁰¹ It is therefore not surprising that voucher advocates typically fail to recognize that Rouse actually endorsed class size as a more effective alternative for improving student achievement.¹⁰²

The second major problem with the body of evidence underlying claims of a consensus is the selective use of research and the failure to cite high-quality studies, several of which have been published in peer-reviewed journals, that seriously undermine the contention that choice necessarily raises academic achievement. The consensus refers only to a very small sub-sample of a much broader and growing research literature on school sector effects. And this sub-sample is

98. FRIEDMAN FOUNDATION, *supra* note 75, at 52.

99. Rouse, *supra* note 57.

100. *Id.*

101. *Id.*

102. Cecilia Elena Rouse & Lisa Barrow, *U.S. Elementary and Secondary Schools: Equalizing Opportunity or Replicating the Status Quo? in THE FUTURE OF CHILDREN: FALL 2006*, at 99, 113 (Sara McLanahan & Isabel Sawhill eds., 2006).

significantly biased, as demonstrated by the fact that almost all the research cited was produced by a small number of acknowledged voucher advocates.

For instance, the Friedman Foundation report extols competition among schools and asserts that its effects are purely positive. The report claims: "Not one empirical study has ever found that outcomes at U.S. public schools got worse when exposed to school choice, and numerous studies have found that they improve."¹⁰³ Although this issue has been little studied in the United States, evidence from other nations that have further developed choice models gives us reason to question this assumption. Research from other countries has found clear negative effects of choice. Nations such as Chile, New Zealand, and the United Kingdom have gone further than the United States in pursuing universal school choice, but research, much of it peer-reviewed, shows that substantial social segregation results from choice, with poorer students left behind in schools that then accelerate the schools' decline.¹⁰⁴ And in the most recent and rigorous study on this issue in the United States, University of Utah researcher Yongmei Ni employed a number of approaches to examine the impact of competition from charter schools on public schools in Michigan.¹⁰⁵ The results indicate a negative impact on public schools, which worsens as competition increases.¹⁰⁶

Consensus claims, although emanating from different sources, typically point to a small set of studies for support. Moreover, when

103. FRIEDMAN FOUNDATION, *supra* note 75, at 54.

104. See generally HUGH LAUDER ET AL., *TRADING IN FUTURES: WHY MARKETS IN EDUCATION DON'T WORK* (1999); Carnoy, *supra* note 16; Martin Carnoy, *National Voucher Plans in Chile and Sweden: Did Privatization Reforms Make for Better Education?*, 42 *COMP. EDUC. REV.* 309 (1998); Edward Fiske & Helen Ladd, *School Choice in New Zealand: A Cautionary Tale*, in *CHOOSING CHOICE: SCHOOL CHOICE IN INTERNATIONAL PERSPECTIVE* 45-67 (David Nathan Plank & Gary Sykes eds., 2003); Taryn Rounds Parry, *Decentralization and Privatization: Education Policy in Chile*, 17 *J. PUB. POL'Y* 107 (1997); Taryn Rounds Parry, *How Will Schools Respond to the Incentives of Privatization? Evidence from Chile and Implications for the United States*, 27 *AM. REV. PUB. ADMIN.* 248 (1997); Viola Espinola, *The Educational Reform of the Military Regime in Chile: The School System's Response to Competition, Choice, and Market Relations* (1993) (unpublished Ph.D. dissertation, University of Wales).

105. Yongmei Ni, *Do Traditional Public Schools Benefit from Charter School Competition? Evidence from Michigan* (Apr. 2007) (unpublished paper presented at Annual Conference of the American Educational Research Association in Chicago).

106. *Id.*

assessing these studies, one finds serious methodological issues and problems with them. The rest of this section addresses several consensus studies and identifies the methodological problems apparent in each of them.

1. PEPG study in Milwaukee

A 1998 PEPG study of Milwaukee's voucher program found superior academic outcomes for students using vouchers to attend private schools.¹⁰⁷ Not only was the study not peer-reviewed, but also it drew criticism for adopting a random assignment model and neglecting issues of sample size, attrition, and reporting.¹⁰⁸ While random assignment models can be useful in measuring the effects of a treatment when compared to similar, untreated populations, if the populations are unstable—that is, if one or both of the groups is reduced during the treatment in ways that may corrupt the comparability of the two groups—comparison of the treatment groups is tenuous at best. This is exactly the case with the PEPG study, where the treatment (voucher) group lost over one-half of its students within the first year, thereby fatally compromising the integrity of the randomization.¹⁰⁹ Nevertheless, the PEPG study made strong (but unsustainable) conclusions based on only eighty some students—meaning that some grade levels had just a few “treatment” students—despite the fact that the experimental group, suffering heavy attrition of students returning to the public schools, was no longer comparable to the control group in the “random assignment” model.¹¹⁰

2. Greene's study in Milwaukee

A 2004 study of graduation rates in Milwaukee conducted by Jay Greene was commissioned and published by a voucher advocacy

107. GREENE ET AL., *supra* note 56. A later version of the study was published in an academic journal, but in a special theme issue of the journal, so the review criteria are not clear. See generally Jay P. Greene et al., *Effectiveness of School Choice: The Milwaukee Experiment*, 31 EDUC. & URB. SOC'Y 190-213 (1999).

108. John F. Witte, *Reply to Greene, Peterson and Du: The Effectiveness of School Choice in Milwaukee: A Secondary Analysis of Data from the Program's Evaluation* 3-6, (1996) (unpublished article, on file with the University of Madison-Wisconsin), available at http://www.disc.wisc.edu/choice/reply_text.html.

109. *Id.* at 3 tbl.2.

110. *Id.* at 3 tbl.1.

group—not a peer-reviewed journal.¹¹¹ The report compares apples and oranges: students choosing to attend private schools using vouchers were compared to non-choosers.¹¹² Since the private school voucher students had, by definition, demonstrated a commitment to their education through the act of choosing, it naturally followed that they remained true to their commitment and were more likely to graduate.¹¹³ Similar findings were evident when Greene examined selective public schools.¹¹⁴ But the Greene study conflated two research questions, confusing one with the other. His study provided evidence for the obvious point that students from families actively engaged in their children's education are more likely to graduate, as any informed observer would expect. Yet the study claims to provide evidence concerning the value of private school vouchers. A reader of his study would have no way of disentangling the two causal mechanisms and no way of determining whether the latter added anything to the former. Moreover, Greene failed to consider differences in graduation requirements in different schools, as well as demographic differences in the enrollment among the different schools.

Greene and Forster's 2003 Florida study is often cited to demonstrate that participants in voucher programs were more satisfied when they used a voucher.¹¹⁵ This finding could have been predicted by other social science research suggesting that the simple power to choose may increase satisfaction regardless of—or even in spite of—actual outcomes.¹¹⁶ Again, the study in question did not appear in a peer-reviewed journal. No mention is made of the significant methodological problems that result when survey research and self-reported measures of satisfaction are used as a metric of program effectiveness or success. Finally, the study says nothing

111. JAY P. GREENE, GRADUATION RATES FOR CHOICE AND PUBLIC SCHOOL STUDENTS IN MILWAUKEE (2004).

112. *Id.*

113. *Id.* at 4.

114. *Id.* at 4–5.

115. JAY P. GREENE & GREG FORSTER, VOUCHERS FOR SPECIAL EDUCATION STUDENTS: AN EVALUATION OF FLORIDA'S MCKAY SCHOLARSHIP PROGRAM (2003).

116. See, e.g., Simona Botti & Ann L. McGill, *When Choosing Is Not Deciding: The Effect of Perceived Responsibility on Satisfaction*, 33 J. CONSUMER RES. 211, 218–19 (2006).

regarding academic achievement, but is nonetheless cited in support of that claim.¹¹⁷

3. PEPG studies in select states

PEPG studies of privately funded voucher programs in Washington, Ohio, and New York¹¹⁸ in 2002 are often cited as proof that private schools can increase student achievement better than can public schools.¹¹⁹ Although the PEPG director of the study publicly reported significant academic gains for students using vouchers, any gains were actually isolated to a few cases under particular model specifications. Other researchers (including independent researchers at Mathematica who worked with PEPG on the study) offered much more cautionary conclusions.¹²⁰ A re-analysis of the data by Princeton economists concluded that the gains were evident only when reported as averages, were restricted to only one group in one grade, and were non-robust and dependent on highly questionable classifications and treatment of data, such as the omission of about forty percent of the participants.¹²¹

4. PEPG study in New York

Another study of the privately-funded New York voucher program is held up to demonstrate that “after only one year in the program voucher students improved 4.7 percentile points more than the control group in math.”¹²² This study was peer reviewed, and a statistically significant benefit was found.¹²³ But it also has important and acknowledged limitations. Interestingly, the study in question was an attempt to address some of the serious methodological issues

117. FRIEDMAN FOUNDATION, *supra* note 75, at 52–53.

118. HOWELL ET AL., *supra* note 62; MAYER ET AL., *supra* note 62; PAUL E. PETERSON & WILLIAM G. HOWELL, EFFICIENCY, BIAS, AND CLASSIFICATION SCHEMES: ESTIMATING PRIVATE-SCHOOL IMPACTS ON TEST SCORES IN THE NEW YORK CITY VOUCHER EXPERIMENT (2003).

119. See, e.g., FRIEDMAN FOUNDATION, *supra* note 75, at 35; Watkins, *supra* note 73, at 3–4; Wolf, *supra* note 74.

120. Kate Zernike, *New Doubt Is Cast on Study That Backs Voucher Efforts*, N.Y. TIMES, Sept. 15, 2000, at 26.

121. U.S. GENERAL ACCOUNTING OFFICE, *supra* note 65, at 16–21; Krueger & Zhu, *Another Look*, *supra* note 65, at 694–97.

122. FRIEDMAN FOUNDATION, *supra* note 75, at 53.

123. Barnard et al., *supra* note 80, at 308.

that plagued previous PEPG attempts to study this program, including the substantial problem of missing data, and the fact that (as with Milwaukee) many students did not remain in their randomly assigned group.¹²⁴ The study was funded by a number of pro-voucher organizations and found relative gains for some groups in mathematics, but, as the authors of the study noted: “Results from our model in the school choice study do not indicate strong treatment effects for most of the subgroups examined,” finding no advantages in reading, but some mathematics gains for some students from certain schools.¹²⁵

5. Greene’s study in North Carolina

Another Jay Greene study looked at a privately-funded voucher program in Charlotte, North Carolina, and was published in the Hoover Institution’s *Education Next*.¹²⁶ The data and analysis of this study are so flawed that the study has been rendered virtually meaningless. First, the comparison groups are in no way comparable because issues of selection bias are overwhelming. Well over half of the students awarded a voucher did not use it.¹²⁷ Only forty percent of the students applying to the program—the pool from which the random assignment groups were constructed—participated in the study, and participation rates varied widely between groups.¹²⁸ Greene attempted to dismiss these issues by comparing the groups on a single variable¹²⁹ and then noted that “test-score data were adjusted statistically,”¹³⁰ but the report never describes how the statistical adjustments were done. (Transparency of methods and replicability are “gold standards” of social science research—much more so than random assignment.) Instead, Greene merely tries to convince readers that students were “quite similar on observed as well as (in all likelihood) unobserved characteristics.”¹³¹ But this is a difficult claim to sustain because something caused over half of the

124. *Id.*

125. *Id.*

126. Jay P. Greene, *Vouchers in Charlotte*, 1 *EDUC. NEXT* 55 (2001).

127. *Id.*

128. *See id.* at 56.

129. Elsewhere, Greene has criticized comparisons based on a single variable. *See Betts et al.*, *supra* note 97, at A17.

130. Greene, *supra* note 126, at 56.

131. *Id.*

voucher awardees to choose not to enroll in a private school, and caused 60% of the participants to fail to participate in the tests for the study. Again, Greene contends that the groups are comparable since “[a]ll families were motivated enough to complete an application for a scholarship.”¹³² But there is a substantial difference between filling out a form and committing to getting one’s child to a school across town every day—a commitment contingent on parental resources of time and transportation that are not evenly distributed across groups. This leads one to suspect that unobservable differences between groups existed and became apparent as the study progressed, despite attempts to sweep them under the rug.

Furthermore, Greene points to interviews to claim that students were rarely refused admission to, or expelled from, private schools—a practice that would further bias the sample.¹³³ But because families with children who were rejected or expelled were likely among the 60% of people who refused to participate in the study, claims based on the remaining 40% of the survey are next to meaningless. Finally, it must be noted that the report credits advantages for the voucher students entirely to the private schools they attended, without controlling for peer effects, which may very well account for differences in test scores, apart from the type of school attended.

D. The Limits of Randomized Models in Voucher Research

Although there are reasons to favor its use, the random-assignment model used in most of these studies is more problematic than one might initially expect. While many advocates have claimed that random assignment is the “gold standard” in social science research, the approach runs into serious methodological problems when applied to schooling—problems that voucher advocates ignore. The advantage of random assignment is that unobservable differences in comparisons between students attending public and private schools are diminished through the randomization process, which theoretically makes the comparison groups similar in all respects, except for the treatment they received (the type of school attended).

The random assignment model lauded in numerous reports advocating vouchers ascribes differences in student achievement to

132. *Id.*

133. *Id.* at 59.

some (always unexplained) difference in the programs at public and private schools. And yet those specific differences are almost never examined; instead, readers are left to assume that private schools are somehow superior in their effectiveness. In fact, one of the most obvious differences between public and private schools is that private schools educate a higher proportion of students from more affluent families. These types of students generally share characteristics such as motivation and esteem for the value of education that are associated with higher academic performance regardless of the school they attend.¹³⁴ Since voucher programs move students from public schools into private schools, the students are exposed to a wealthier peer group, which is likely to have a beneficial impact on voucher students, regardless of whether or not they are attending a private school. That is, these random assignment studies credit school effectiveness, while not controlling for well-known peer effects. Students will enjoy the benefits of a more favorable peer group whenever they transfer to a more affluent school, regardless of whether it is public or private.

Voucher plans also complicate simple achievement comparisons because parental decisions on whether or not to utilize choice options introduce an additional student background factor that must be considered. Consequently, when evaluating the achievement effects of participation in voucher programs, an additional level of control is needed in the research design. As discussed earlier, most families who are eligible for voucher programs or other forms of school choice elect not to participate. Also, many who are awarded vouchers choose not to use them, or soon return to public schools—seriously corrupting the integrity of comparisons across groups. In order for families to receive and utilize a voucher, they must be sufficiently aware of the school choice options available in their community, and they must believe that schooling is important enough to consider making a significant change. Moreover, many private schools do not offer transportation and other services provided by many public schools,¹³⁵ so if a family completes the application process and receives a voucher, they must also be willing to take on the additional responsibilities that may be required for private school attendance. For this reason, students who participate

134. See Levin, *supra* note 26, at 381.

135. See *id.* at 383–84.

in voucher programs are often more advantaged than their public school peers because their parents believe schooling is a high priority and are significantly engaged in the educational process.

Because parent engagement, as one might expect, positively affects student achievement, researchers cannot simply compare voucher participants with regular public school students to evaluate the success of voucher programs. And, in addition to the fact that voucher students enjoy achievement advantages from the outset, students also move in and out of voucher programs at relatively high rates, creating attrition issues that complicate studies involving student achievement.¹³⁶ Another well-known issue in such studies is the tendency for participants who are randomly selected for a study to try harder, while those randomly put into the control group may be disappointed, which might influence their motivation.

Furthermore, the limited scale of most voucher studies makes it difficult to draw firm conclusions. As with the research literature on achievement from larger-scale data in HSB and NELS, it is important for researchers to note the central position of the school sector when trying to understand relative gains in academic achievement. The institutional location of a school in the private or independent sector is assumed to generate incentives that will cause that school to produce greater gains in academic achievement than public schools, even with the same students. Yet studies of voucher programs typically deal with only a discrete number of schools involved in a local program, or focus on a select number of students who cross sector boundaries, rather than working with large samples of students representing whole sectors. Because local policy and contextual factors have become predominant considerations for these studies, the overriding assumption behind voucher programs—that private schools generally outperform public schools—is partially obscured from examination by the fact that only a proportion of the private schools in these areas actually participate in these programs and are therefore included in these studies. Research that draws from a larger, less localized sample set may ultimately be more useful for researchers and policymakers trying to reach conclusions about student achievement in public versus private schools. Several such studies are noted in the next section.

136. See, e.g., Witte, *supra* note 108, at 3.

In general, the use of voucher studies to address academic performance in public and private schools is problematic and inappropriate. Voucher studies tend to be smaller-scale, localized projects that suffer from organization-level selection bias—based on students leaving (presumably failing) public schools for private schools that have elected to participate in voucher programs. Such samples of schools are hardly representative and have little external validity. On the other hand, public-private school studies can offer some insights into voucher programs in general because they are premised on assumptions of inherent private school superiority.

As noted above, the quality of an academic study has traditionally been assessed through the process of peer review. Indeed, even enthusiasts such as Peterson and Greene have argued that we must “assess carefully any research sponsored by interest groups engaged in policy debates. Such studies need to be vetted by independent scholars, as is commonly done in coverage of research on the biological and physical sciences.”¹³⁷ However, if we use this standard, the research supporting school vouchers in the United States based on academic outcomes is rather thin indeed. In reviewing the claims made by school choice advocates regarding the empirical basis for school choice—highlighting studies presumably most favorable to that agenda—precious few studies on academic outcomes meet this standard, and the few that do are more mixed in their assessments than is indicated in the advocacy literature. Voucher advocates make strong claims that voucher programs work, but these claims are not supported by compelling evidence. Moreover, the data from larger studies comparing public and private school achievement suggest that public schools do remarkably well in comparison to the private sector.

IV. A NEW CONSENSUS? FINDINGS FROM LARGER-SCALE STUDIES

Voucher programs are premised on the notion that because private schools outperform public schools, moving a given child from a public to a private school will likely increase his or her academic achievement due to greater school effectiveness. While the claims of

137. See Berts et al., *supra* note 97, at A17. This statement was signed by these scholars in a full-page advertisement placed by the Center for Education Reform in the *New York Times*, in response to the charter school report released by the American Federation of Teachers.

a consensus on this point typically point to a handful of non-reviewed reports on small-scale, non-representative datasets, the most recent generation of large-scale studies using nationally representative data suggests quite a different pattern with regard to the relative performance and effectiveness of public and private schools.

The National Assessment of Educational Progress (NAEP) is often referred to as “The Nation’s Report Card” because it is the only nationally representative, on-going assessment of American academic achievement in various subject areas.¹³⁸ The test is considered “the gold standard” in terms of assessment, according to Diane Ravitch, formerly of *Education Next*.¹³⁹ More importantly, in a large 2006 survey of educational researchers and policymakers, NAEP was ranked as the single most influential “study” of American educational outcomes.¹⁴⁰

NAEP includes not only achievement data, but also comprehensive demographic and background data that allow researchers to simultaneously examine relationships among school organizational types, demographic characteristics, and academic achievement.¹⁴¹ Although these data are cross-sectional and therefore do not allow for causal claims, the richness of the data, when considered in more sophisticated analyses of multiple confounding factors, offers a detailed picture of school performance. Indeed, unlike the randomized models used in many voucher studies, researchers using multi-level, multi-variate approaches can consider both sector-type and school-level influences—such as peer-effects—on student achievement.

In 2003, NAEP assessments were administered to over 190,000 fourth graders from 7485 public, private, and charter schools and to over 153,000 eighth graders in 6092 schools.¹⁴² As expected, raw score comparisons found that private school students, on average,

138. CHRISTOPHER B. SWANSON & JANELLE BARLAGE, *INFLUENCE: A STUDY OF THE FACTORS SHAPING EDUCATION POLICY* 36 (2006).

139. Diane Ravitch, *Every State Left Behind*, N.Y. TIMES, Nov. 7, 2005, at A23.

140. SWANSON & BARLAGE, *supra* note 138, at iv.

141. *Id.* at 36.

142. See About National NAEP, National Assessment of Educational Progress, <http://nces.ed.gov/nationsreportcard/about/national.asp> (last visited Mar. 21, 2008); see also HENRY BRAUN, FRANK JENKINS & WENDY GRIGG, *COMPARING PRIVATE SCHOOLS AND PUBLIC SCHOOLS USING HIERARCHICAL LINEAR MODELING* iii-iv (2006), available at <http://nces.ed.gov/nationsreportcard/pdf/studies/2006461.pdf>.

scored higher than public school students.¹⁴³ The real question raised by this research, however, was whether differences in test scores between various school types—public schools or Catholic and other private schools—were primarily due to differences in the student populations served by these different sectors.

After the raw data were released by the federal government, two separate research teams independently conducted multi-level analyses of the raw NAEP data. In a federally funded study published in a peer-reviewed journal, Lubienski and Lubienski used hierarchical linear modeling (HLM) to examine mathematics achievement, since focusing on that subject area further distinguishes schools' programmatic influences from family background.¹⁴⁴ Mathematics is learned primarily in school relative to other subjects such as reading, which tend to be more heavily influenced by students' experiences at home.¹⁴⁵ After controlling for differences in demographic and location, the study found private school students to be performing at a level significantly beneath their public school counterparts in grade four.¹⁴⁶ In grade eight, public schools outperformed Catholic and conservative Christian schools and were essentially similar to Lutheran and other private schools.¹⁴⁷ In a similar study of NAEP data commissioned and heavily reviewed by the federal government, researchers at the Educational Testing Service used somewhat different assumptions and variables, but largely replicated the Lubienski findings in mathematics and came to similar results in reading as well.¹⁴⁸

The robust NAEP results consistently indicate that demographic differences between public and private schools easily account for the relatively high raw scores in private schools. After controlling for demographic differences, no private school means were higher than

143. See BRAUN ET AL., *supra* note 142, at iii–v.

144. Lubienski & Lubienski, *supra* note 28, at 653–54; see also Christopher Lubienski & Sarah Theule Lubienski, *Charter Schools, Academic Achievement and NCLB*, 1 J. SCH. CHOICE 55 (2006); Sarah Theule Lubienski & Christopher Lubienski, *A New Look at Public and Private Schools: Student Background and Mathematics Achievement*, 86 PHI DELTA KAPPAN 696 (2005).

145. See, e.g., Stephen P. Heyneman, *Student Background and Student Achievement: What Is the Right Question?* 112 AM. J. EDUC. 1, 4 (2005); Paul E. Peterson, *School Choice: A Report Card*, in LEARNING FROM SCHOOL CHOICE, *supra* note 56, at 3, 3.

146. Lubienski & Lubienski, *supra* note 28, at 679–80.

147. *Id.* at 681.

148. BRAUN ET AL., *supra* note 142, at iii–iv.

public school means to any statistically significant degree.¹⁴⁹ Moreover, particularly at grade four, public schools actually scored significantly higher than private schools.¹⁵⁰ PEPG attempted a re-analysis of the data, using “alternative models” to find a private school advantage.¹⁵¹ However, that study was reviewed only by other PEPG associates and has not been published. In addition, the PEPG study failed to account for substantial missing data issues and relied on variables known by experienced NAEP researchers to be unreliable—for instance, in the NAEP study, one-third of fourth graders reported that they did not know their parents’ education level,¹⁵² but PEPG still used this variable.¹⁵³

Also, in response to the NAEP findings, Greg Forster of the Friedman Foundation offered the surprising assertion that private schools simply enroll slower students: “A much more likely explanation for the latest study’s results is that when students enter private schools, they tend to have test scores a little lower than other students of their race and socioeconomic status.”¹⁵⁴ However, the best available data on that issue from the Early Childhood Longitudinal Study, Kindergarten class of 1998 (ECLS-K), easily disprove that contention. ECLS-K is a national database of longitudinal information on student demographics and achievement that is collected from a representative sample of more than 21,000 students in public and private schools.¹⁵⁵ Administered by the National Center of Education Statistics, ECLS-K follows students entering kindergarten in 1998, offering both a measure of initial achievement and highly detailed insights into students’ academic gains in different types of schools over the course of their

149. *Id.*

150. *Id.* at 11–16. Contrary to the claims of uninformed critics, NAEP did not collect data from grade 12 in 2003. See, e.g., John Stossel, *Smearing Education Choice*, TOWNHALL.COM, July 26, 2006, http://www.townhall.com/columnists/JohnStossel/2006/07/26/smearing_education_choice.

151. LUBIENSKI, *supra* note 89, at 4.

152. See U.S. DEPT. OF EDUC., NAT’L CTR. FOR EDUC. STATISTICS, THE CONDITION OF EDUCATION 2003 (2003), available at <http://nces.ed.gov/programs/coe/2003/supnotes/n01.asp>.

153. *Id.*

154. Greg Forster, “F” for Failure, NAT’L REV. ONLINE, May 12, 2005, <http://www.nationalreview.com/comment/forster200505120815.asp>.

155. Early Childhood Longitudinal Program, <http://nces.ed.gov/ecls/kindergarten.asp> (last visited Mar. 21, 2008).

education.¹⁵⁶ Unlike NAEP, the longitudinal nature of ECLS-K and the comprehensive data on student background and experiences allow researchers to draw nuanced causal conclusions regarding school effectiveness.

Two studies have examined this data in light of public and private school effects. Again, using HLM, Lubienski, Lubienski, and Crane examined mathematics achievement in over 1500 public and private schools.¹⁵⁷ Contrary to the claims of Forster at the Friedman Foundation, students entering private schools do not have “test scores a little lower” than those in public schools.¹⁵⁸ Instead, the opposite is true: non-Catholic private school students enter school with a statistically significant advantage in achievement, and Catholic school students’ initial achievement is also no lower than those of public school students.¹⁵⁹ Furthermore, after controlling for differences in student populations, gains over time show public schools to be more effective at boosting student achievement.¹⁶⁰ A second study, conducted by Rand, examined both reading and mathematics achievement in this data.¹⁶¹ Rand found no differences between school types in reading—a subject often more closely associated with home factors.¹⁶² But in terms of mathematics (a subject learned more in school), the study concurred with the previous report, finding a *negative* private school effect for religious schools.¹⁶³ Additionally, a recent Columbia University study analyzed data on disadvantaged students in urban high schools from the

156. *Id.*

157. Christopher Lubienski, Sarah Theule Lubienski & Corinna Crane, *What Do We Know About School Effectiveness? Academic Gains in Public and Private Schools*, 89 PHI DELTA KAPPAN (forthcoming Apr. 2008).

158. Forster, *supra* note 154.

159. *Id.*

160. *Id.*

161. Maria Teresa V. Taningco, *Assessing the Effects of Parental Decisions About School Type and Involvement on Early Elementary Education 7* (Sept. 2006) (unpublished Ph.D. dissertation, Pardee Rand Graduate School), available at http://rand.org/pubs/rgs_dissertations/2006/RAND_RGSD205.pdf.

162. *Id.*

163. *Id.* at 67–72. In a recent conference paper, PEPG authors analyzed this data, finding a private school advantage in reading, but not in mathematics—again, the subject more associated with school effects. However, the authors failed to control for school-level influences such as the peer effect, which would give an added advantage to private school scores. PAUL E. PETERSON & ELENA LLAUDET, HETEROGENEITY IN SCHOOL SECTOR EFFECTS ON ELEMENTARY STUDENT PERFORMANCE 17–18 (2007).

National Educational Longitudinal Study of 1988–2000, finding no boost in academic achievement for students attending private schools.¹⁶⁴

These large, nationally representative datasets offer unrivalled insights into the performance and effectiveness of different types of schools in the United States. The findings regarding private and public school achievement, although notable, are not entirely without precedent. Despite common perceptions and claims of a consensus around this issue, several previous studies have called into question claims of a general, positive private school effect.¹⁶⁵ The findings in these large studies regarding the relative effectiveness of public schools are significant in terms of their policy implications. Voucher programs are based specifically on the notion that private schools bestow an advantage on students in terms of achievement gains, especially when compared to public schools. That is, the idea of moving students from public to private schools to increase achievement is contingent upon the assumption that private schools are more effective at boosting achievement. However, the presumed panacea of private-style organizational models—the private-school advantage—is not supported by the more comprehensive data on student achievement. These data, at the very least, suggest significant reasons to be suspicious of consensus claims based on small-scale studies of non-representative data conducted by policy advocates.

V. SUMMARY AND CONCLUSION

There are many reasons one could support school choice, but evidence of inherently higher student achievement in private schools may not be among them. Indeed, one need not oppose choice to see the weaknesses of the academic achievement arguments made on behalf of vouchers. While the debate about academic outcomes will undoubtedly continue, it is impossible to make an honest and compelling argument that private schools in general are boosting academic achievement in any significant or sustained manner; in fact,

164. HAROLD WENGLINSKY, ARE PRIVATE HIGH SCHOOLS BETTER ACADEMICALLY THAN PUBLIC HIGH SCHOOLS? 2, 19–20 (2007). See generally DONG WOOK JEONG, DO SCHOOL TYPES MATTER IN STUDENT ACHIEVEMENT IN URBAN HIGH SCHOOLS? (2007).

165. See generally Alexander & Pallas, *supra* note 33; Figlio & Stone, *supra* note 43; Goldhaber, *supra* note 39; Krueger & Zhu, *Another Look*, *supra* note 65; Willms, *supra* note 33.

it may be that they have a negative impact on academic achievement in some instances. This is a notable possibility in view of the claim that voucher programs have not been shown to harm academic achievement.¹⁶⁶ In fact, the “do no harm” promise is far removed from earlier claims about the potential for vouchers to improve student performance. Over a decade into this reform, some advocates are moving away from optimistic claims about school choice achievement outcomes, and many are instead highlighting parent satisfaction as evidence of success.¹⁶⁷ While Friedman saw school choice as the epitome of freedom in education, major debates on the efficacy of choice in the United States now hinge on methodological details such as whether classifications of a child’s minority status should depend on the race of one parent or both parents.¹⁶⁸

If any consensus is emerging from the peer-reviewed research in the last decade, it is one which demonstrates the relative effectiveness of public schooling in America. Vouchers and other forms of school choice, which were famously pushed as a “panacea” for schools,¹⁶⁹ do not appear to be providing any substantial advantages for families when measured by student achievement. The absence of an achievement benefit undermines the reasoning behind this reform. In the economic logic, underpinning market theories of school choice, liberating consumers to choose, will allow families trapped in poorly performing schools to escape to more effective ones.¹⁷⁰ In this perspective, by positioning parents as the driving force in the quest for quality, schools will be forced to improve when faced with competition from higher performing rivals. But this logic assumes

166. For examples, see FRIEDMAN FOUNDATION, *supra* note 75, at 52, and the Greene articles in note 68.

167. See, e.g., LEWIS C. SOLOMON, FINDINGS FROM THE 2002 SURVEY OF PARENTS WITH CHILDREN IN ARIZONA CHARTER SCHOOLS: HOW PARENTS GRADE THEIR CHARTER SCHOOLS 34 (2003).

168. See, e.g., William G. Howell & Paul E. Peterson, *Uses of Theory in Randomized Field Trials: Lessons from School Voucher Research on Disaggregation, Missing Data, and the Generalization of Findings*, 47 AM. BEHAV. SCIENTIST 634, 652 (2004); Krueger & Zhu, *Another Look*, *supra* note 65, at 693; Paul E. Peterson & William G. Howell, *Efficiency, Bias, and Classification Schemes: A Response to Alan B. Krueger and Pei Zhu*, 47 AM. BEHAV. SCIENTIST 699, 707-17 (2004).

169. John E. Chubb & Terry M. Moe, *America’s Public Schools: Choice Is a Panacea*, 8 BROOKINGS REV. 4, 4 (1990).

170. See, e.g., WALBERG & BAST, *supra* note 2, at 210-14.

that parents will indeed choose schools of higher academic quality for their children. Recent data strongly questions that assumption. For example, achievement in conservative Christian schools is below that of all other types of schools, including that of tuition-free public schools (after controlling for demographics).¹⁷¹ Yet conservative Christian schools are the fastest growing segment of the private school sector, with growth outdistancing that of higher achieving private schools.¹⁷²

There are many ways in which some forms of school choice could be beneficial to parents and students, including freedom of choice, opportunities to innovate, and teacher and community empowerment. However, strong gains in achievement for voucher programs do not appear to be among them. Moreover, vouchers are by far the most controversial form of school choice and will continue to face legal challenges at the state level. Although research on achievement effects across educational sectors will no doubt continue, the public would be better served at this time if policymakers weighed school choice proposals on grounds other than effects on student performance.

171. See BRAUN ET AL., *supra* note 142, at 23; Lubienski & Lubienski, *supra* note 28, at 651-698.

172. BROUGHMAN & PUGH, *supra* note 50, at 1-2.