NEPC Review: As a Matter of Fact: National Charter School Study III 2023 (Center for Research on Education Outcomes (CREDO), June 2023)

Reviewed by:

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Summary

In a recent report, the Center for Research on Education Outcomes (CREDO) examined charter school students' year-to-year test score growth across 31 states between 2015 and 2019. When compared to students in traditional public schools, it finds charter school students experienced small, positive impacts in reading and math but with considerable variation between groups and types of schools. For instance, Black and Hispanic students in the study had more positive outcomes than other racial and ethnic identities. In addition, charter schools run by management organizations were found to show more positive results than stand-alone schools. Virtual charter schools, meanwhile, produced strongly negative outcomes. The geographic scope of the report provides policymakers with an expansive bird's-eye view, comparing charter school students' learning in reading and math to students in traditional public schools. However, the report should be approached with caution by policymakers given the nonexperimental design that renders it unable to fully account for the factors that drive families to choose charter schools. In addition, the report presents its findings using an unconventional metric that makes it difficult to understand the policy implications, potentially misleading policymakers. Indeed, the magnitude of the main findings fails to meet the minimum threshold experts consider to be a meaningful educational intervention.

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I. Introduction

Enrollments in public charter schools have increased substantially over the past decade alongside enrollment declines in traditional public schools. According to the National Center for Education Statistics, the number of students enrolled in charter schools more than doubled between 2010 and 2021 from 1.8 million to 3.7 million, an increase from 4% to 7% of total public-school enrollments (charter schools are, technically, public schools).[1] Supply of, and demand for, charter schools vary across states, however. For example, among 43 states that authorized charters in 2021, the percentage of public-school students attending charter schools ranged from less than 1% in Iowa to 45% in Washington, D.C.

Given the growing share of public students attending charter schools, there is an ongoing interest in tracking student performance in these schools relative to those attending traditional public schools. Although reporting requirements make it easy to compare charter public and traditional public student test scores, the nonrandom nature of student enrollment makes it difficult to pinpoint the impacts of any type of school—charter or otherwise. Nevertheless, researchers have amassed an impressive number of such studies, comparing student outcomes at the level of individual schools to multi-state comparisons that include millions of students.[2]

The Center for Research on Education Outcomes (CREDO) has been highly active in this area of research, having conducted studies of charter school performance in cities and states across the country. CREDO published its first multi-state analysis of charter school performance in 2009[3] that included 16 states and in 2013[4] increased the sample to include 27 states. With the recent publication of *As a Matter of Fact: The National Charter School*

Study III 2023, CREDO researchers expanded the scope to 31 states.[5] The 157-page report[6] includes aggregate findings of charter school performance across all states, and then unpacks the results by various student characteristics (e.g., race, ethnicity, poverty status), state-level outcomes, types of charter school operators (charter management organizations v. stand-alone schools), and instructional modalities (online v. brick and mortar). The report concludes with a summary of implications for stakeholders, including charter school authorizers, administrators, and policymakers.

II. Findings and Conclusions of the Report

The report's findings and conclusions flow from its assessment of the following: (1) performance of charter schools, in general, and (2) performance of charter schools specifically operating under charter management organizations (CMOs), entities that manage multiple charter schools. Respective major findings and conclusions in each category are highlighted below. The report then merges those assessments to make its ultimate findings and conclusions, also summarized below.

Charter School Student Performance in General

Overall, the report finds that the average charter school student experienced more positive growth (expressed in terms of "days of learning") in math and reading relative to comparison students in traditional public schools. In reading, charter students experienced 16 more days than the comparison students in traditional public schools. In math, charter students saw an additional six days of learning.

The report also assesses gains across different groups of charter students and finds substantial variation. In terms of race and ethnicity, growth was primarily limited to Black and Hispanic students. Black students in the study averaged 35 days more learning per year in reading and 29 days in math compared to their traditional public school counterparts. Hispanic students averaged an additional 30 days in reading and 19 in math. Other racial groups—categorized as multiracial, Native American, White, and Asian—experienced equivalent or fewer days of learning.

Differences in growth among students in poverty, English-language learners, and special education across charters were also reported. Students in poverty saw an additional 23 days of learning in reading and 17 days in math, whereas English-language learners in charter schools experienced six and eight additional days, respectively. However, students receiving special education in charter schools had slower growth than their traditional public peers (13 fewer days in reading and 14 few days in math).

Findings based on geographic location also were noted. A state comparison revealed that reading learning in charters was equivalent to traditional public schools in 12 states, while charter students in 18 states experienced more days of learning on average. Similarly, it re-

ports that urban charter school students experienced the most days of learning growth per year in each subject—29 days in reading and 28 days in math. Suburban students averaged 14 more days of learning in reading and three days in math, while rural students averaged five more days in reading and 10 fewer days in math.[7]

The mode of instructional delivery was another substantial source of variation in growth. Students attending virtual charter schools experienced 124 fewer days of learning in math and 58 fewer days in reading per year compared to traditional public students. By comparison, students attending brick-and-mortar charter schools saw 15 more days in math and 22 more in reading.

Students in Schools Operating Under Charter Management Organizations (CMOs)

The report includes an entire section of findings related to charter management organizations (CMOs): specifically, that CMOs outperform traditional public schools (TPSs) at a greater magnitude than stand-alone charter schools (SCSs). For instance, the report finds that students attending CMO-affiliated charters outpaced their traditional public peers in reading by 27 days and math by 23 days. In contrast, it finds that SCS students learned the equivalent of 10 more days in reading and three fewer days in math than traditional public school students.

In a related point, the report describes over 1,000 charter schools as "gap-busting," a term used to describe schools where student achievement is ahead of traditional public schools and where minoritized and low-income students score the same or better as their White and economically advantaged peers. The report finds that these schools are more prevalent in CMOs and points to this finding as evidence of their ability to "scale" equitable education and reach various student groups with greater impact. Additional findings related to CMOs are noted, including that the "clustering" of CMOs within a single state is more beneficial than when CMOs operate schools in more than one state; and that CMOs positively impacted student performance in "turn-around"[8] schools, among others.

Combined Conclusions

The report concludes that:

1. Charter schools provide "stronger learning" in math and reading than traditional schools;
2. Over 1,000 charter schools—many from CMOs—eliminate learning gaps across different groups;
3. Larger CMOs contribute to high performance;
4. Charters and their networks improve over time.

Together, the findings and conclusions imply that a "charter school policy framework" sets the conditions for positive student results, but causal connections cannot be made.

III. The Report's Rationale for Its Findings and Conclusions

The report relies on student-level data from students attending charter schools and traditional public schools across 31 states. The primary basis by which the report supports its findings and conclusions is through a nonexperimental matching design in which the reading and math scores of students attending charter schools are compared to the scores of similar students attending the traditional public schools the charter students would have otherwise attended (see Section V).

IV. The Report's Use of the Research Literature

There is no designated literature review section, which makes it difficult for readers to fully consider the contributions of the report. The report does reference some of the highly cited peer-reviewed articles that estimate the effects of charter schools on student test scores, but there is little mention of how the report's findings are consistent with, or deviate from, prior work.[9] A more substantial engagement with prior research would add perspective to the findings and credibility to the report. This is especially the case for the findings related to CMOs. For example, it has been demonstrated that some CMOs spend significantly more per student than similarly situated traditional public schools, thus masking their purported ability to be efficient.[10] Likewise, CMOs overlook the downsides of privatizing public education by characterizing their actions as promoting racial and social equity, although they can contribute to inequity.[11]

V. Review of the Report's Methods

The scale of the study is its key methodological strength, as the analysis of this data set provides the most expansive look to date at charter students' test score performance in reading and math. The report makes use of what it claims as one of the largest educational data sets ever compiled, consisting of 81% of tested public-school students in the United States. However, the wide-ranging scope of the study is also its primary limitation, as it requires a nonexperimental approach to a question that is best answered by an experimental design (i.e., What is the effect of charter schools on student learning?).

Since charter school attendance involves a voluntary, nonrandom decision made by parents, one cannot assume that observed differences across charter and public sectors are due to the impacts of the schools. The present report attempts to address the lack of random assign-

ment by utilizing a Virtual Control Record (VCR) protocol.[12] This nonexperimental design strategy involves matching charter school students to as many as seven students (called "virtual twins") who attend the traditional public schools that charter students would have otherwise attended (referred to as "feeder schools").[13] The matching criteria included: race/ethnicity, gender, English proficiency, poverty status, special education status, grade level, and prior year test score on the state achievement assessment. Students were identically matched on these criteria except for the prior test score, for which students were matched to within 0.10 standard deviations.

Readers should maintain a healthy skepticism toward the findings of this report given its nonexperimental design.[14] Although the report matches on an important set of observable criteria, it is simply not possible to rule out the potential that unobserved factors are, at least in part, driving differences in test score growth across sectors. To be sure, matching procedures are a common method of constructing comparison groups in the charter school research literature when either (1) random assignment is not feasible (i.e., through admissions lotteries) or (2) if researchers wish to maximize the generalizability of the findings.[15] However, the VCR matching method is relatively uncommon outside of CREDO reports. In addition, statistical tests that expert peer reviewers routinely request to assess the likelihood of selection bias are not reported.[16]

Additional caution needs to be exercised when examining the results of the report by certain subgroups. The present report had an overall match rate of 81%, which means that one out of five students in the original data set (which itself was a subset consisting of 81% of all tested students) were not included in the final analysis. Although this is a reasonable match rate for such a study, the unmatched students (and the non-tested students from the population) are not a random subset, which constrains the ability to generalize to the population of charter students. Further, the match rates among White (84.4%), Black (81.4%), and Hispanic (83.3%) students, who make up 93.9% of the students in the analysis, were slightly above the average, while the rates for Asian/Pacific Islander (64.0%), Native American (38.0%), and multiracial (58.1%) students were far below. This means that additional caution should be taken when interpreting the outcomes for these latter groups of students.

Another concern is that the report breaks with convention and uses a potentially misleading indicator of the magnitude of difference in test score growth between charter and traditional public students. Researchers typically report an intervention's effect size in standard deviation units, which provides a way of expressing the magnitude of difference between treatment and control groups. Instead, the report converted the standard deviation units into "days of learning" in order to express the results in a metric that is more familiar to a wider audience. Unfortunately, however, the report does not contextualize the metric using widely accepted benchmarks for the policy relevance of educational interventions (see Section VI below).[17]

Finally, a major segment of the report is dedicated to disaggregating the results between charters run by management organizations and those that operate as stand-alone schools. However, there are many different types of management organizations, such as for-profit, nonprofit, and vendor-operated organizations. Previous research makes it clear that these distinctions matter,[18] but the current report makes it impossible to understand the nuance.

VI. Review of the Validity of the Findings and Conclusions

Setting aside the methodological concerns (explored above) that question the findings and conclusions, the report's main conclusion that charter schools "produce superior student gains" is overstated.[19] The main finding that, on average, charter school students learned 16 more days in reading than traditional public students equates to .03 standard deviation (SD) units, which is widely considered by experts to be a small effect.[20] The difference in math (six days of learning or .01 SDs) is trivial. In fact, the only portion of the results that produced large impacts was among virtual charter schools, in which case the effects on math scores were *negative* (-124 days of learning or -.21 SDs).

To confuse matters further, the report fails to communicate that just because a difference in learning is statistically significant does not necessarily mean that the effect is substantively meaningful for policy. In studies that utilize large data sets such as the present report, even trivial differences will be statistically significant. As a case in point, the .01 SD (six days of learning) difference in math was statistically significant, but substantively of little meaning in the context of educational interventions. A finding that may be statistically significant should not, on its own, drive policy changes. That the report does not mention this disclaimer is a considerable oversight.

VII. Usefulness of the Report for Guidance of Policy and Practice

The findings of this report had the potential to be informative for policymakers, but unfortunately the way they are presented will likely lead to more confusion than clarity. That said, the primary takeaway for policymakers should be that, in the aggregate, the charter sector appears to produce similar results in reading and math as traditional public schools. However, there also appears to be important variation across groups, geographic locations, and types of charter schools. Thus, state and local policymakers would be better served by examining the state-specific findings from this report, or better yet, the many previously published peer-reviewed studies that have analyzed charter school outcomes at the state and local levels as well as across types of operators and their instructional modalities.[21]

Notes and References

1 National Center for Education Statistics. (2023). *Public charter school enrollment*. U.S. Department of Education, Institute of Education Sciences. Retrieved July 6, 2023, from https://nces.ed.gov/programs/coe/indicator/cgb/public-charter-enrollment

2 For reviews, see:

Berends, M. (2015). Sociology and school choice: What we know after two decades of charter schools. *Annual Review of Sociology, 41*(1), 159-180.

Epple, D., Romano, R., & Zimmer, R. (2015). *Charter schools: A survey of research on their characteristics and effectiveness* (NBER working paper no. 21256). National Bureau of Economic Research.

Ferrare, J.J. (2020). Charter school outcomes. In M. Berends, A. Primus, & M.G. Springer (Eds.), *Handbook of research on school choice* (2nd ed., pp. 160-173). New York, NY: Routledge.

3 Center for Research on Education Outcomes. (2009, June). *Multiple choice: Charter school performance in 16 states*. Stanford University. Retrieved July 6, 2023, from https://credo.stanford.edu/wp-content/uploads/2021/08/multiple_choice_credo.pdf

4 Cremata, E., Davis, D., Dickey, K., Lawyer, K., Negassi, Y., Raymond, M.E., & Woodworth, J.L. (2013). National charter school study 2013. Center for Research on Education Outcomes (CREDO). Retrieved July 6, 2023, from https://credo.stanford.edu/wp-content/uploads/2021/08/ncss_2013_final_draft.pdf

5 Raymond, M.E., Woodworth, J.L., Lee, W.F., & Bachofer, S. (2023, June). *As a matter of fact: The national charter school study III* (p. 110*)*. Center for Research on Education Outcomes (CREDO). Retrieved June 16, 2023, from https://ncss3.stanford.edu/wp-content/uploads/2023/06/Credo-NCSS3-Report.pdf

6 The report refers to itself interchangeably as a "study" and "report." For purposes of this review, it is referred to as a report.

7 The findings for suburban math and rural reading were not statistically significant.

8 The report defines turnaround schools as "schools that intentionally change leadership and governance in an effort to improve their effectiveness." See Raymond, M.E., Woodworth, J.L., Lee, W.F., & Bachofer, S. (2023, June). *As a matter of fact: The national charter school study III*. Center for Research on Education Outcomes (CREDO). Retrieved June 16, 2023, from https://ncss3.stanford.edu/wp-content/uploads/2023/06/Credo-NCSS3-Report.pdf

9 For example, one relevant work not referenced in the report is a meta-analysis conducted by Betts and Tang (2019) that provides estimates of the effects of charter schools on student achievement across 38 different studies. See: Betts, J.R. & Tang, Y.E. (2019). The effects of charter schools on student achievement. In M. Berends, R.J.

Waddington, & J. Schoenig (Eds.), *School choice at the crossroads: Research perspectives* (pp. 67-89*)*. New York, NY: Routledge.

10 Baker, B.D., Libby, K., & Wiley, K. (2012). *Spending by the Major Charter Management Organizations: Comparing charter school and local public district financial resources in New York, Ohio, and Texas.* Boulder, CO: National Education Policy Center. Retrieved July 28, 2023, from http://nepc.colorado.edu/publication/spending-major-charter

11 Hernández, L.E. (2022). The importance of being "woke": Charter management organizations and the growth of social consciousness as a school quality marker. *Educational Policy*, *36*(4), 796–821.

12 This is the approach used in previous CREDO national charter school studies. See: Cremata, E., Davis, D.,

Dickey, K., Lawyer, K., Negassi, Y., Raymond, M.E., Woodworth, J.L. (2013). *National charter school study 2013*. Center for Research on Education Outcomes (CREDO). Retrieved July 6, 2023, from https://credo.stanford.edu/wp-content/uploads/2021/08/ncss_2013_final_draft.pdf

13 One important difference from previous national charter school studies conducted by CREDO is the current report rematches charter students to a new set of virtual twins each year. In the technical appendix of the report, the authors compared the results of this matching approach to the results using the previous approach and did not observe statistically significant differences. See:

Raymond, M.E., Woodworth, J.L., Lee, W.F., & Bachofer, S. (2023, June). *CSP31 technical appendix* (p. 25). Center for Research on Education Outcomes (CREDO). Retrieved July 6, 2023, from https://credo.stanford.edu/wp-content/uploads/2021/08/ncss_2013_final_draft.pdf

14 The methodological critiques in this review have been made before in previous NEPC reviews of CREDO's charter school studies. See: Maul, A. & McClelland, A. (2013, July 16). *NEPC review: National charter school study 2013 (Center for Research on Education Outcomes (CREDO), August 2013)*. Boulder, CO: National Education Policy Center. Retrieved July 17, 2023, from https://nepc.colorado.edu/thinktank/review-credo-2013

In addition, the Network for Public Education released its own review in June 2023 and identified many of the same limitations as those expressed here. See:

Burris, C. (2023). *In fact or fallacy? An in-depth critique of the CREDO 2023 national report*. Network for Public Education.

15 There are many ways to carry out a matching approach in this context. In general, experts argue that matching approaches should construct comparisons between students from the same school and grade, and previous charter school research suggests that such non-experimental approaches will tend to produce similar results as experimental designs. See:

Bifulco, R. (2012). Can nonexperimental estimates replicate estimates based on random assignment in evaluations of school choice? A within-study comparison. *Journal of Policy Analysis and Management*, *31*(3), 729-751.

Cook, T.D., Shadish, W.R., & Wong, V.C. (2008). Three conditions under which experiments and observational studies produce comparable causal estimates: New findings from within-study comparisons. *Journal of Policy Analysis and Management*, *27*(4), 724-750.

Fortson, K., Gleason, P., Kopa, E., & Verbitsky-Savitz, N. (2014). Horseshoes, hand grenades, and treatment effects? Reassessing whether nonexperimental estimators are biased. *Economics of Education Review*, *44*(1), 100-113.

Angrist, J.D., Pathak, P.A., & Walters, C.R. (2013). Explaining charter school effectiveness. *American Economic Journal: Applied Economics, 5*(4), 1-27.

Dobbie, W. & Fryer, R. G. (2013). Getting beneath the veil of effective schools: Evidence from New York City. *American Economic Journal: Applied Economics, 5*(4), 28-60.

16 For example, Emily Oster's approach to assessing selection on unobservables provides a way to evaluate the extent to which unobserved variables are related to the selection process under investigation (in this case attending a charter school). See:

Oster, E. (2019). Unobservable selection and coefficient stability: Theory and evidence. *Journal of Business and Economic Statistics, 37*(2), 187-204.

17 Kraft, M.A. (2020). Interpreting effect sizes of education interventions. *Educational Researcher, 49(*4), 241-253.

18 Dynarksi, S.M., Hubbard, D., Jacob, B., & Robles, S. (2018). *Estimating the effects of a large for-profit charter school operator* (NBER working paper no. 24428). National Bureau of Economic Research.

Miron, G., Gulosino, C., Shank, C., Elgeberi, N., Davidson, C., Hernandez De Alvarez, F., Jurdzy, B., Larsen, J., Pham, D., Ruder, K., Urdapilleta, L., & Urschel, J. (2021, February). *Profiles of for-profit and nonprofit education management organizations: Fifteenth edition.* Boulder, CO: National Education Policy Center. Retrieved July 17, 2023, from https://nepc.colorado.edu/publication/emo-profiles-fifteenth-ed

Ferrare, J.J. (2020). Charter school outcomes. In M. Berends, A. Primus, & M.G. Springer (Eds.), *Handbook of research on school choice* (2nd ed., pp. 160-173*)*. New York, NY: Routledge.

19 Raymond, M.E., Woodworth, J.L., Lee, W.F., & Bachofer, S. (2023, June). *As a matter of fact: The national charter school study III* (p. 13). Center for Research on Education Outcomes (CREDO). Retrieved June 16, 2023, from https://ncss3.stanford.edu/wp-content/uploads/2023/06/Credo-NCSS3-Report.pdf

20 Kraft, M.A. (2020). Interpreting effect sizes of education interventions. *Educational Researcher*, *49*(4), 241-253.

21 For reviews, see:

Berends, M. (2015). Sociology and school choice: What we know after two decades of charter schools. *Annual Review of Sociology*, *41*(1), 159-180.

Epple, D., Romano, R., & Zimmer, R. (2015). *Charter schools: A survey of research on their characteristics and effectiveness* (NBER working paper no. 21256). National Bureau of Economic Research.

Ferrare, J.J. (2020). Charter school outcomes. In M. Berends, A. Primus, & M. G. Springer (Eds.), *Handbook of research on school choice* (2nd ed., pp. 160-173). New York, NY: Routledge.