

Montessori outperforms on standardized tests

Promising new research shows reduced gaps



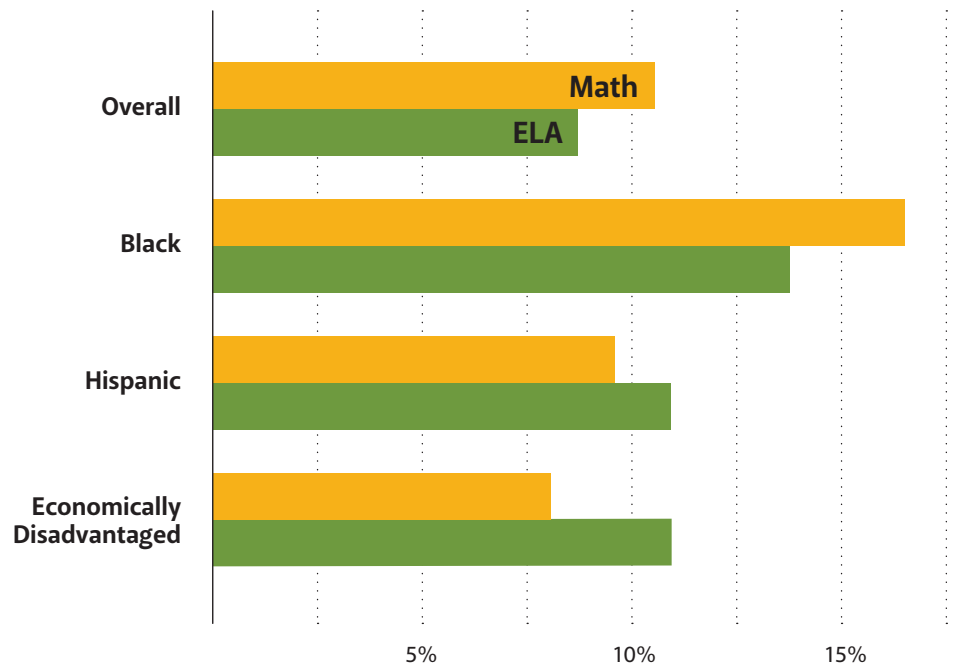
BY DAVID AYER

A new paper from Angeline Lillard, Allyson Snyder, and Xin Tong suggests that public Montessori schools typically outperform their districts on standardized test scores on some measures.

The paper, submitted for publication and discussed at the Association Montessori International/USA (AMI/USA) 2021 annual conference, compared test scores for 195 public Montessori schools with their surrounding districts and found that Montessori schools did better in reading at third and eighth grades. They did worse in math in third grade, but better in eighth, and low-income and Black students did better in Montessori schools on both tests at both grades.

As noted in the paper, whatever one may think of standardized reading and math tests, they are a fact of life in U.S. public schools. Tests were mandated by the 2001 No Child Left Behind Act, ostensibly as a measure to raise national standards and expose equity disparities in schooling. The 2015 Every Student Succeeds Act loosened many requirements, but nearly every school in the country tests students in reading and math at third and eighth grade. Even when accounting for pre-existing differences among students, scores on the tests predict life outcomes (such as educational

Difference (from district) in 8th grade proficiency growth



By 8th grade, Montessori students grew more in proficiency

achievement, higher earnings, etc.). Test scores have also shown a persistent gap across economic and especially racial groups, and it's hard to argue that this gap matters if the tests don't measure anything important.

For this paper, the authors used the Montessori Census and other sources to identify the ten states with the most public Montessori schools, and matched 195 schools with full Montessori programs including third and/or eighth grade with their surrounding districts. Because the Montessori schools tended to be slightly whiter and richer than their districts, race and income were controlled for in the analysis. The authors collected the percentage

of students rated “proficient” on third and eighth grade English Language Arts (ELA) and math tests from publicly available data over a three-year period (2016-2019). While different states and even districts may use different standards for proficiency and change tests from year to year, making comparisons between districts difficult, this was a good measure for comparisons within districts.

Students in Montessori schools did better on ELA tests at third and eighth grade, and better in math at eighth grade—but noticeably worse in third grade math. While potentially disappointing to Montessori advocates, this may be the second

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most important result from the study, as it presents a significant challenge to the criticism of selection bias. Because most public Montessori schools are choice programs, it's entirely possible that families with higher-achieving children choose

have raised the proportion passing by 10% between those two grades. If the Montessori school went from 55% to 75% (again, let's say), that would be a gain of 20%, or twice as big. The students in Montessori schools gained more between the two grades

Black students did unequivocally better with Montessori in ELA and math at 3rd and 8th grades

Montessori schools. But it's a little harder to explain why families with strong readers but poor mathematicians would self-select in that way.

This disparity has been observed in other research, and several explanations have been proposed: Perhaps Montessori's emphasis on materials puts students at a disadvantage when taking pencil-and-paper or computer tests. Maybe there is a vocabulary mismatch—we say “units” but the test uses “ones”. Or possibly the non-linear Montessori curriculum doesn't match up to what's taught, and tested, in third grade. As the authors suggest, more research is indicated. In any event, by eighth grade the disparity goes away, with the Montessori students performing modestly better than their conventional peers.

The biggest result for Montessori overall was in the change in proficiency from third to eighth grade, controlling for proficiency at third grade. This means that, to use a simplified example, if the district's average 3rd grade proficiency level was (let's say) 50%, and their average 8th grade level was 60%, they could be said to

than the district schools overall and across all race and income subgroups.

The most important results, however, are in the scores of those subgroups. Black students did unequivocally better with Montessori in ELA and math at 3rd and 8th grades. Hispanic and low-income students did the same, albeit with much smaller effects in 3rd grade math. The so-called “achievement gap” between Black and white students, while still present, was significantly smaller in the Montessori schools at 3rd grade (with insufficient data for 8th grade). The gap for low-income students was smaller in Montessori schools on both tests at both grades. This finding corroborates Lillard's 2017 work in Hartford public Montessori schools which has become the springboard for a much larger national study currently underway (but delayed by the pandemic).

It's hard to overstate the importance of these subgroup results. The paper's authors put it in typically reserved academic language: “The present data suggest that children of color enrolled in Montessori often outperform district children in math and ELA at both grades.” For one thing, there is a documented

(and perhaps understandable) perception among some families of color that Montessori “isn't for us,” or lacks academic rigor perceived as necessary in a world already stacked against children of color. This study, and further research, should help to dispel that impression. But beyond that, the persistent disparity of educational outcomes across racial and economic lines, tied to the disparity of resources and opportunities provided to marginalized and minoritized groups, has rightly been described as a “national embarrassment” or even a “national disgrace.” Research such as this can help public Montessori be a resource or intervention we can apply to that injustice.

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