



# Research-Based Evidence of the Effectiveness of MONTESSORI

Recent research, spearheaded notably by the University of Virginia's Early Development Lab, underscores the effectiveness and equity of Montessori programs within public education settings. This growing body of evidence, comprising high-quality studies from diverse institutions across the nation, consistently affirms the positive impact of Montessori education.

**Montessori Works Well for All Children.** *Research is clear that high-fidelity Montessori programs achieve improved outcomes for all students.*

**A Meta-Analysis Finds Consistent/Broad Montessori Impacts.** (Randolph et al., 2023).

A rigorous meta-analysis, published by the Campbell Collaboration, reviewed 2,012 Montessori studies, closely read 173, and retained 32 for inclusion. Included studies were experimental or quasi-experimental in design, showed evidence of baseline equivalence, included a control group, collected sufficient data to calculate an effect size, and measured students' academic or behavioral outcomes. The study found consistent, positive effects for Montessori students on all 9 academic, social-emotional, and affective measures. Most effect sizes were medium to large. Randolph, J., Sanchez, M., Nguyen, T., & Lee, S. (2023). A meta-analysis finds consistent/broad Montessori impacts. *Campbell Systematic Reviews*, 19(3), 301-324.

## **A Second Meta-Analysis Finds Positive Effects of Montessori on Development and Learning** (Demangeon et al., 2023).

A second meta-analysis, using somewhat different methods, also found positive effects of Montessori education on cognitive development, social skills, creativity, motor skills, and academic achievement. The meta-analysis included 33 studies conducted in North America, Asia, and Europe, and found moderate to high impacts. This analysis, conducted independently of Randolph et al., validates the conclusion that Montessori education confers benefits for children across a variety of domains. Demangeon, A., Claudel-Valentin, S., Aubry, A., & Tazouti, Y. (2023). A meta-analysis of the effects of Montessori education on five fields of development and learning in preschool and school-age children. *Contemporary Educational Psychology*, 102182.

## **Montessori Improves Standardized Test Proficiency** (Snyder et al., 2022).

This study collected aggregated test score data from 195 Montessori schools in 10 states and compared each school to scores in its surrounding district. Overall, Montessori students were more likely to be proficient on state tests, and opportunity gaps were significantly smaller in Montessori schools. Overall, and in all subgroups (Black, Hispanic, low-income) and at both test points (3rd and 8th grade), Montessori students were stronger in English/Language Arts. Lastly, Black children in Montessori schools scored significantly higher than their peers in both math and ELA. Snyder, A., Tong, X., & Lillard, A. S. (2022). Standardized Test Proficiency in Public Montessori Schools. *Journal of School Choice*, 1-31.



**Montessori Works for Underserved Children.** *Research has shown that the Montessori method is effective at raising academic achievement of children from underserved communities.*

### **Montessori Elevates and Equalizes Student Outcomes** (Lillard et al., 2017).

In a longitudinal study of randomized lottery admissions to public Montessori PreK, Montessori students fared significantly better than waitlisted children on a host of academic and social-emotional measures. Control children enrolled in a broad array of alternatives including magnet and private options. Measures included tests of math and literacy composites, social understanding, mastery-orientation, and liking of academic tasks. Importantly, children from low SES backgrounds reaped the most benefit from Montessori, and by kindergarten the typical socio-economic opportunity gap was statistically insignificant in Montessori classrooms. Unfortunately, that gap had widened in traditional PreK over the 3-year study period. Lillard, A.S., Heise, M.J., Richey, E.M., Tong, X., Hart, A., & Bray, P.M. (2017). Montessori Elevates & Equalizes Student Outcomes: A Longitudinal Study of Randomized Lottery Admissions to Public Montessori PreK. *Journal of Educational Psychology*, 109(6), 919-935.

### **One Year of Montessori PreK Results in Math and Reading Advantages at Grade 3 for Latinx Children** (Ansai & Winsler, 2020).

This study of over 5,000 low-income Latinx children who attended pre-K in Miami-Dade County compared third grade math and reading achievement for students who attended Montessori pre-K programs for one year to students who attended traditional pre-K programs. The Montessori group demonstrated better school readiness at the end of that one pre-K year, and went on to score higher on measures of reading and math learning at third grade. Ansari, A., & Winsler, A. (2020). The long-term benefits of Montessori pre-K for Latinx children from low-income families. *Applied Developmental Science*, 26(2), 252-266.

### **African American Students Succeed in Public Montessori** (Brown & Lewis, 2017).

This study compared reading and math state standardized test scores for 1600 African American third grade students in reading and math in Montessori and other magnet schools within the same region of a single urban district in North Carolina. Students from the Montessori schools scored significantly higher in reading their counterparts in the other magnet programs, though math scores were not significantly different. Notably, the largest school in the other magnet group was a STEM school, with an explicit focus on math. These results indicate

that African American students in public Montessori schools at grade three perform at least as well as their peers on traditional measures of academic achievement in math and actually perform better in reading. This is particularly remarkable given the lack of attention to testing and standardized test preparation characteristic of Montessori environments. Brown, K., & Lewis, C. W. (2017). A comparison of reading and math achievement for African American third grade students in Montessori and other magnet schools. *The Journal of Negro Education*, 86(4), 439-448.

### **Montessori Supports Language Development for Multilingual Learners**

(Rodriguez et al., 2005).

These authors examined the reading skills of low-income Latino students from a bilingual Montessori preK program compared to similar students from a traditional bilingual preschool program. Students who had participated in the Montessori preschool scored significantly higher on both Spanish and English reading tests. This suggests that the Montessori preK fostered superior language skills for multilingual learners in both languages than the traditional preK, even though both were bilingual. Rodriguez, L., Irby, B. J., Brown, G., Lara-Alecio, R., & Galloway, M. (2005). An analysis of reading achievement related to prekindergarten Montessori and transitional bilingual education. In V. Gonzalez & J. Tinajero (Eds.), *Review of research and practice* (pp. 45-65). Laurence Earlbaum Associates.



**The Gains from Montessori Programs are Long Term.** *Montessori education has proven impactful with elementary students, and gains even appear to persist for many years after a student leaves Montessori.*

### **Montessori Predicts Adult Wellbeing** (Lillard et al., 2021).

We know from prior research that one's degree of subjective wellbeing predicts a broad host of life outcomes, including health, happiness, and longevity. This study found that, amongst a sample of approx. 2,000 adults (median age of 36), just two years of Montessori school during childhood predicted significantly higher levels of adult wellbeing on a battery of 18 previously validated scales. Further, more years spent in Montessori correlated with higher well being scores. Lillard, A.S., Meyer, D., Vasc, D., & Fukuda, E. (2021). Montessori Predicts Adult Wellbeing: A Longitudinal Study. *Journal of Positive Psychology*, 16(3), 315-330.

### **Montessori Aligns with Culturally Responsive Pedagogy and Supports Long Term Well-Being of Black Alumni** (Lillard et al., 2021).

This mixed-methods study found Montessori to be more closely aligned with the theoretical principles of CRP than the “no-excuses” models often offered to Black families. In addition, alumni of a predominantly Black, low-income Montessori PreK in the DC area flourished in adult life, with the group showing elevated SES over childhood, attainment of advanced degrees, mastery of multiple languages, and high scores on measures of overall well being. Their recollections of early childhood Montessori experiences highlighted themes of self-determination, confidence, academic excellence, hands-on learning, and a positive social-emotional climate. Lillard, A.S., Taggart, J., Yonas, A., & Seal, K. (2021). Montessori Aligns with Culturally Responsive Pedagogy: A Mixed-Methods Study. *Journal of Educational Psychology*, 113(4), 589-605.

### **Positive Effects of Montessori Persist through High School** (Dohrmann et al., 2007).

This study compared standardized test scores for high school students in Milwaukee Public Schools and compared achievement for students who attended MPS Montessori schools from preschool through fifth grade to that of students in a demographically matched comparison group within the district. On assessments administered in tenth and twelfth grades, the Montessori graduates had significantly higher math and science scores than their peers who had attended other MPS schools, while achievement in English and social studies was comparable. Dohrmann, K. R., Nishida, T. K., Gartner, A., Lipsky, D. K., & Grimm, K. (2007). High school outcomes for students in a public Montessori program. *Journal of Research in Childhood Education*, 22(2), 205–217. doi:10.1080/02568540709594622



**Montessori Kids Score Higher on Future Ready Skills and Socioemotional Learning Like Executive Function, Creativity, and Empathy.** *The Montessori model has a particularly strong effect on children's executive functioning skills, giving them the ability to self-manage and regulate, juggle tasks, and plan toward goals in the future. It also found that children in Montessori programs scored better on assessments of creativity.*

### **Montessori Children Have More Positive Social Problem-Solving Strategies.**

(Rathunde & Csikszentmihalyi, 2005).

Children in Montessori classrooms have shown better social problem-solving ability, a stronger sense of community and social justice, and more positive perceptions of classmates. Rathunde, K., & Csikszentmihalyi, M. (2005). The social context of middle school: Teachers, friends, and activities in Montessori and traditional school environments. *The Elementary School Journal*, 106(1), 59-79.

### **Montessori Students Scored Better on Creativity Assessments.** (Culclasure, et al., 2018).

A study conducted by The Riley Institute at Furman (2018) examines the performance of students enrolled in public Montessori schools in South Carolina, focusing specifically on assessments of creativity and executive function. The findings indicate that Montessori students demonstrate superior abilities in creativity compared to their peers in traditional educational settings. Additionally, these students exhibit enhanced executive function skills, which are crucial for cognitive processes such as problem-solving, decision-making, and self-regulation. The Riley Institute at Furman. (2018). Culclasure, B., Fleming, D.J., Riga, G., & Sprogis, A. (2018). An Evaluation of Montessori Education in South Carolina's Public Schools. The Riley Institute at Furman University. Retrieved from <https://riley.furman.edu/sites/default/files/docs/MontessoriOverallResultsFINAL.pdf>