



Research-Based Evidence of the Effectiveness of MONTESSORI

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

Montessori Outcomes Show Academic and Socioemotional Gains in All Subject Areas. In one study, children in classic Montessori programs, as compared with children in supplemented Montessori programs and conventional programs, showed significantly greater school-year gains on outcome measures of executive function, reading, math, vocabulary, and social problem-solving. (Lillard, A. S. (2012). [Preschool children's development in classic Montessori, supplemented Montessori, and conventional programs.](#) *Journal of School Psychology, 50*, 379–401. doi:10.1016/j.jsp.2012.01.001.)

Montessori Public School Students More Likely to Meet or Exceed State Standards. A recent study, conducted by the Riley Institute at Furman, analyzed public Montessori programs in South Carolina from 2011 to 2016—the state with the second most public Montessori schools. It found that, “When compared to non-Montessori public school students across the state, public Montessori students were more likely to have met or exceeded the state standards in each of the four subjects, [mathematics, English language arts, science, and social studies].”

Further, on the impact of public Montessori schools on children from low-income backgrounds, students in public Montessori schools in South Carolina outperformed other students in both English and math, and improved more than demographically similar non-Montessori students. Montessori schools also had higher attendance and lower suspension rates. (The Riley Institute at Furman. (2018). [An Evaluation of Montessori Education in South Carolina's Public Schools.](#))

Montessori Children Displayed Higher Levels of Self-Regulation and Academic Growth. Children from Montessori classrooms in kindergarten, first grade, and second grade from three public districts demonstrated higher levels of self-regulation and more consistent growth than control group children, and a stronger link between self-regulation and academic success. (Ervin, B., Wash, P. D., & Mecca, M. E. (2010). A 3-year study of self-regulation in Montessori and non-Montessori classrooms. *Montessori Life*, 22(2), 22-31.)



Montessori Students Score Higher on Reading Tests. *Studies show a clear advance in reading skills for Montessori students, including high ELL populations.*

Low-Income Latino Students Scored Higher in Both Spanish and English Reading. In an analysis of a public preschool bilingual Montessori program, low-income Latino students in Montessori scored higher on both Spanish and English reading tests than control children in conventional bilingual preschool program. (Rodriguez, L., Irby, B. J., Brown, G., Lara-Alecio, R., & Galloway, M., Laurence Earlbaum Associates. (2005). An analysis of reading achievement related to pre-kindergarten Montessori and transitional bilingual education. In V. Gonzalez & J. Tinajero (Eds.), *Review of research and practice*, (Vol 3., pp. 45-65). Mahwah, NJ.)

Average Reading Scores of Montessori Students Higher; Despite High ELL population. In East Dallas Public Community Schools, a ten-year study of test scores showed average scores of Montessori students in third grade in the top 36% nationwide in reading and math, despite high ELL population. (East Dallas Community Schools. (2010). Summer Newsletter 2010.)



Montessori Works for Underserved Children. *Research has shown that the Montessori method is effective at raising academic achievement of children in a similar target population as that of the New Jersey former Abbott preschool population. In fact, Dr. Maria Montessori designed this method first with children with severe cognitive delays in an Italian state-run hospital. When many of those children successfully passed state tests for entry into public school, Montessori was asked to develop an approach to support children living in public housing in one of the poorest neighborhoods of Rome.*

Montessori Erased the Income-Achievement Gap. In a large study conducted of authentic Montessori practice in a high-needs public school setting, researchers found that Montessori education eliminated the achievement gap across the preschool years. In this “gold-standard” study, children who were admitted by lottery to public Montessori schools in Hartford, CT, or were waitlisted and attended public or private schools that did not use Montessori programs. Results showed that children scored equally that first fall. As time went on, their scores diverged. “If you look at what happened with low-income control children in non-Montessori schools, relative to the other children, they start low and get lower, doing worse over time,” Professor Angeline Lillard said. “If you look at the low-income Montessori children, they are on the upswing, so that by the fourth evaluation, they are not significantly different from the control high-income sample or the Montessori high-income sample.” She added that their trajectory was such that had there been a fifth evaluation, the low-income Montessori students would be truly (not just statistically) equal to their high-income counterparts. The study also found that children in Montessori schools did better overall than children in conventional schools. (Lillard .A.S., Heise M.J., Richey E.M., Tong X., Hart A. and Bray P.M. (2017). Montessori Preschool Elevates and Equalizes Child Outcomes: A Longitudinal Study. *Front. Psychol.* 8:1783. doi: 10.3389/fpsyg.2017.01783)

Disparities Eliminated in Children’s Achievement Across Income, Race or Language Spoken At Home. An evaluation report of four public Montessori schools in Minnesota, found children receiving free and reduced lunch scored 93%-98% proficiency across the disciplines. On the Bracken School Readiness scale, Montessori four-year-olds scored 91% proficiency in Math and 59% proficiency in language as as compared to the state averages of 52% (Math) and 59% (Language).

These gains were not statistically different than their peers who were not on free and reduced lunch. (Betty Emarita and Gale Mason-Chagil, "Emarita, B. Mason-Chagil, G. (2014). Montessori Partners Serving all Children: Evaluation Report for 2012-2014," *Montessori Center of Minnesota*.)

Montessori Had Highest Gains for Most At-Risk Children. In a study considering the school readiness of 7,045 low-income Latino and 6,700 low-income Black children, Montessori children exhibited the highest gains across pre-academic and behavior skills even when they began the year the most at-risk. (Ansari, A. & Winsler, A. (2014). Montessori public school pre-K programs and the school readiness of low-income Black and Latino children. *Journal of Educational Psychology*, 106(4), 1066–1079.)



The Gains from Montessori 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 Students Outperformed on ACT Tests in High School. A 2007 study on long-term impacts of public Montessori programs in Milwaukee, found that students who attended Montessori schools from ages three to 11 outperformed on math/science ACT tests in high school. (Dohrmann, Kathryn Rindskopf, Tracy K. Nishida, Alan Gartner, Dorothy Kerzner Lipsky, and Kevin J. Grimm. (2007). "High School Outcomes for Students in a Public Montessori Program." *Journal of Research in Childhood Education*. 22.2: 2, 205-217)

Montessori Preschool and Elementary Linked with Higher Achievement in Math & Science at Graduation. Longitudinal study of Milwaukee high school graduates linked Montessori preschool and elementary experience with higher achievement in Math & Science at graduation. "In essence, attending a Montessori program from the approximate ages of three to 11 predicts significantly higher mathematics and science standardized test scores in high school." (Dohrmann, K. "Outcomes for Students in a Montessori Program: A Longitudinal Study of the Experience in the Milwaukee Public Schools." (AMI/USA May, 2003).)

Public Montessori Correlated with High School Persistence. A 30-year old implementation of Montessori in the public sector in East Dallas Community Schools links high school persistence to Montessori experience, with 94% of students in Montessori program graduating from high school compared to neighborhood norms of less than 50% graduation rate. (East Dallas Community Schools. (2010). Summer newsletter 2010.)

Middle School Students from Montessori Programs Demonstrated Higher Student Motivation and More Positive Socialization. When compared to their traditionally educated peers, “Montessori students were feeling more active, strong, excited, happy, relaxed, sociable and proud while engaged in academic work. They were also enjoying themselves more, they were more interested in what they were doing and they wanted to be doing academic work more than the traditional students.” (Rathunde, K. (Summer 2003). “A Comparison of Montessori and Traditional Middle Schools: Motivation, Quality of Experience, and Social Context,” *The NAMTA Journal* 28.3: pp. 12-52.)



Montessori Kids Score Higher on Future Ready Skills Like Executive Function, Creativity and Empathy and is linked to Adult Well-Being.

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 towards go

Adults That Attended Montessori Schools Report Long-Term Elevated Psychological Health and Well-Being.

In a survey of 1,905 U.S. adults, ranging in age from 18 to 81, researchers found strong evidence that adults who had attended Montessori schools as children had elevated psychological well-being, including better health and work performance, longevity, and more positive social behavior and relations. (Lillard AS, Meyer MJ, Vasc D, Fukuda E. An Association Between Montessori Education in Childhood and Adult Wellbeing. *Front Psychol.* 2021 Nov 25;12:721943.)

Montessori Preschoolers Show More Advanced Executive Functioning. A 2006 study of a public Montessori school primarily serving low-income children in Milwaukee, WI found that 3-6-year-olds showed more advanced executive functioning (0.22 effect size) than peers from the same neighborhood who entered the lottery but were not admitted. (Lillard, Angeline, and Nicole Else-Quest. (2006). The Early Years: Evaluating Montessori Education. *Science*, 313.5795.)

Montessori Students Scored Better on Creativity Assessments. Students in public Montessori schools in South Carolina performed better on assessments of creativity and executive function. (The Riley Institute at Furman (2018). An Evaluation of Montessori Education in South Carolina's Public Schools.)

High Fidelity Montessori Executive Function Gains Even Higher than Partial Implementations. A study that controlled for Montessori implementation fidelity found that children in high fidelity preschool Montessori had even stronger executive functioning gains (0.38 effect size) than those in partial Montessori or conventional programs. (Lillard, Angeline S. (June 2012). "Preschool Children's Development in Classic Montessori, Supplemented Montessori, and Conventional Programs." *Journal of School Psychology*, 50.3: 379-401).

Montessori Children Have More Positive Social Problem-Solving Strategies. Consistent with the School's mission, research supports student development as community contributors. 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, and they used more positive social problem-solving strategies. (Rathunde, K., & Csikszentmihalyi, M. (2005b). *The Elementary School Journal*, 106(1), 59-79), (Lillard, A.S. & Else-Quest, N. (Sept. 29, 2006). "Evaluating Montessori Education." *Science* 131: 1893-94), (Lillard, Angeline S. (June 2012). "Preschool Children's Development in Classic Montessori, Supplemented Montessori, and Conventional Programs." *Journal of School Psychology*, 50.3: 379-401.)