

## Public Montessori preschool elevates performance and equalizes outcomes for all children.

A new long-term study of high-fidelity Montessori public preschool programs shows they are effective at elevating the performance of all children and equalizing outcomes for low-income children who typically do worse in traditional settings. Higher achievement among all children did not come at the expense of social and emotional learning and a liking of learning, two critical elements for success in school and life. And high-fidelity Montessori programs worked well for children regardless of their executive functioning skills at the onset of the program. Funded by the Brady Education Foundation, this latest research from Dr. Angeline Lillard and co-authors Megan Heise, Eve Richey, Xin Tong, Alyssa Hart and Paige Bray suggests that high-fidelity Montessori public preschool programs can serve as a scale-ready approach to achieving the high outcomes derived from more costly and intensive programs such as Perry Preschool.

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### **A LONG-TERM RANDOMIZED CONTROLLED TRIAL.**

This study is a longitudinal evaluation of 70 children in two high-fidelity public Montessori magnet schools in Hartford, CT, admitted through a random computerized district-level lottery at three years of age. The Montessori group was compared to a control group of 71 children who had lost the lottery and attended other non-Montessori schools. The children were tested over the fall semester when they were three years old and then again at the end of the school year for three consecutive years until six years of age.

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### **HIGH-FIDELITY MONTESSORI SUPPORTS CHILDREN'S NATURAL GROWTH AND DEVELOPMENT.**

Many of today's high-quality early childhood programs borrowed characteristics from Montessori's highly personalized, child-centric approach, but only about 5,000 US schools use the full program. Beginning more than 100 years ago in housing projects in Rome, physician Maria Montessori reconceptualized education as an aid to life. As children explore intentionally designed materials and direct their own learning with teacher guidance and oversight, social, emotional and academic skills grow. This study focused on public preschool programs recognized by Association Montessori Internationale (AMI), respected for strong fidelity to the original Montessori approach.

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### **A BETTER WAY TO CLOSE THE ACHIEVEMENT GAP.**

Preschool is seen as an effective way to prevent and close the achievement gap between children from lower-income households and their more affluent peers. However, progress depends on the quality of the preschool program. The academic performance of the children in the Montessori programs became significantly higher than that of other children over time. At the end of the study:

- 1) The relationship between household income and academic achievement in the Montessori group was half that of the control group;

- 2) In business-as-usual schools, lower-income control students were performing a full standard deviation below their higher-income peers; and,
- 3) In Montessori schools, lower-income students were performing a third of a standard deviation below their higher-income peers in Montessori, a difference that was not statistically significant.

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### **A BETTER FIT FOR EVERY CHILD, REGARDLESS OF EXECUTIVE FUNCTIONING CAPABILITIES.**

Many studies have shown better academic and life outcomes for children with higher executive functioning or self-control. This study shows that high-fidelity Montessori can produce better child outcomes regardless of the child's executive functioning at the onset of the program. Executive functioning predicted academic achievement in the control group who attended other preschools, but having lower executive functioning did not matter in the outcomes for children treated in Montessori classrooms. In Montessori, children with lower self-control performed as well as children with higher self-control on academic achievement. This is impressive given that academic achievement in the Montessori program was higher overall.

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### **HIGHER ACHIEVEMENT WITHOUT LOSING THE WHOLE CHILD.**

Preschool is valued by parents and society as a way to prepare students for school and academic success. However, the focus on achieving higher academic success often comes at the expense of social and emotional development, as well as the acquisition of a love of learning, both of which have been found to be key to promoting better life outcomes, including academic achievement. Children who attended Montessori programs performed better on a test of social understanding, were more persistent in the face of challenge and expressed more liking of academic tasks relative to how much they liked recreational ones. Montessori children had better executive functioning at age four and fared as well as control children on tests of social problem solving and creativity.

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### **MONTESSORI PRESCHOOL AS A PUBLIC SOLUTION.**

While few debate the value of early childhood education, many claim that high-quality early childhood programs cannot be implemented at scale due to such factors as the costs and the requirements for teacher training. This study shows that high-fidelity Montessori—often perceived as too expensive and affordable only to the affluent—can be implemented in a public setting and achieve greater outcomes for all children, regardless of their socioeconomic status and skill levels at the onset of attendance.

*Dr. Angeline Lillard is a Professor of Psychology at the University of Virginia, and she is an elected Fellow of both the American Psychological Association (Division 7) and the Association for Psychological Science. She obtained her BA in English Literature from Smith College and her PhD in Psychology from Stanford University. Her primary research interests include pretend play and Montessori education, and her book, "Montessori: The Science Behind the Genius" received the Cognitive Development Society Book Award. Dr. Lillard studies children and media, neuroplasticity, contemplative practices and culture and development.*

*The mission of the Brady Education Foundation is to help close the opportunity and resulting achievement gap between children living in under-represented and/or under-resourced communities and other children. The Foundation pursues its mission by promoting collaboration between researchers and educators via the funding of research and program evaluations in education that has the potential to inform public and private funding decisions. The Foundation is particularly focused on the development and evaluation of programs that are consistent with a strength-based approach and show promise of being feasible, effective and sustainable.*