New NYU Study Shows Focus on Executive Functions in Kindergarten Provides Lasting Academic Effects with Improved Achievement In First Grade

EMBARGOED UNTIL NOVEMBER 12, 2014 AT 2 PM EST

(NEW YORK, November 12, 2014) -- An educational approach in kindergarten focused on the development of executive functions in children improved academic learning in and beyond kindergarten, helping to overcome deficits in school readiness associated with poverty, according to neuroscientists at New York University. The results suggest that executive function skills—the ability to avoid distractions, focus attention, hold relevant details in working memory, and regulate impulsive behavior—should be a key focus of early childhood education.

The study, which appears in the journal PLOS ONE, http://dx.plos.org/10.1371/journal.pone.0112393, was funded by a grant from the Institute for Education Sciences and conducted by Clancy Blair and C. Cybele Raver. It is notable because it is one of the few studies to focus on kindergarten as a critical year of growth for students, and is the first study to collect neuroendocrine, neurocognitive, and achievement data to evaluate the effects of a curriculum in typically occurring educational contexts.

The research, a randomized controlled trial involving 759 children in 29 schools in 12 school districts in Massachusetts, compared the effects of the Tools of the Mind program with typical kindergarten curricula on children’s educational and executive functions outcomes. Tools of the Mind is unique in that it embeds executive functions practice into classroom routines, activities in literacy, math and science aligned with the Common Core, and uses socio-dramatic play as a vehicle to build executive functions.

When compared with peers in Control classrooms, the study found that children in Tools of the Mind were better at focusing attention in the face of distractions and had better working memory; core aspects of executive functions, the neurological basis of self-regulation. These differences were even more pronounced in high poverty schools. Most compelling is the data showing that these gains were associated with gains in achievement that carried into first grade, where students from Tools of the Mind classrooms achieved even higher results in reading and vocabulary compared to Controls.

“Working memory and the ability to control attention, both important components of executive functions, enable children to focus and process information more efficiently. Our results suggest that a combined focus on executive functions and early academic learning
provides the strongest foundation for early success in school,” explained Clancy Blair, Principal Investigator of the study.

“To date, decisions about the most effective ways to foster learning in early childhood have not fully capitalized on advances in the neuroscience of executive functions, particularly for children in poverty,” said Cybele Raver, Co-Principal Investigator of the study. “The ability to control impulses and regulate behaviors and emotions is a critical function to build into early childhood education, ensuring children’s success in both gaining knowledge and learning life skills.”

This study is the first undertaken to evaluate the impact of the Tools of the Mind kindergarten program and builds on previous studies by neuroscientists that showed the positive impact of improving self-regulation skills in preschool. Equally important, these evaluations demonstrate that teachers in a range of schools can effectively learn and implement Tools of the Mind through a typical professional development model. “It’s critical, particularly as academic content has increased, that we maintain an emphasis on the development of children’s underlying social-emotional and cognitive abilities in kindergarten. These abilities are the path to lasting, positive impact on later academic learning,” said Dr. Deborah Leong, one of the co-developers of Tools of the Mind with Dr. Elena Bodrova. “We believe the study results show the importance of socio-dramatic play in early childhood classrooms as a venue for self-regulation development, and that we can structure classroom learning activities to simultaneously build both academic skills and executive functions.”

###

Press Contact: Chuck Gross, 303-773-3344, chuck@sectorbrands.com