

Play, cognitive skills in kindergarten predict extracurricular activities in middle school

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Cognitive skills and experiences like classroom-based play in kindergarten lead to participation in extracurricular activities in 8th grade among children growing up in poverty, finds a new study led by NYU's Steinhardt School of Culture, Education, and Human

Development.

The findings, published in *Applied Developmental Science*, look at [extracurricular activities](#) as precursors to [civic engagement](#), the building blocks for a healthy democracy.

"This study provides first-time empirical evidence that [young children's](#) experiences and skills in kindergarten may shape their engagement in society later in life," said study author Jennifer Astuto, research assistant professor of applied psychology at NYU Steinhardt and director of playLabNYU, which studies the role of play in [children's](#) lives.

"The developmental skill, executive function, and engagement in classroom-based play are not only important for being 'school-ready,' but also may be unique pathways to becoming 'civic ready' for children growing up in the context of poverty in America."

In civic engagement research there has been a focus on examining the gap in civic engagement among low-income communities and their higher-income counterparts. However, little research has focused on how civic engagement develops early in life, as opposed to in adolescence or adulthood, despite the fact that young children indeed are active citizens in school, home, and peer groups.

What has been studied widely in young children is executive function, which represents the intersection of cognitive and social-emotional competencies. Three core executive functions - inhibition, working memory, and [cognitive flexibility](#) - are viewed as fundamental developmental skills for later civic engagement.

"We view executive functions as the foundation for productive engagement in society. For example, inhibitory control and cognitive flexibility may allow young children to be active listeners to the social

needs of others," Astuto said.

Classroom-based play provides an opportunity for children to develop executive functions, including controlling emotions, resisting impulses, and exerting self-control. Through play, children learn to become a member of a social group and follow rules, foreshadowing the skills and behaviors of a civically engaged adolescent or adult.

"When young children are engaged in play they have the opportunity to create and develop ideas - as well as a sense of community - with other children. Sharing and encouraging each other's curiosity and imagination through play can build a sense of appreciation for the value of working together toward a common goal, even when differences exist," Astuto said.

To examine the developmental origins of civic engagement in children growing up in poverty, the researchers used the Early Childhood Longitudinal Study-Kindergarten Class (ECLS-K), developed by the U.S. Department of Education. A nationally representative sample of 22,782 children enrolled in kindergarten during the 1998-1999 school year participated in ECLS-K; these students were followed from kindergarten through 8th grade. This study focused on 7,675 students who were defined as living in poverty in kindergarten.

Using statistical models, the researchers looked at two factors in kindergarten - children's executive function and exposure to play in the classroom - and how they contributed to the students' participation in different extracurricular activities in 8th grade. Other civic engagement research suggests that when youth participate in school-sponsored activities, they are more likely to take part in civic behaviors later in life such as volunteering, voting, or reaching out to public officials.

The researchers found that greater executive function predicted

participation in drama and music clubs, sports, and the overall number of hours spent in extracurricular activities. Engagement in classroom-based play was also a significant predictor of participation in clubs and activities in middle school after controlling for [executive function](#). For example, how frequently children used play-based materials in kindergarten such as art supplies, theatre props, and musical instruments predicted whether they played sports during 8th grade.

The results speak to the unique role of play in [early childhood](#) classrooms today, particularly within low-income communities.

"Young children's first social blueprint is the early childhood classroom setting, which is ripe for the development of skills and exposure to experiences which build the foundation for future engagement," Astuto said. "Because of the structural disparities that lead to differences of civic engagement between the economically advantaged and those growing up in poverty, it is critical that we identify, support, and cultivate skills and experiences for children and youth which addresses this inequality."

More information: Jennifer Astuto et al, Growing up in poverty and civic engagement: The role of kindergarten executive function and play predicting participation in 8th grade extracurricular activities, *Applied Developmental Science* (2017). [DOI: 10.1080/10888691.2016.1257943](https://doi.org/10.1080/10888691.2016.1257943)

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