

Child's home learning environment predicts 5th grade academic skills

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Children whose parents provide them with learning materials like books and toys and engage them in learning activities and meaningful conversations in infancy and toddlerhood are likely to develop early

cognitive skills that can cascade into later academic success, finds a new study by NYU's Steinhardt School of Culture, Education, and Human Development.

The study, published online in the journal *Applied Developmental Science*, followed a group of [children](#) from birth through 5th grade to track the influence of early [home](#) learning environments on later cognitive skills and understand the factors that might explain long-term influences.

"There is growing evidence for the power of early learning environments on later academic success," said Catherine Tamis-LeMonda, the study's lead author and a professor of applied psychology at NYU Steinhardt. "Our study confirms that strong home learning environments arm children with foundational skills that are springboards to long-term academic achievement."

Research shows that the home learning environment powerfully shapes children's language and cognitive development. Children's participation in learning activities, the quality of parent-child interactions, and the availability of learning materials like books and toys are three key features of the home learning environment that support language and pre-academic skills in early childhood.

In this study, Tamis-LeMonda and her colleagues examined early home learning environments and whether they predict 5th grade academic skills for children of families from ethnically diverse, low-income backgrounds. The researchers studied 2,204 families enrolled in the Early Head Start Research Evaluation Project.

Children's learning environments were measured through a series of home visits at 14 months, at 2 and 3 years, and at pre-kindergarten. The researchers looked at literacy activities (including book reading,

storytelling, and teaching letters and numbers), learning materials in the home (including books, toys, or games that facilitate expression and learning), and the quality of mothers' interactions with their children. Examples of high quality interactions included labeling objects in the [environment](#) and responding to children's cues; these sensitive interactions are attentive to children's needs and cognitively stimulating.

Learning environments were again assessed in 5th grade based on the number of books in the home and the quality of mothers' engagement with children, both spontaneous interactions and during a discussion-based task.

At the pre-kindergarten and 5th grade visits, children were assessed on age-appropriate academic skills. The pre-K visit included measures of vocabulary, letter and word identification, and math problem-solving; the 5th grade visit measured vocabulary, reading, math, and general cognitive abilities.

The researchers found that early learning environments supported the emergence of pre-academic skills that persisted into early adolescence to predict children's 5th grade academic skills. Pathways from early learning environments to later academic skill were similar for children from White, Black, Hispanic, English-speaking, and Hispanic Spanish-speaking backgrounds.

Notably, learning environments were highly stable over the 10-year study, suggesting that the experiences parents provide their infants as early as the first year of life may solidify into patterns of engagement that either continue to support or impede children's emerging skills.

The study highlights the importance of early childhood experiences for children's skill development and long-term academic success, and reinforces the notion that families have a major influence on children's

academic outcomes.

The researchers note that the findings have implications for policy and practice, including the design of interventions for young children and parents from disadvantaged backgrounds.

"Improvements to early learning environments, whether it be in the home or through [early childhood](#) programs like Early Head Start, can effectively support the development of children exposed to socioeconomic disadvantage," said Tamis-LeMonda, who also co-directs the Center for Research on Culture, Development and Education at NYU Steinhardt.

Provided by New York University

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