Early learning and behaviour research at the US NICHD

Research on early learning and behaviour translates into effective interventions and care, Dr James A Griffin of the NICHD at the US National Institutes of Health...

The National Institute of Child Health and Human Development, at the National Institutes for Health (NIH), was established with support of Congress, to study the ‘complex process of human development from conception to old age’. Here, Dr James Griffin, Deputy Chief, Child Development & Behavior Branch, at the NICHD answers Adjacent Government’s questions with regards to early learning research and the impact this can have on a child’s development.

How does research help us to further understand child development and the importance of this?

Research funded by the Child Development and Behavior Branch (CDBB) within the Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD), helps us to understand and make sense of child development in all its complexities. Basic research helps us to understand the complex relationship between genetic and environmental factors as they interact to shape brain development and early learning and behaviour. This basic research, in turn, helps to inform translational research that addresses topics ranging from how to promote optimal health and development over time to how to create and implement interventions addressing the needs of children at-risk for language and learning delays and behavioural difficulties.

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How important is early learning for a child’s development?

Early learning is both the result of and shapes the overall development of a child. Parents, siblings and other family members, and caretakers are an infant’s first teachers, and interaction with them provides essential learning opportunities, as well as influencing the physical health and safety of an infant. Infants learn how to interact with the world from these early experiences, developing early gestures and vocalisations leading to language, and the capacity to better regulate their own emotions and behaviour. Lack of appropriate stimulation (unresponsive caretakers, lack of reciprocal language exchanges, unmet physical and emotional needs) can result in less developed early language and learning skills and difficulties regulating their own impulses and behaviours. Such deficits will make it more difficult to interact with family members and...
peers and may make it difficult for a child to transition to a school environment.

**How does early learning impact children later in life?**

Several studies that have followed children from disadvantaged backgrounds who received a preschool intervention continue to show positive effects on academic performance and behaviour well into adulthood. These interventions commonly employed a stimulating preschool environment coupled with home outreach focused on parent skill training and support. The current hypothesis is that these interventions, above and beyond enhancing immediate school readiness skills, produced long-term effects by promoting children's early executive function (EF) skills. These skills, developed in the first three years of brain development and then again in late adolescence, help children to regulate their own behaviours by teaching them impulse control, the ability to shift and focus their attention, and other abilities necessary for both learning and social interactions. These EF skills likely help children in their transition to school, providing them with an increased ability to learn in school, make friends, and engage in fewer problematic and disruptive behaviours. The cumulative effect increases the likelihood of a positive outcome in adulthood, relative to peers raised in the same disadvantaged environments who did not receive a preschool intervention.

**How can areas such as home life/the environment/economic stability impact a child's early development?**

NICHD has supported a range of studies examining how stability in home life, family income, and neighbourhood conditions etc. impact children's early development. Fluctuations in income and neighbourhood conditions are often beyond the control of parents, but early sources of stress for infants and young children can be changed once parents understand how such stress negatively impacts their children's development and capacity to learn. Examples of home environment stressors include constant loud music, television or computer sounds that may make it difficult for a young child to focus their attention or which disrupt their sleep, lack of space for a child to safely move about and play, and lack of safe and age-appropriate toys and household items for the child to manipulate and play with. Chronic exposure to stressors may negatively impact a child's development of executive function and school readiness skills.

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