

Predictability of parent interaction positively influences child's development

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A joint project of the University of Turku's FinnBrain study and the University of California-Irvine (US) investigated the impact of the predictability of parent interaction on a child's development.

It has been recognized for a long time that a child's attachment and ability to regulate emotions are built on a reasonably good interaction with their [parents](#). The importance of the quality of interaction is emphasized during the first few years, when the child's brain is still particularly sensitive to the effects of the environment. Sufficient [predictability](#) of the environment and interaction is thought to be an important factor in an infant's brain development.

New tool for analyzing interaction

The newly published joint study of the University of Turku, Finland, and the University of California-Irvine, US, used a novel method for analyzing interaction between a parent and child. Professor Elysia Poggi Davis from the University of Denver, Professor Tallie Z. Baram from the University of California-Irvine, and their research groups have developed a completely new tool for studying the predictability of parents' interaction signals on a micro level called Estimation of Behavioral Entropy Rate.

"The method is used to objectively calculate how predictable interaction patterns are formed from a parent's single interaction signals. Its development was based on animal studies which showed that the predictability of interaction signals are connected to the development of the offspring's brain," says Professor Poggi Davis.

Predictable interaction has a positive effect on child's self-regulation

The study showed that a higher predictability of the parent's interaction signals in infancy was associated with the child's ability to better control and regulate their own actions and emotions.

"In other words, poorly predictable or intermittent interactions were associated with a poorer self-regulation in the child. The same result was found in both Finnish and Californian data, despite their socio-economic and [cultural differences](#)," explains Associate Professor Riikka Korja from the University of Turku.

The study supports the idea that it is important to have peaceful and uninterrupted moments of interaction with infants every day.

"Parents of young children should be provided with all the support they need to reduce stress. The parent's own self-regulation and ability of settling into their infant's early months is tied to their situation in life," adds Korja.

At present, it is especially important to study the unpredictability of the environment and its significance as interaction between the parent and infant is threatened by surprising interruptions, such as pressure of being online all the time and stress factors related to a hectic lifestyle.

More information: Elysia Poggi Davis et al. Across continents and demographics, unpredictable maternal signals are associated with children's cognitive function, *EBioMedicine* (2019). [DOI: 10.1016/j.ebiom.2019.07.025](#)

Provided by University of Turku

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