

Newborns should be stimulated to hold and reach for objects, study shows

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Newborn infants and babies aged up to three months should be stimulated to manipulate objects and observe adults performing everyday tasks. This incentive helps their social, motor and cognitive development, researchers note in an article published in the May 2021 issue of the journal *Infant Behavior & Development*.

According to the authors, from the earliest age [babies](#) watch adults carrying out activities such as handling utensils and putting them away in drawers or closets. They should themselves have frequent contact with objects to develop the ability to hold things and reach out for them. Through [social interaction](#), even newborns can learn to use their own bodies functionally and to perceive the links between their movements

and their surroundings.

"We present evidence that neonatal imitation and manipulation activities are connected, and therefore propose stimulation practices based on seminal experimental designs where infants should be positioned in favorable postures to observe others acting in the world. This will have an impact on the way that early infants understand the social world and the chain of actions possible in this environment," they argue in the article.

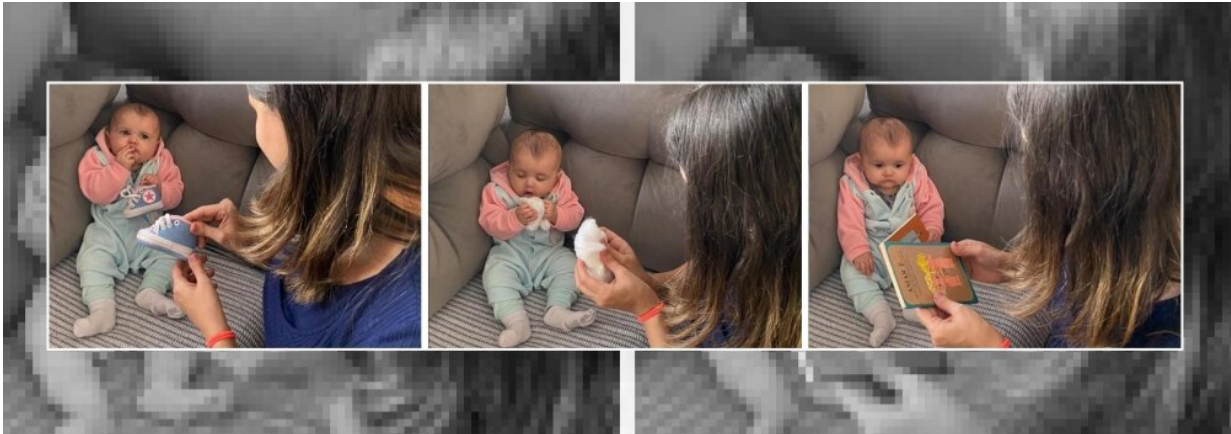
For Priscilla Ferronato, a professor at the Health Sciences Institute of Paulista University (UNIP) in São Paulo, Brazil, and first author of the article, the study innovated by evidencing the link between social imitation and the motor system underlying manipulation. "Research published since 1970 has shown that babies can copy facial expressions as soon as they're born. We suggest they imitate manipulative motor actions just as much as expressions. When babies see adults using their hands, they copy the movements, and this helps them use their own hands," she said.

Babies are unable to reach for objects in the first three months of life. "Carers usually stimulate them to use their hands only after they learn the reaching movement," she said. "We propose the opposite: encouraging them to reach out before they can do so of their own accord."

In the article, the researchers present a review of the scientific literature on the subject and advocate a novel approach to the understanding of imitation and manual activities. The suggestions are based on the reproduction of scenarios that replicate experimental situations in classic studies of child development but are simple and easily adapted.

One of the exercises proposed consists of placing the baby's hands first

on a smooth surface and then on an object with a rough surface to induce an awareness of the difference involved in terms of grasping and holding. Another is offering a finger for the baby to hold and smiling to reinforce the association between touch and visual stimulus.



Exercises proposed in the article stimulate a baby. Credit: Priscilla Ferronato

A third proposal entails shining a flashlight or smartphone in a dimly lit room just above the baby's chest to stimulate use of the arms as the baby tries to seize the beam of light.

"We want this information to be made available to professionals in daycare centers for practical application, and also to parents because at this early age babies are usually at home. Many parents have no idea babies are capable of learning in the first two or three months of their lives," Ferronato said.

Last year the foundation published a book on interaction between parents or carers and infants, according to which 21% of parents interviewed said children start learning after the age of 6 months, while

the same percentage thought the threshold was 1 year. Most of the 58% who answered that babies learn in the womb or start learning shortly after birth had a university degree and were relatively well-off.

Developing skills

Early childhood is defined in Brazilian law as the first six years of a person's life (Lei 13257/2016). Researchers and organizations often define infancy as the first three years of life. Around 10 million children can be classed as infants under this definition, according to data from the 2019 Continuous National Household Sample Survey (PNAD) conducted by IBGE, Brazil's national census bureau.

The first 1,000 days, from conception to the child's second birthday, are considered the most important from the standpoint of physical and mental development. What happens in this period can determine countless factors in adulthood. Sometimes referred to as the "golden days", they are also crucial for learning because of the brain's plasticity.

In February, FAPESP launched the Brazilian Center for Early Child Development in partnership with FMCSV. The Center is hosted by INSPER, a business school in the city of São Paulo. Its goals include conducting research on [early childhood](#) and child development, integrating data on the subject from different sources, and offering courses and workshops.

More information: Priscilla Augusta Monteiro Ferronato et al, Interweaving social and manipulative development in early infancy: Some direction for infant caregiving, *Infant Behavior and Development* (2021). [DOI: 10.1016/j.infbeh.2021.101564](https://doi.org/10.1016/j.infbeh.2021.101564)

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