

More synchrony between parents and children not always better, says study

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More synchrony between parents and children may not always be better, new research has revealed.

For the first time, a new University of Essex study looked at behavioral and brain-to-brain [synchrony](#) in 140 families with a special focus on attachment.

It looked at how they feel and think about emotional bonds while measuring [brain activity](#) as moms and dads solved puzzles with their kids.

The study—[published](#) in *Developmental Science*—discovered that moms with insecure attachment traits showed more brain-to-brain synchrony with their children.

Dr. Pascal Vrticka, from the Department of Psychology, said, "For secure child attachment development, sensitive and mutually attuned interactions with parents are crucial."

"If the parent, here the mother, has more insecure attachment traits it may be more difficult for the dyad to achieve optimal behavioral synchrony."

"Increased brain-to-brain synchrony may reflect a neural compensation mechanism to overcome otherwise less attuned interaction elements."

The study also discovered different behavioral and brain-to-brain synchrony patterns depending on whether the parent was a mom or a dad.

Fathers and children showed stronger brain-to-brain synchrony, whereas moms and their kids had stronger behavioral synchrony.

These findings suggest higher father-child brain-to-brain synchrony may reflect a neural compensation strategy to counteract a relative lack of behavioral synchrony.

Dr. Vrticka hopes this research will springboard studies into [parent-child relationships](#) and open new avenues for intervention and prevention.

It comes as Dr. Vrticka prepares to work with the NHS to explore family relationships.

He added, "Together with the East Suffolk and North Essex NHS Foundation Trust, we will soon start looking at synchrony within families with neurodivergent children and children with experiences of care and adoption."

"Our aim is to find behavioral and neurobiological correlates of an optimal range of synchrony to help all families with their relationships and child attachment development."

"In doing so, we must appreciate that not only low but also high synchrony can signal interaction and relationship difficulties."

Attachment was assessed in parents with an interview and in children with a story completion task.

Brain-to-brain synchrony between parents and children was derived from functional near-infrared spectroscopy (fNIRS) hyperscanning.

Finally, the parent-child interaction was video-recorded and coded for behavioral synchrony.

The study was led by Dr. Trinh Nguyen, who now works at the Italian Institute of Technology in Rome, Italy, and Dr. Melanie Kungl from the University of Erlangen-Nuremberg, Germany—along with colleagues from Vienna, Berlin, and Leipzig.

More information: Trinh Nguyen et al, Visualizing the invisible tie: Linking parent–child neural synchrony to parents' and children's attachment representations, *Developmental Science* (2024). [DOI: 10.1111/desc.13504](https://doi.org/10.1111/desc.13504)

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