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Mother-child's relation might be affected due to parenting stress

With parenting comes stress, and it can affect both the mother and the child, says a new study.

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Representative image . Image Credit: ANI

With parenting comes stress, and it can affect both the mother and the child, says a new study. The study published in the journal 'Scientific Reports' analysed the brain activity of 31 pairs of mother and child from Singapore while they were watching children's animation clips together.

They found that mothers who reported higher levels of parenting stress had less synchrony in brain activity with their child (all aged around 3 years old) than those who reported lower levels of parenting stress. The specific brain region monitored for synchrony was the prefrontal cortex, which is associated with the ability to understand others' point of view.

In general, when the parent and child show highly similar brain activity in the same area(s) of the brain (i.e. greater synchrony), it suggests that both are highly tuned in to each other's emotional states. Parenting stress occurs when the demands of parenting exceed the coping resources that a parent perceives they have available. Excessive parenting stress can block maternal sensitivity, lead to reactions that punish the child and negatively affect the parent-child relationship for the long term.

"Parenting stress may very well weaken mother-child communication early in the process of social interaction. Our observations likely stem from the stressed mother's reduced ability to share her child's perspective," said senior author and assistant professor Gianluca Esposito, from the School of Social Sciences who leads the Social and Affective Neuroscience Lab (SAN-Lab) at NTU Singapore. The researchers used functional Near-infrared Spectroscopy (fNIRS) caps as a non-invasive way to measure brain activation based on blood concentration levels in the brain. They combined the use of the caps with a recently developed method called tandem hyper scanning that simultaneously records the brain activity of two people.

Before starting the experiment, mothers answered a questionnaire that aims to measure parenting stress. The mother-child pairs then wore the fNIRS caps with the child sitting on the mother's lap while both watched animation clips from Brave, Peppa Pig and The Incredibles together. The NTU research team compared the mother's and child's brain activity to calculate brain-to-brain synchrony and found that for those parents reporting higher levels of parenting stress, the degree of mother-child synchrony in part of the prefrontal cortex was diminished, compared to those parents reporting lower stress who had better synchrony.

"Our study brings us a step closer to uncovering how parenting stress weakens the mother-child relationship on a day-to-day basis," said first author Ms Atiqah Azhari, a PhD candidate at the SAN-Lab at NTU.(ANI)