

# Babies know when a cuddle is coming

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3 babies in study.

Babies as young as two months know when they are about to be picked up and change their body posture in preparation, according to new research.

Professor Vasu Reddy, of the University of Portsmouth, has found most babies aged two to four months understand they are about to be picked up the moment their mothers come towards them with their arms outstretched and that they make their bodies go still and stiff in anticipation, making it easier to be picked up.

This is the first study to examine how babies adjust their posture in anticipation to offset the potentially destabilising effect of being picked up.

Professor Reddy said: "We didn't expect such clear results. From these findings we predict this awareness is likely to be found even earlier, possibly not long after birth.

"The results suggest we need to re-think the way we study infant development because infants seem to be able to understand other people's actions directed towards them earlier than previously thought. Experiments where infants are observers of others' actions may not give us a full picture of their anticipatory abilities."

The findings could also be used as an early indicator of some developmental problems, including autism. It was reported by researchers in 1943 that children with autism don't appear to make preparatory adjustments to being picked up.

The researchers, who included Dr Gabriela Markova of the Czech Academy of Sciences, Prague, and Dr Sebastian Wallot of the University of Aarhus, did two studies, one on 18 babies aged three months, and a second on ten babies aged two to four months old.

In both, babies were placed on a pressure mat which measured their postural adjustments during three phases: As their mothers chatted with their babies; as the mothers opened their arms to pick them up; and as the babies were picked up.

The results revealed infants as young as two months made specific adjustments when their mother stretched her arms out to pick them up. These included extending and stiffening the legs which increases body rigidity and stability, and widening or raising their arms, which helps to create a space for the mother to hold the infant's chest.

Between two and three months of age the babies' gaze moved from mostly looking at their mother's face to often looking at her hands as she stretched her arms out towards them.

The results reveal two important findings – first, that from as early as two months babies make specific postural adjustments to make it easier to pick them up even before their mother touches them. And second, it appears that babies learn to increase the smoothness and coordination of their movements between two and four months, rather than develop new types of adjustment.

"In other words, they rapidly become more adept at making it easier for parents to pick them up," Professor Reddy said.

The mothers in the study were asked about their babies' physical responses before the tests and some reported their [babies](#) stiffened their legs or raised their arms in preparation for being picked up, but video footage watched frame by frame revealed physical adjustments happened to a greater degree and more subtly than mothers had noticed.

The researchers suggest more research now needs to be done to examine the extent to which infants discriminate between different kinds of

actions directed at them, between familiar and unfamiliar actions, and how infant [anticipation](#) of these actions is influenced by the different maternal styles they each experience.

The research is published in the latest issue of the journal *Plos One*.

**More information:** Reddy, V. et al. Anticipatory Adjustments to Being Picked Up, *Plos One*.

Provided by University of Portsmouth

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