

# Teaching expectant mothers to bond with their babies

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Visual representation of the study setup: Participants' reactions to emotional infant stimuli were measured through ratings, eye-tracking, facial expressions, and galvanic skin response. Credit: Dr. Anne Bjertrup via Canva

Up to a third of mothers don't bond well with their babies after birth, causing intense emotional distress to both mother and baby. Now researchers have found that they can train at-risk expectant mothers to recognize and regulate emotions better, potentially reducing their risk of

postpartum depression.

Presenting the work at the [ECNP Congress in Barcelona](#), researcher Dr. Anne Bjertrup said, "People generally have an automatic tendency to see the positive or negative in any situation. In previous studies we saw that certain expectant mothers tended to perceive mostly [negative emotions](#) in relation to babies. This took several forms."

"In some cases the expectant mother would look at babies and mistakenly think that they were distressed or unhappy, when in fact they weren't. In other cases where the baby was distressed, they were emotionally unable to deal with this. So we had to see if we could train them, to help them avoid this negative bias and their own reaction during motherhood."

The work has just been published in the journal *Neuroscience Applied*.

The proof-of-concept study included 45 expectant mothers from hospitals in Copenhagen. 23 of them were at high risk of postpartum [depression](#) and potentially not bonding with their child, having suffered from earlier depression. The remaining 22 had no depression history and were classified as having a low risk.

All were assessed at the beginning of the study to see how they responded to various "baby emotions." The women at high-risk then underwent a series of computer-based training sessions aimed at helping them cope with difficult emotions, and after two weeks they were reassessed.

Anne Bjertrup (of the Psychiatric Center Copenhagen- NEAD Center, Copenhagen, Denmark) said, "With the at-risk women we were trying to communicate different things. For example, to make the worried expectant mothers focus on how a baby really expressed itself not just

what she thought she saw, and then to respond appropriately. We tried to make sure that the women could accurately recognize the emotion a baby was showing, and we got them to visualize how to properly respond to these emotions".

After the training, women in the high-risk group were significantly better at recognizing happy babies; the women were themselves able to show more happy facial expressions, and reacted less to signs of infant distress.

Dr. Bjertrup said, "We found that participants' perceptions of infant facial expressions shifted significantly after the training. For example, before the training, they viewed ambiguous baby facial expressions as slightly negative. After the training, this perception became positive, marking a 5% shift towards a positive perception on our rating scale."

"Importantly, those who showed the most improvement in recognizing happy baby expressions had fewer indications of depression six months post-childbirth. Those who improved the most in recognizing happy baby expressions had fewer signs of depression six months after giving birth."

"This means that if we can train expecting mothers to be more sensitive to happy expressions and give them back control over their emotional reaction toward baby distress, it might reduce the risk of postpartum depression. This not only benefits the mother but also contributes to a healthier emotional development for the baby".

She added, "This is a preliminary study, so we need to interpret these results cautiously. We are currently undertaking a bigger trial, which will include a control group. Nevertheless, these initial results are promising. We're among the first groups anywhere to really explore how we can use emotional cognitive processes to prevent this significant mental illness

and mother-infant bonding problem."

In the EU alone, there are around 4 million births every year, meaning that well over a million mothers and babies will be having bonding problems. Not bonding can have serious impacts on, mother and child, and families. Children may find it difficult to develop secure attachments in later life, although this also depends on what happens in early life.

A mother may find it difficult to bond for various reasons, such as hormonal changes, stress, or past traumas. This can lead to a sense of shame or inadequacy, with many mothers refusing to acknowledge their difficulties. Many respond by emotionally closing down, creating a vicious cycle of alienation.

Dr. Bjertrup added, "It's important to recognize that bonding challenges, outside of PostPartum Depression or other mental illnesses, can stem from various factors. Not experiencing immediate bonding feelings as one might expect doesn't inherently signal an issue. A mother might not have immediate bonding feelings yet can still respond sensitively and appropriately to her infant's emotions and cues".

Dr. Mijke Lambregtse—van den Berg, Infant Mental Health Specialist at Erasmus Medical Center, Rotterdam, said, "Postpartum depression is a serious condition, not only affecting the mother, but also her child. This promising study not only stresses the importance of early mother-child bonding, it also trains [expectant mothers](#) at risk in how to better recognize positive emotions in babies. Reinforcing a positive mother-baby interaction might ultimately prevent postpartum depression as well."

This is an independent comment, Dr. Lambregtse—van den Berg was not directly involved in this study.

**More information:** Anne J. Bjertrup et al, Prenatal affective cognitive training: A proof-of-concept study, *Neuroscience Applied* (2023), [DOI: 10.1016/j.nsa.2023.101135](https://doi.org/10.1016/j.nsa.2023.101135)

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