

# Baby heartbeat reveals the stress of having a depressed or anxious mother

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Scientists have shown that the babies of mothers dealing with anxiety or depression exhibit physiologically stronger signs of stress than babies of healthy mothers, when given a standard stress test. These babies show a significantly increased heart rate, which researchers fear may lead to imprinted emotional stresses as the child grows up.

The interaction of mother and infant, especially in the early months of life, plays a huge role in healthy development. Some [mothers](#), particularly those suffering from mood disorders such as depression, anxiety, or post-natal depression, have difficulties regulating infant's negative affection, which is believed to create insecurities in the children as they grow older. Mood disorders (such as irritability, changing moods, mild depression) are common during the pregnancy and the [postpartum period](#), occurring in 10-20% of women.

The effect of "emotionally distant" mothers for infants was demonstrated in the famous "Still Face Test" (see notes), first devised in the 1970's; mothers were asked to playfully interact with their

[babies](#), and then spend a period where they "blank" all interaction, before resuming normal contact. During the second phase (Still-Face episode) babies showed heightened negative emotionality as well as a reduction of social engagement and avoiding behaviours.

Now in a preliminary finding, German researchers have shown that during the period where the mother withdraws attention, babies of anxious or depressed mothers had a significant rise in [heart rate](#), on average 8 beats per minute more than that of the babies of healthy mothers. These babies were also classified by their mothers as having a more difficult temperament than healthy babies.

"To our knowledge this is one of the first times this physical effect has been seen in 3 months old infants. This may feed into other physiological stress systems leading to imprinted [psychological problems](#)", said researcher Fabio Blanco-Dormond of the University of Heidelberg.

The researchers recruited a total of 50 mothers and their babies: 20 mothers exhibiting with depression or anxiety disorders around the time of birth, and 30 healthy controls. Each mother- baby couple underwent the Still Face Paradigm. Mothers were asked to play with their babies for 2 minutes, then to cut off all interaction while maintaining eye contact. After 2 more minutes mothers then resumed playful interaction. Throughout the test researchers measured the heart rates of both mother and baby.

"We found that if a mother was anxious or depressed, their baby had a more sensitive physiological response to stress during the test than did the babies of healthy mothers. This was a statistically significant increase of an average of 8 beats per minute during the non-interactive phase".

This is a preliminary finding, so we need to repeat it with a larger sample to make sure that the results

are consistent. This is our next step", said Fabio Blanco-Dormond.

Commenting, Professor Veerle Bergink , Director of Women's Mental Health Program at the Icahn School of Medicine at Mount Sinai, New York, said:

"This work means that it is important to diagnose and treat depressive and [anxiety disorders](#) in new mothers, because it has an immediate impact on the [stress](#) system of the baby. Prior studies showed not only short term, but also long term adverse effects of postpartum mood disorders on the children. Most postpartum [mood disorders](#) start during, or even before pregnancy, and early diagnosis is therefore important".

Professor Bergink was not involved in this work.

Provided by European College of Neuropsychopharmacology

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