

Infant sensitivity to negative emotional expressions develops at around 6 months

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Scientists working in the Academy-funded Research Programme on Neuroscience (NEURO) have discovered important changes in the way that infants react to another person's face at age 5-7 months.

Infants aged 5 months react very differently to a fearful face than those aged 7 months. "At the age of 7 months babies will watch a fearful face for longer than a happy face, and their attentiveness level as measured by EEG is higher after seeing a fearful than a happy face. By contrast, infants aged 5 months watch both faces, when they are shown side by side, for just as long, and there is no difference in the intensity of attention in favour of the fearful face," said Mikko Peltola, researcher at the University of Tampere, at the Academy's Science Breakfast this week.

It seems that at age 6 months, important developmental changes take place in the way that infants process significant emotional expressions. A fearful face attracts intense attention by the age of 7 months. In addition, it takes longer for infants to shift their attention away from fearful than from happy and neutral faces.

"Our interpretation of this is to suggest that the brain mechanisms that specialise in emotional response and especially in processing threatening stimuli regulate and intensify the processing of facial expressions by age 7 months," Peltola said.

The emotions conveyed by facial expressions are an important part of infant-parent interaction from childbirth onwards. Another area of interest in the Neuroscience Research Programme is how inherited differences impact the development of perceptual functions in infants. Likewise, scientists in the programme are interested in interindividual variation in mother-child interaction.

The results of the project shed useful new light on emotional reactions related to the perception of

human faces and how they develop. Furthermore, the project will help to increase understanding of the development of perceptual functions that are crucial to normal social interaction.

Source: Academy of Finland

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