

Study shows 3-month-olds are sensitive to emotional cues referring to objects in the world

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Scientists have discovered that three-month-old infants are sensitive to emotional signals that refer to objects in the world. It was once thought that young infants could only process social signals that were directed at them. However, in a new study published in *PLoS ONE*, researchers from Hunter College and the Max Planck Institute for Human Cognitive and Brain Scientists show that three-month-old infants go beyond face-to-face social interactions: they even use social cues to process objects in the world around them.

"Brain measures tell us how infants process the world around them, even before they have the behavioral repertoire to show us. Children with autism often do not pay attention to relevant social signals. Here, we see that the typically developing infant brain is already effectively attending to and parsing relevant social cues and using these signals to process new objects they encounter in the world."

Source: Public Library of Science

Social referencing is the ability to search for and to use social signals to guide one's behavior in a new situation. For decades, researchers thought that the ability to social reference developed only when infants were about twelve months old.

In this study, funded by the Sofja Kovalevskaja Prize of the Alexander von Humboldt Foundation, three-month-old infants viewed images of people who looked at new objects with either fearful or neutral facial expressions. Infants' electrophysiological brain activity showed that processing of new objects varied depending on the emotional signals that adults had used as referential social cues.

First author, Stefanie Hoehl, explains, "At three months of age, the infants' attention toward a new object was heightened when an adult had expressed fear toward the object."

"Not only do these findings offer new insight as to how the young infant brain processes communicative social signals, but these advancements are also important in eventually being able to target when infants may be at risk for atypical communicative developments such as autism," highlights Tricia Striano at Hunter College.

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