

English or Greek, toddlers watch the tone

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(Medical Xpress) -- Infants can understand the difference between intentional and accidental actions from tone of voice alone, new research by the Cardiff University School of Psychology has shown.

Led by Dr Merideth Gattis, the year-long research involved 84 [babies](#) aged 14 to 18 months who took part in two studies – one using English language and one using Greek language.

The [infants](#) watched a researcher perform actions with toys that were

either intentional or accidental. These actions were accompanied by the words "whoops" and "there" which each had distinct vocal contours and acted as clues for both intention and meaning. The same process was repeated in Greek. This time the toddlers would only get clues about intention from [tone](#) alone, not from the word's meaning – none of them had been exposed to the Greek language previously.

Dr Gattis and her research partner Dr Elena Sakkalou from University College London found that the infants copied intentional actions more than accidental actions, and were equally likely to copy intentional actions in both studies, suggesting that infants do not need lexical or facial cues to infer intentions.

Their work adds to a growing body of research into the role of tone, or prosody, in infancy. Importantly it reveals that infants are able to differentiate between intentional and accidental actions through tone alone, helping them to not only process information about another person's intention but to build a picture of how to act in the world.

Speaking about their findings, Dr Gattis said: "Understanding mental states, such as intentions, desires, and beliefs, is one of the most important human abilities. Psychologists still know very little about how infants begin to build this understanding. In this research we aimed to investigate the contribution of prosodic cues, or tone of voice, to infants' understanding of mental states. Tone of voice is a really useful signal to what someone is thinking. We used the words 'whoops' and 'there' accompanied by relative vocal inflections in two languages and got exactly the same results – whether in English or Greek, which none of the children understood.

"This study showed us that children can judge the intentions of other people based on tone of voice alone. The acoustic features of speech accompanying actions allow infants to identify intention in perceptually

similar actions. They are able to use prosodic cues as a guide to how to act on the world, demonstrated by their tendency to copy intentional actions more than accidental actions."

The research – *Infants infer intentions from prosody* - is published in the journal *Cognitive Development*.

Provided by Cardiff University

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