

Children cannot ignore what they hear when detecting emotions

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Children determine emotion by what they hear, rather than what they see, according to new research.

The first-of-its-kind study, by Durham University's Department of Psychology, looked at how children pick up on the emotions of a situation.

They found that whilst adults prioritized what they see, young children showed an auditory dominance and overwhelmingly prioritized what they could hear.

The researchers say their findings could benefit parents currently managing home learning and professional educators by increasing their understanding of how young children pick up on what is going on around them.

The research may also provide new avenues to understanding emotional recognition in children with developmental challenges such as autism.

The findings are published in the *Journal of Experimental Child Psychology*.

Lead author Dr. Paddy Ross, in Durham University's Department of Psychology, said: "Our study found that young children over-rely on what they hear to make judgements about the emotions of a situation. With so many children spending much more time at home currently, there is huge value in considering what they may hear and pick up on.

"There could also be applications for how to make online learning more effective as well as our understanding of how children with challenges such as autism may detect and understand emotions."

The research was designed to test whether the previously identified 'Colavita effect', which had shown that from around the age of eight years old humans tend to respond more to visual rather than auditory [stimuli](#), held true for more complex situations such as emotional recognition in young children.

The team undertook two experiments with volunteers in three age categories (seven and under, eight to 11, and 18+).

The volunteers were shown pictures of humans, with faces blurred, for the visual stimuli, and human voices for the auditory stimuli, which conveyed happy and fearful and sad and angry emotions.

The stimuli were presented both on their own, and in corresponding and contrasting combinations, and participants were asked what the over-riding emotion was in each.

The team found that when the visual and auditory stimuli were combined, adults based their emotional assessment on what they could see whereas young children overwhelmingly gave precedence to what they could hear.

All age groups scored over 90 per cent when presented with visual and auditory stimuli in isolation. A similar score was recorded when the

stimuli were combined, and participants were asked to ignore the [visual stimuli](#) and identify the emotion from the voice.

However, when younger and [older children](#) were asked to ignore the voice and base their judgment on the body stimuli, the team found that they performed significantly worse than adults when presented with a combination where the emotions displayed in the visual and [auditory stimuli](#) did not match.

Children also scored significantly below chance level, indicating that they were not merely guessing, but selecting the spoken emotion, rather than the visual, despite being told to ignore it.

Dr. Ross now plans to undertake further research to investigate whether young [children](#) still rely on what they can hear when human facial expressions are present, and when [human voices](#) are replaced with music conveying similar emotions.

More information: Paddy Ross et al, Children cannot ignore what they hear: Incongruent emotional information leads to an auditory dominance in children, *Journal of Experimental Child Psychology* (2021). [DOI: 10.1016/j.jecp.2020.105068](#)

Provided by Durham University

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