

Children can be trained recognise emotions

24 September 2014



Credit: Robert Kraft/public domain

Children can use training to spot crucial cues on someone's emotional state, new research from the University of Lincoln, UK, has shown.

Children can learn to better recognise other people's emotions through games which emphasise the significance of the eyes and the mouth in conveying feelings, new research has shown.

The study by cognitive neuroscientists at the University of Lincoln, UK, suggests that simple training programmes could help [children](#) better understand which expressive [facial features](#) offer the most important cues to other people's emotional state.

It is hoped the findings, published in the peer reviewed science journal *PLOS ONE*, could lead to new or improved interventions for children and adults who have difficulty recognising emotional states in others.

Dr Petra Pollux, a cognitive neuroscientist from the University of Lincoln's School of Psychology, said:

"How we recognise and process [facial expressions](#) plays a big part in our social interaction skills. We've all experienced walking into a room, looking around and immediately understanding that something has happened, and that's because we're reading the expressions on people's faces.

"This ability to understand and read facial expressions is a crucial skill in development and begins at quite an early age. Generally, when we look at faces, we look at the eyes and the mouth, but with a definite bias towards the eyes. We wanted to investigate if there was a correlation between which parts of the face the children looked at and their ability to correctly pick up on the emotional state of the person in the image."

During the study nine-year-old children were shown images which conveyed varying levels of intensity of [emotional expressions](#), from a small smile to a big grin, and asked to match it with the correct emotion. If they answered incorrectly, they were alerted by a tone.

Children and adults were not given any instructions about eye-movements, but over the four sessions learned that focusing more on the eyes offered the crucial clues they needed.

The images used in the study were digitally manipulated and showed happy, sad or fearful expressions. An adult's ability to recognise emotions was also assessed and compared with children's, and in both cases, special [eye](#) tracking equipment was used to monitor their gaze pattern and determine which features of the face, such as the eyes, nose or mouth, they focused on most.

Children looked less often and for a shorter duration at the eyes, and more often and for longer at the mouth compared with adults. Training for both adults and children increased the amount of time spent looking at the eyes, although for adults this was only for faces which showed a sad expression.

Children, however, showed a significant increase in the amount of time spent focused on the eyes of all three expressions after training, leading to more correct answers. The images used in the final session were also replaced by new faces, meaning their abilities translated to different people, researchers said.

Dr Pollux added: "It's really useful to know that the way a child scans a face plays an important role in recognising emotions. This research could be used to develop mobile phone apps which turn this kind of training into a game."

Researchers now hope that the findings will inform training programmes for people in need of a better understanding of recognising facial expressions, such as those with autism or other cognitive development problems.

More information: Pollux PML, Hall S, Guo K (2014) "Facial Expression Training Optimised Viewing Strategy in Children and Adults." *PLOS ONE* 9(8): e105418. [DOI: 10.1371/journal.pone.0105418](https://doi.org/10.1371/journal.pone.0105418)

Provided by University of Lincoln

APA citation: Children can be trained recognise emotions (2014, September 24) retrieved 15 September 2019 from <https://medicalxpress.com/news/2014-09-children-recognise-emotions.html>

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