

Everybody laughs, everybody cries: Researchers identify universal emotions

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Here's a piece of research that might leave you tickled: laughter is a universal language, according to new research. The study, conducted with people from Britain and Namibia, suggests that basic emotions such as amusement, anger, fear and sadness are shared by all humans.

Everybody shares the vast majority of their [genetic makeup](#) with each other, meaning that most of our physical characteristics are similar. We all share other attributes, too, such as having complex systems of communication to convey our thoughts, feelings and the intentions of those around us, and we are all able to express a wide range of emotions through language, sounds, [facial expressions](#) and posture. However, the way that we communicate is not always the same - for example, people from different cultures may not understand the same words and phrases or body language.

In an attempt to find out if certain emotions are universal, researchers led by Professor Sophie Scott from UCL (University College London) have studied whether the sounds associated with emotions such as happiness, anger, [fear](#), sadness, disgust and surprise are shared amongst different cultures. The results of their study, funded by the Wellcome Trust, Economic and Social Research Council, University of London Central Research Fund and UCL, are published today in the [Proceedings of the National Academy of Sciences](#). They provide further evidence that such emotions form a set of basic, evolved functions that are shared by all humans.

Dr Disa Sauter, studied people from Britain and from the Himba, a group of over 20,000 people living in small settlements in northern Namibia as part of her PhD research at UCL. In the very remote settlements, where the data for the present study were collected, the individuals live completely traditional lives, with no electricity, running water, formal education, or any contact with people from other groups.

Participants in the study listened to a short story based around a particular emotion, for example, how a person is very sad because a relative of theirs had died recently. At the end of the story they heard two sounds - such as crying and of laughter - and were asked to identify which of the two sounds reflected the emotion being expressed in the story. The British group heard sounds from the Himba and vice versa.

"People from both groups seemed to find the basic emotions - [anger](#), fear, disgust, amusement, sadness and surprise - the most easily recognisable," says Professor Scott, a Wellcome Trust Senior Research Fellow. "This suggests that these emotions - and their vocalisations - are similar across all human cultures."

The findings support previous research which showed that facial expressions of these basic emotions are recognised across a wide range of cultures. Despite the considerable variation in human facial musculature, the facial muscles that are essential to produce the basic emotions are constant across individuals, suggesting that specific facial muscle structures have likely evolved to allow individuals to produce universally recognisable emotional expressions.

One positive sound was particularly well recognised by both groups of participants: laughter. Listeners from both cultures agreed that laughter signified amusement, exemplified as the feeling of being tickled.

"Tickling makes everyone laugh - and not just humans," says Dr Disa

Sauter, who tested the Himba and English participants. "We see this happen in other primates such as chimpanzees, as well as other mammals. This suggests that laughter has deep evolutionary roots, possibly originating as part of playful communication between young infants and mothers.

"Our study supports the idea that laughter is universally associated with being tickled and reflects the feeling of enjoyment of physical play."

Previous studies have shown that smiling is universally recognised as a signal of happiness, raising the possibility that laughter is the auditory equivalent of smiles, both communicating a state of enjoyment.

However, explains Professor Scott, it is possible that laughter and smiles are in fact quite different types of signals, with smiles functioning as a signal of generally positive social intent, whereas [laughter](#) may be a more specific emotional signal, originating in play.

Not all positive sounds were easily recognisable to both cultures, however. Some, such as the sound of pleasure or achievement appear not to be shared across cultures, but are instead specific to a particular group or region. The researchers believe this may be due to the function of positive emotions, which facilitate social cohesion between group members. Such bonding behaviour may be restricted to in-group members with whom social connections are built and maintained. However, it may not be desirable to share such signals with individuals who are not members of one's own cultural group.

More information: Sauter, DA et al. Emotional vocalizations of the basic emotions can be recognized across cultures. Published online in *PNAS*; 25 January 2010.

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