

Time to take laughter seriously

June 15 2023, by Ali Jones



Credit: AI-generated image ([disclaimer](#))

While people the world over enjoy a good laugh, remarkably little is known about this instinctive behaviour.

Before babies can talk or walk, they can laugh. An infant's first giggle at around four months enchants and reinvigorates even the most weary parent and, from then on, it's a lifelong tool for communicating with the world.

Laughter is a social glue that binds people together, helping to navigate and smooth all manner of experiences and encounters. Yet there's very little science on how this works.

Positive vibes

'Laughter is so central to our human experience of coordinating and interacting with other people, but we don't know much about it,' said Stefanie Höhl, a professor of developmental psychology at the University of Vienna in Austria.

Höhl is working on the [Laughing Together](#) project, one of two EU-funded studies bringing a new focus to the subject of happiness.

In psychology and [neuroscience research](#), [laughter](#) has been overshadowed by the pressing medical need to study [negative emotions](#) that affect mental health such as anxiety and fear.

There's a clinical requirement to understand more about these emotions to be able to treat patients effectively.

'Positive emotions, like laughter, are not so well researched because their societal and clinical impact are not as immediate,' said Dr. Carolina Pletti, a researcher at the University of Vienna. 'Yet if we want to increase people's well-being, we must increase the positive as well as reduce the negative.'

Laughter's ability to break the ice and pave the way to social bonding is easy enough to grasp. It releases endorphins in the body that give a warm feel-good factor. Who doesn't feel better after an evening of laughing with friends?

It's the goings-on inside the brain that Pletti and Höhl want to know

more about in the two-year project, which runs until March 2024.

Twice the laughs

The two experts are pairing up volunteers to observe their brain activity when both laugh at something at the same time, employing some of YouTube's most amusing animal antics to provide the entertainment.

Brain activity is rhythmic. Speech and music are already known to help synchronise brain rhythms between people.

When two minds tune in to the same wavelength, they process information more quickly. The result is that communication is smoother and interaction and cooperation are facilitated.

It's the first time that researchers have looked at the dynamics of two brains interacting in real time and at the impact of laughter—for both adults and children.

'We think that laughter might be really conducive to bringing people's brains onto the same wavelength,' said Höhl. 'It's really a social signal and, in research terms, it's the missing piece of the puzzle.'

Brain-imaging technology, worn like a swimming cap, is capturing brain activity while participants watch funny videos, laugh over a silly word game and interact freely. It's this [final phase](#) that shows whether laughter can stimulate brain synchrony.

Test surprise

Early results for the adult experiments include a surprise.

Yes, laughing together does enhance neural synchrony, but the unexpected catch is: not for long. The researchers are finding a five-minute window where people are tuned in to each other's brain rhythms before the effect is lost.

The researchers will explore the impact of personality and hope to extend the study to include testing what happens when people already know each other. Future research might also ask what can be done to extend this sweet spot of synchronicity.

Meanwhile, the researchers are turning their attention to the study of children, making them laugh with funny animal videos or cartoons, and then assessing what happens to their [brain activity](#) when they cooperate on a game. This separate study is one of the very few to look at how pre-schoolers interact with each other and at the processes of cooperation and [brain](#) synchrony.

If they find that laughing together encourages positive behaviour, helping children to get along, the researchers say laughter could one day become an education technique in schools—and could be applied to the adult world of work too.

Emotional spectrum

The [Positive Emotions Project](#), or PEP, has focused on 17 of them—including gratitude, awe, amusement, compassion and relief—that lack detailed and coordinated study.

The six-year initiative ends this coming August and is led by Dr. Disa Sauter, social psychologist at the University of Amsterdam in the Netherlands.

The project has involved collaboration with more than 60 researchers

worldwide. It has analysed the thoughts and feelings of more than 30 000 people globally to compare different kinds of positive emotional experiences.

'The overarching goal of the project is to study positive emotion with much more granularity,' said Sauter. 'It's just been called "happiness", but we are taking a wider perspective to see whether different types of [positive emotions](#) might work differently.'

Memory lanes

As well as studying facial expressions and the social norms that surround how and when people display positive emotions, the project has made vocalisation a key strand.

The researchers invited participants to talk about happy memories and mapped their [facial expressions](#) and laughter.

In the long run, a detailed understanding of how people look and sound when they experience different emotions could help work with people who can't communicate using words, including babies and young children.

These findings could also be helpful for people who sometimes struggle with the communication of emotions, including people on the autism spectrum and those with dementia.

It's a project to map uncharted territory in human emotion in different cultures. In time, the results could become a valuable resource for developing technologies to support the communication of human emotions.

Never dull

Meanwhile, Sauter and Pletti are in no doubt about the contagious qualities and inherent benefits of laughter.

'People don't need a lot of encouragement to laugh,' said Sauter.

Pletti drove home the point by referring to another surprise in her project: study scenarios designed to limit the likelihood of generating laughter by participants failed to do so.

'Even when you give people a very dull task—like working on an instruction manual—they'll try to come up with funny things to make the situation less uncomfortable and they'll laugh anyway,' she said. 'It's almost impossible to banish it completely.'

This article was originally published in [Horizon](#), the EU Research and Innovation Magazine.

Provided by Horizon: The EU Research & Innovation Magazine

Citation: Time to take laughter seriously (2023, June 15) retrieved 29 April 2024 from <https://medicalxpress.com/news/2023-06-laughter.html>

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