You really can't fake a laugh: Our brains are hardwired to tell the difference between genuine and fake chuckling

- **Study found our brains respond differently to genuine and fake laughter**
- **Fake laughter activates a part of the brain linked with deciphering emotions**
- **While genuine laughter lights up areas linked with positive feelings**
- **Researchers measured brain responses of people as they watched videos**
- **Each volunteer picked clips they found funny and this ranged from comedy show Flight Of The Conchords to the Eurovision Song Contest**
- **Results were compared to how their brains responded to fake laughter**

By VICTORIA WOOLLASTON

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Next time your boss tells a bad joke and you feel compelled to laugh, beware - they can tell you're faking it.

Researchers from London have discovered our brains carry out different process when we hear genuine laughter compared to fake chuckles.

When laughter is forced, for example, it activates a part of the brain linked with deciphering emotions.

This means we know it's not a genuine laugh, and we automatically try to work out why they're faking it, what the laugh means and what the they're thinking.

While genuine laughter lights up areas of the brain linked with happiness and positive emotions.

To test the theory, psychologist Dr Carolyn McGettigan from the Royal Holloway University of London measured brain responses of volunteers as they listened to genuine laughter on YouTube clips.

Each participant was asked to pick clips they found funny.

This ranged from comedy shows, such as Flight Of The Conchords, and even the Eurovision Song Contest.

The results were then compared to how their brains responded to fake laughter.

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When laughter is forced, it activates a part of the brain linked with deciphering emotions. Genuine laughter lights up parts linked with happiness

The findings revealed participants, none of which were told the study was about laughter perception, could unconsciously tell when the chuckles were insincere.

Dr McGettigan said: 'It's fascinating to consider the way our brain is able to detect genuine happiness in other people. 'Our brains are very sensitive to the social and emotional significance of laughter.

'During our study, when participants heard a laugh that was posed, they activated regions of the brain associated with mentalising in an attempt to understand the other person's emotional and mental state.'
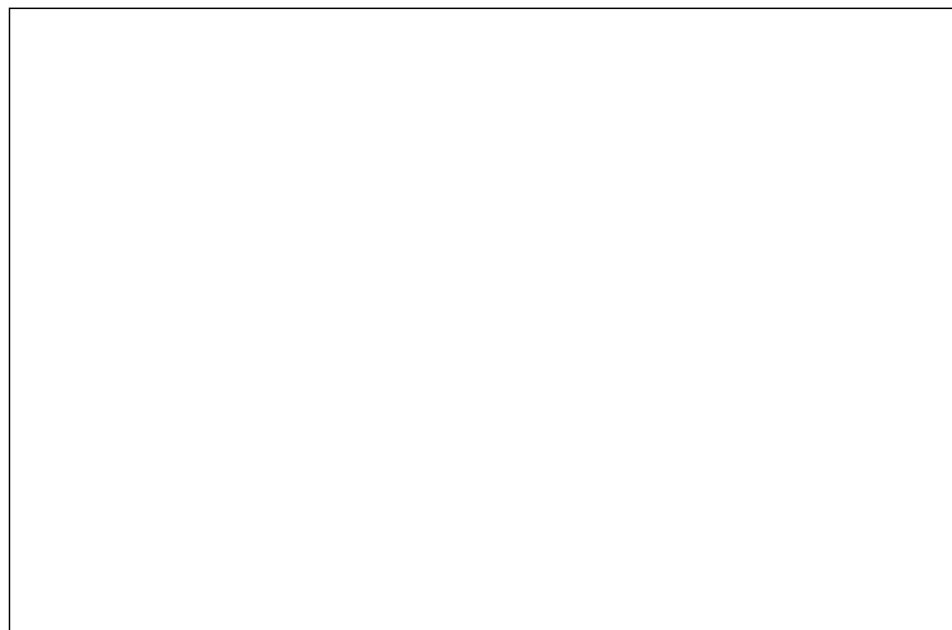
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The study goes a long way to explain why people can easily spot when someone is forcing laughter.

Dr McGettigan added: 'Some of the participants engaged parts of the brain that also control movements and detect sensation.

'These individuals were more accurate at telling which of the laughs were posed, and which were real, when we tested them after their scan.

'This suggests that as listeners, 'trying out' how a laugh would feel if we produced it ourselves might be a useful mechanism for understanding its meaning.'

The study was commissioned for the second annual International Day of Happiness on Wednesday.

Dr McGettigan's findings confirm previous research from scientists at the University of Tuebingen in Germany who investigated the 'laughter perception network' of the brain.

Lead researcher Dr Dirk Wildgruber found that parts of our brains sensitive to processing high-level, social information reacted most to 'joyous' and 'taunting' laughter.

Wildgruber's study said this is proof the brain is able to recognise the difference between types of laughter, and whether we're being laughed at, or laughed with.

Yet, regions of our brain that are more sensitive to picking up and registering more complex sounds reacted most to 'tickling' laughter.