

# Brain scan reveals how our brain processes jokes

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(Medical Xpress) -- A new Medical Research Council (MRC) study which has uncovered how our brain responds to jokes, could help to determine whether patients in a vegetative state can experience positive emotions.

Researchers from the MRC Cognition and [Brain](#) Sciences Unit (CBSU) used a brain [scanning technique](#) called [functional Magnetic Resonance Imaging](#) (fMRI) to watch and compare what goes on in the brains of normal individuals when they hear ordinary sentences and humorous [jokes](#), including puns. By scanning the brains of twelve healthy volunteers, they found that the reward areas in our brain light up when processing jokes to a much greater degree than when we hear normal speech. This reward response increased with how funny the [study participants](#) found each of the jokes.

Dr. Matt Davis, who co-led the research at the Medical Research Council CBSU, said: “We found a characteristic pattern of brain activity when the jokes used were puns. For example, jokes like ‘Why don’t cannibals eat clowns? Because they taste funny!’ involved brain areas for language processing more than jokes that didn’t involve wordplay. This response differed again from non-humorous sentences that also contained words with more than one meaning. Mapping how the brain processes jokes and sentences shows how language contributes to the pleasure of getting a joke. We can use this as a benchmark for understanding how people who cannot communicate normally react to jokes.”

The authors believe they may be able to use this research to help discover whether someone in a vegetative state can experience positive emotions.

Dr. Tristan Bekinschtein, lead author of the paper, said: “We’ve previously used fMRI to detect language comprehension in [vegetative state](#) patients who can’t communicate in any other way. This study shows we could now use similar methods to look for positive emotions in these patients. This is very important for the families and friends of these patients, who want to know whether they can still experience pleasure and ‘laugh’, despite their adversity.”

Professor Susan Gathercole, director of the MRC CBSU, said: “This project demonstrates how even what might seem like idiosyncratic aspects of human experience, such as being amused, can be understood using the tools of neuroscience. There is a serious side to this. Being unable to take pleasure in everyday activities is a common symptom of depression. This research is an important part of the Medical Research Council’s commitment to explaining how the brain generates the experience of emotions and, ultimately, helping treat [emotional](#) problems.”

Provided by Medical Research Council

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