

How accurate is your memory?

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(PhysOrg.com) -- As a child did you hate brussel sprouts? Do you remember such a preference or did your parents remind you afterwards, ensuring a lasting dislike of the vegetable? Or do you have a phobia in adult life, invoked by a memory from the past that no-one else remembers?

New research into the human memory has found that it is possible to plant false memories in the human mind that can have significant long-term effects on behaviour.

The work by psychologists at the University of St Andrews shows that the human memory can be remarkably fragile and even inventive when it comes to remembering past events, often completely rewriting 'autobiographical belief'. In a series of studies Dr Elke Geraerts, found that it is possible to change long-term behaviours by inducing false memories using a simple suggestive technique. The findings of the food-based study may be used positively to treat conditions such as obesity or aid dieting.

Dr Geraerts, a lecturer at St Andrews and associate of Maastricht University, where the study was carried out, said, "The false suggestion of a childhood event can lead to persistent false beliefs that have lasting behavioural consequences. Studies on false memories and beliefs have compellingly shown that misleading information can lead to the creation of recollections of entire events that have not occurred.

"Until now, however, no-one has examined the possible effects of false

memories on behaviour. We asked ourselves can false beliefs be sufficiently strong to alter behaviour? If one develops false memories in the laboratory, might they have an influence on one's short- and long-term attitudes and actions?" she continued.

In a series of experiments, the researchers falsely suggested that participants had become ill after eating egg salad as a child. A 'significant minority' of participants believed this to be true, and even four months after the study were found to avoid egg salad.

"Interestingly, these participants showed a distinct change in attitudes and behaviour towards this food, even some time afterwards," explained Elke. "They not only rated egg lower than other foods but they avoided egg salad sandwiches altogether."

"With obesity levels reaching epidemic proportions around the world, we could use this type of suggestive therapy for treating cases of obesity or influencing dieting choices. It may be possible for people to learn to avoid certain foods by believing they had negative experiences with the food as a child."

Previous research has induced false memories of more inconceivable experiences, including those involving satanic rituals, previous lives, and abduction by space aliens. Even though such memories may not be real, researchers say they can cause emotional pain similar to that experienced by those who genuinely have memories of a traumatic event.

The new study could have significant implications for recovered memories involving abuse - previous research has claimed that it is possible for people to create false memories of being abused as a child, when memories are recovered through suggestive therapy. Such false memories triggered would impact on future behaviour such as seeking redress in adult life.

"Our study is the first ever to show that false memories can be so persuasive that people change their behaviour, both in the short and longer term. We have clearly demonstrated that false suggestions about childhood events can profoundly change people's attitudes and behaviour in adulthood."

The paper *Lasting False Beliefs* is published in the August issue of the journal *Psychological Science*, a journal of the Association for Psychological Science.

Provided by University of St Andrews

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