

Study: Patients with amnesia still feel emotions, despite memory loss

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A new University of Iowa study offers some good news for caregivers and loved ones of individuals with Alzheimer's disease. Patients might forget a joke or a meaningful conversation -- but even so, the warm feelings associated with the experience can stick around and boost their mood.

For the study, published this week in the Early Edition of the [Proceedings of the National Academy of Sciences](#), researchers showed individuals with [memory loss](#) clips of happy and sad movies. Although the participants couldn't recall what they had watched, they retained the emotions elicited by the clips.

Justin Feinstein, lead study author and a student in the UI graduate programs of neuroscience and psychology, says the discovery has direct implications for Alzheimer's disease.

"A simple visit or phone call from family members might have a lingering positive influence on a patient's happiness even though the patient may quickly forget the visit or phone call," said Feinstein, a doctoral student in clinical neuropsychology. "On the other hand, routine neglect from staff at nursing homes may leave the patient feeling sad, frustrated and lonely even though the patient can't remember why."

Feinstein conducted the study with UI neuroscience faculty members Daniel Tranel, Ph.D., UI professor of neurology and psychology, and Melissa Duff, Ph.D., UI assistant professor of communication sciences

and disorders.

The researchers studied five rare neurological patients with damage to their [hippocampus](#), a part of the brain that's critical for transferring short-term memories into long-term storage. Damage to the hippocampus causes new memories to disappear. This same type of [amnesia](#) is an early sign of Alzheimer's disease.

The experiment started with an emotion-induction technique using powerful film clips. Each amnesic patient viewed 20 minutes of either sad or happy movies on separate days. The movies triggered the appropriate emotion, ranging from intense bouts of laughter during happy films to tears of sorrow during sad ones.

About 10 minutes after the clip ended, researchers gave patients a memory test to see if they could recall what they had watched. As expected, the patients were extremely impaired. A healthy person recalls about 30 details from each clip, but one patient couldn't recall a single detail.

After the memory test, patients answered questions to gauge their emotions.

"Indeed, they still felt the emotion. Sadness tended to last a bit longer than happiness, but both emotions lasted well beyond their memory of the films," Feinstein said. "With healthy people, you see feelings decay as time goes on. In two patients, the feelings didn't decay; in fact, their sadness lingered."

These findings challenge the popular notion that erasing a painful memory can abolish psychological suffering. They also reinforce the importance of attending to the emotional needs of people with Alzheimer's, which is expected to affect as many as 100 million people

worldwide by 2050.

"Age is the greatest risk factor for Alzheimer's, and there's currently no cure," Feinstein said. "What we're about to face is an epidemic. We're going to have more and more baby boomers getting older, and more and more people with Alzheimer's disease. The burden of care for these individuals is enormous.

"What this research suggests is that we need to start setting a scientifically-informed standard of care for patients with memory disorders. Here is clear evidence showing that the reasons for treating Alzheimer's patients with respect and dignity go beyond simple human morals."

More information: Paper:

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