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Brain of Hypnotised People Undergoes Measurable Changes: Study

Israeli researchers have shown that hypnotism actually produces measurable changes in the brain, refuting suggestions that it does not result in an altered state of consciousness.

Sceptics argue that hypnotism —commonly used to treat pain, anxiety, and phobias — is an exaggerated form of social compliance, where subjects suspend their critical faculties to do whatever a hypnotist asks of them.

However, Prof Yadin Dudai, a researcher at The Weizmann Institute of Science, Rehovot, insists that brain scans of people taken after a hypnotic suggestion to forget have revealed that parts of the brain really are affected.

During the study, two groups of volunteers — people susceptible to hypnotic suggestions, and individuals who were not — were shown a documentary depicting a day in the life of a young woman.

After a week, the participants were placed in a brain scanner. They were then induced into a hypnotic state, and given a posthypnotic suggestion to forget the movie, along with a reversibility cue that would restore the memory.

The researchers tested the subjects for their recall after they had come out of the hypnotic state. They then gave the participants the reversibility cue, and tested their recall again.

As compared to the hypnosis-non-susceptible group, the hypnosis-susceptible group showed reduced recall of the movie.

When the researchers analysed brain scans of the subjects, they found distinctive differences in specific brain areas — namely, occipital, temporal, and prefrontal areas — among participants in the two.

"The surprise for us was that activity was raised during memory suppression in one specific region in the frontal cortex," the Telegraph quoted Dudai as saying.

In effect, he added, it probably told the other brain regions "don't even think about retrieving that memory".

"The one thing we can say for sure is that hypnotism worked under the conditions we used," said Prof Dudai, adding that the findings were different from those seen in people who attempted to deceive.

"We are therefore highly confident that this is not an artifact," he added.

The researchers believe that their insights into memory suppression and recall may help understand the mechanisms underlying some forms of amnesia, besides explaining how people suppress distressing memories or things.

However, study co-author Avi Mendelsohn admitted that further studies were required to determine whether the new findings gave insights into how the brain stores memory.