

Non-invasive stimulation of the brain strengthens memories and reduces forgetting in young and elderly adults



Episodic memory refers to the recollection of personal experiences that contain information on what has happened to you and where and when these events took place.

This form of long-term memory displays the largest degree of age-related decline. Older adults, for example, have more difficulty recalling what they had for breakfast than do younger adults.

Because this memory is critical for daily life functioning and its decline is accelerated in conditions like amnesic mild cognitive impairment and Alzheimer's disease, the development of effective interventions to reduce memory loss in elderly individuals is of great importance.

Studies in the cognitive neuroscience of aging have begun to link declining episodic memory to neurochemical, structural and functional brain changes in the connections between different areas of the brain. A study carried out by the National Institute of Neurological Disorders and Stroke, National Institutes of Health, Bethesda, MD, USA has found that non-invasive stimulation reduces forgetfulness in the elderly and in younger adults.

"This and other similar studies are fundamentally changing the way we thought memory was formed." stated Dr Randy Beck of the Institute of Functional Neuroscience, Perth, Australia.

"We now understand that memories are distributed through remote areas of the brain and need to be reassembled through functional connectivity between these remote areas via network connectivity. The non-invasive techniques utilised by the Institute of Functional neuroscience are thought to strengthen the interactions between these remote but

interconnected brain regions which results in a strengthening of existing memories in both the young and the elderly.

References

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