

Self-Imagination Can Enhance Memory in Healthy and Memory-Impaired Individuals

November 07, 2012

There's no question that our ability to remember informs our sense of self. Now research published in [Clinical Psychological Science](#), a journal of the [Association for Psychological Science](#), provides new evidence that the relationship may also work the other way around: Invoking our sense of self can influence what we are able to remember.

Research has shown that self-imagination – imagining something from a personal perspective – can be an effective strategy for helping us to recognize something we've seen before or retrieve specific information on cue. And these beneficial effects have been demonstrated for both healthy adults and for individuals who suffer memory impairments as a result of brain injury.

These findings suggest that self-imagination is a promising strategy for memory rehabilitation. But no study has investigated the effect of self-imagination on what is perhaps the most difficult, and most relevant, type of memory: free recall.

Psychological scientists Matthew Grilli and Elizabeth Glisky of the University of Arizona decided to put self-imagination to the test. They wanted to compare self-imagination to more traditional strategies that involve sense of self in order to gain a better understanding of the underlying mechanisms that might be at work.

The researchers recruited 15 patients with acquired brain injury who had impaired memory and 15 healthy participants with normal memory to take part in the study. Over the course of the study, the participants were asked to memorize five lists of 24 adjectives that described personality traits. As they were presented with each personality trait, the participants were instructed to employ one of five strategies: think of a word that rhymes with the trait (baseline), think of a definition for the trait (semantic elaboration), think about how the trait describes them (semantic self-referential processing), think of a time when they acted out the trait (episodic self-referential processing), or imagine acting out the trait (self-imagining).

For all participants, healthy and memory-impaired, self-imagination boosted free recall of the personality traits more than any of the other strategies did.

Comparing the more traditional self-referential strategies, Grilli and Glisky found that the participants with memory impairments were better able to remember a word if they were asked to think about how well it described them (semantic) than if they were asked to think about a time when they acted out the personality trait (episodic).

This result falls in line with previous findings that knowledge about specific events from the past is often impaired in patients with brain injury. It also lends support to the researchers' hypothesis that the benefit

of self-imagination for memory-impaired patients might be related to their ability to retrieve knowledge regarding their own personality traits, identity roles, and lifetime periods.

The researchers believe that their findings could have important applications for memory rehabilitation.

“Based on the results of our laboratory research,” Grilli said, “it might be possible to adapt self-imagination to help patients with memory problems remember information encountered in everyday life, such as what they read in a book or heard on the news.”

Self-imagination could also help clinicians in teaching memory-impaired individuals how to use memory aides that can enhance their independence. For example, this approach could help improve their ability to remember to program and consistently use smartphones to manage everyday errands, such as taking medication, purchasing items at a grocery store, or attending social events. Self-imagination could also be used to help individuals suffering from brain injury learn complex skills in order to return to the workplace.

“An important future step will be to investigate how to most effectively apply self-imagination in a rehabilitation program to make a meaningful impact on the lives of people with memory impairment,” Grilli said.

Grilli and Glisky conclude that the possible applications of their findings are quite broad since episodic memory deficits are linked with various conditions, including autism, depression, and normal aging.