

Research Finds Photos More Useful Than Words for Memory Recall

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(PhysOrg.com) -- Researchers from Boston University School of Medicine (BUSM) have found that pictures allow patients with very mild Alzheimer's disease (AD) to better recognize and identify a subject as compared to using just words. In addition, the researchers found that these patients can rely on a general sense of knowing or familiarity but not recollection to support successful recognition. These findings appear in the current issue of the journal *Neuropsychologia*.

Mild cognitive impairment (MCI) has been conceptualized as a transitional stage between healthy aging and Alzheimer's disease (AD). The amnesic subtype of MCI has received a great deal of attention as it has been associated with an estimated tenfold increase in Alzheimer's disease compared to age-matched controls with no cognitive impairment.

[Patients](#) with amnesic MCI and controls participated in separate recognition [memory](#) tests of words and [pictures](#), while high density event-related potentials (ERPs) were recorded during memory retrieval. These ERPs allow researchers to understand the underlying brain activity associated with certain cognitive processes. The results of the study showed that frontally based ERP components typically associated with memorial familiarity and post-retrieval monitoring were similar between both groups for retrieval of pictures. However, these components were diminished in the patient group during the retrieval of words.

"The results suggested that patients with very mild Alzheimer's, or amnesic [mild cognitive impairment](#), were able to rely on intact frontally-

based cognitive processes, such as implicit conceptual priming and explicit memorial familiarity, to remember pictures," said study author Brandon Ally, PhD, an assistant professor of neurology at BUSM.

According to the researchers, this is a novel finding with regards to how people conceptualize memory retrieval, particularly in patients with dementia. "Perhaps there is more of an interaction of implicit and explicit memory processes than we once thought, and patients with mild AD can successfully use implicit memory, or memory without conscious awareness, to support recognition. If this is the case, perhaps we can develop strategies that rely on implicit memory processes such as conceptual priming to support new learning in patients with AD, allowing them to live more engaged and independent lives," added Ally. "Overall, the current results have shown that pictures and words differentially affect how memorial decisions are made in patients with aMCI. Pictures have a clear memorial advantage over words, but the debate as to why is far from settled."

Future research by Ally and his team will attempt to translate these findings into real-world interventions to help patients with memory problems.

Source: Boston University

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