

Imagery effective way to enhance memory, reduce false memories, psychology study finds

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Using imagery is an effective way to improve memory and decrease certain types of false memories, according to researchers at Georgia State University.

Their study examined how creating [images](#) affected the ability to accurately recall conceptually related word lists as well as rhyming word lists. People who were instructed to create images of the list words in their head were able to recall more words than people who didn't create images, and they didn't recall [false memories](#) as often. False memories occur when a person recalls something that didn't happen or remembers something inaccurately.

The findings are published in the *Journal of General Psychology*.

"Creating images improved participants' memories and helped them commit fewer errors, regardless of what kind of list we gave them," said Merrin Oliver, lead author of the study and a Ph.D. student in the educational psychology program in the College of Education & Human Development at Georgia State.

In the study, 102 undergraduate students at Georgia State were shown 10 word lists, one at a time, on a projector and asked to recall the words immediately after each list. Half the lists were related by meaning and half by sound. The participants were divided into two groups, with one group receiving instructions to imagine each word visually and the other group receiving instructions to remember the words.

After the recall tests, participants completed a word search for seven minutes to clear their mind. Then they completed a recognition test, in which they saw some of the words from the previous lists as well as some previously unseen words, and had to indicate which words they studied.

"We aren't good at judging the source of our memories," Oliver said. "These lists usually remind people of a word that they didn't actually study, so they mistakenly recollect studying words similar to those on the list."

For example, after studying a list of conceptually related words (for example, candy, sugar, chocolate, heart, taste, tooth, honey, cake), many people falsely remember the word sweet. When asked to study confusing sound-related lists (for example, doll, bail, balk, wall, fall, bald, pall, bill), the word ball is a common false memory. When a person activates related [words](#) in his or her brain, this activation spreads to other related items and leads to memory errors. In this study, imagery helped stop this spreading activation.

Although imagery decreased false memories during immediate recall, the simple imagery procedures in this study were not sufficient to lessen false memories for conceptually related lists during the delayed recognition test. The brain develops strong memory traces for activation of related concepts and doesn't easily forget this type of information.

"Our study suggests more detailed imagery instructions are necessary to help filter out false memories during a recognition test, where false memories are typically very high," Oliver said. "People should create detailed images with unique characteristics to help avoid the endorsement of false memories on recognition-based tests like true/false or multiple-choice assessments, where you are tempted by lures and possible false memories."

More information: Merrin Creath Oliver et al. False memories and the DRM paradigm: effects of imagery, list, and test type, *The Journal of General Psychology* (2016). [DOI: 10.1080/00221309.2015.1110558](https://doi.org/10.1080/00221309.2015.1110558)

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