

What determines which sources within an episode are successfully remembered?

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These are brain regions showing subsequent item memory effects modulated by task orientation. The analysis revealed clusters (circle) located in the left middle frontal gyrus (L.MFG). Credit: *Neural Regeneration Research*

Memory about a core item (such as a word, object, or picture) is called item memory while memory about the context or related features of a core item is defined as source memory. What determines which sources within an episode are successfully remembered is of particular interest to researchers. Behavioral evidence suggests that the orientation of a memory task influences whether the related source of the item will be remembered later.

A study by Prof. Xiuyan Guo and colleagues from East China Normal University, China explored changes in the hippocampus and [prefrontal cortex](#) while participants completed two tasks: an item-oriented task and a source-oriented task. The researchers found that subsequent source

memory effects in the right prefrontal cortex and hippocampus were modulated by task orientation, whereas task orientation modulated item [memory](#) effects in the prefrontal cortex.

These findings, published in the *Neural Regeneration Research* (Vol. 8, No. 26, 2013), highlight the possibility that the [hippocampus](#) contributes to the intentional encoding of item-source associations, whereas the prefrontal cortex is biased toward processing information to which attention is directed.

More information: "Effects of task orientation on subsequent source memory as revealed by functional MRI " by Xiuyan Guo et al. Guo XY, Zhu L, Zheng L, Li JQ, Wang QF, Yang ZL. Effects of task orientation on subsequent source memory as revealed by functional MRI. *Neural Regen Res.* 2013;8(26):2424-2431.

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