Review of: "Fornix and Uncinate Fasciculus Support Metacognition-Driven Cognitive Offloading"

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Potential competing interests: No potential competing interests to declare.

The study investigates how connections between certain brain regions influence cognitive offloading decisions and the role of metacognition in this process. Essentially, the results highlight the importance of metacognition in the activation of a temporal-frontal neural circuit involved in cognitive offloading.

While this work is undeniably original and innovative in highlighting how white matter networks between the hippocampus and prefrontal cortex facilitate decisions to use recall, particularly in contexts of low confidence in internal memory, it has some shortcomings.

Firstly, the sample size (34 participants) is not statistically justified. Given that the variables are within-subjects, this size seems very small.

Secondly, a methodological problem could affect the results. Each participant completed 13 trials. In three of these trials, they were explicitly asked to use only their internal memory to move the target circles; in three other trials, they had to use only their external memory. It would have been necessary to counterbalance this order between the participants and check the effect of the order.

Thirdly, there is no analysis by displacement: left, right, or top of the box when processing the behavioural results. Indeed, Brouillet (2021) shows that motor fluency enhances prospective memory.

Fourthly, there was no analysis of the results in the seven trials where participants were free to choose their strategy (internal memory or external reminders).