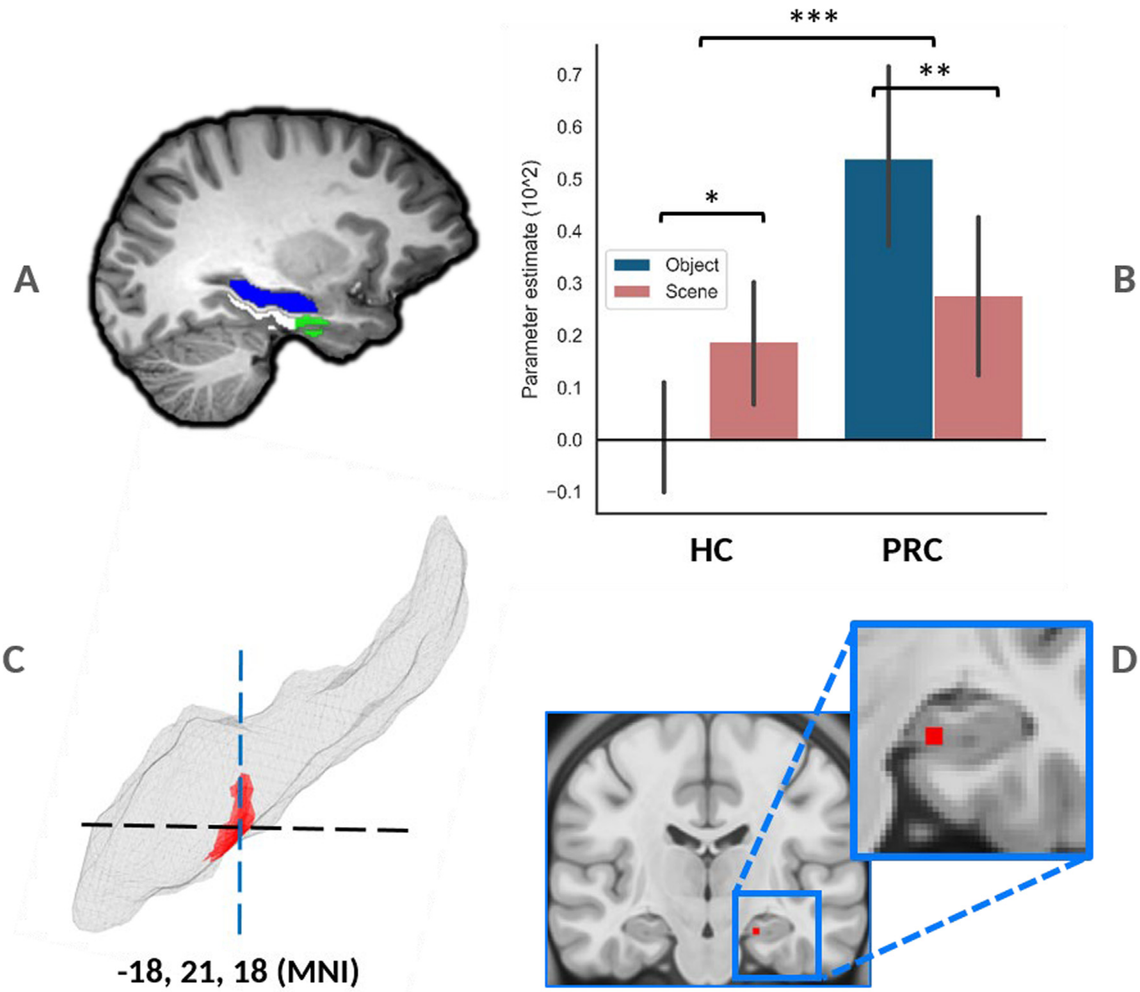

Fig. 1. A. Hippocampus (blue) and PRC (green; the posterior parahippocampal gyrus is in white) regions of interest drawn on a representative subject's anatomical scan. B. Parameter estimates extracted from pattern-completion trials in the HC and PRC for scenes and objects. C. Location of the anterior medial HC cluster revealed by the conjunction analysis between the four task conditions projected on a 3D render. D. Coronal slice showing the position of this cluster in the HC on the icbm T1 template. HC: Hippocampus, PRC: Perirhinal cortex, *: p < .05, **: p < .01, ***: p < .001.

References

Cowell, R.A., Barense, M.D., Sadil, P.S., 2019. A roadmap for understanding memory: Decomposing cognitive processes into operations and representations. eNeuro 6 (4). https://doi.org/10.1523/ENEURO.0122-19.2019.

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Manipulating depth of encoding and condition of priming; the influence of semantic variation on the Jacoby and Whitehouse Illusion

Sandra Invernizzi [a,*,1], Manon Demonty [b,1], Laurent Lefebvre [a], Christine Bastin [b], Isabelle Simoes Loureiro [a,1], Emma Delhaye [b,1]

[a] *Cognitive Psychology and Neuropsychology Department, University of Mons, Belgium*
[b] *GIGA-Cyclotron Research Center-in vivo imaging, University of Liege, Belgium*
* Corresponding author.

Jacoby and Whitehouse (JW) (1989) showed that feeling of oldness for words can be manipulated by presenting a prime (Rajaram & Geraci, 2000; Taylor & Henson, 2012) (repetition, e.g. cat – CAT, or semantic; e.g. cat - DOG) less than 50 ms before the word to be recognised, eliciting more correct (hits) or incorrect (false alarms) recognitions. These 'old' responses can rely on familiarity (sense of knowing) or recollection (recollecting a complete context), both processes being differentially enhanced by the nature of the prime (repetition or semantic). While some authors showed that semantic priming increases familiarity-based recognition for both hits and false alarms, others showed a link between semantic priming and recollection, specifically for hits. As semantic links between prime and probe can be either taxonomic (dog-cat) or thematic (dog-leash) and that both systems are distinct, we conducted two experiments (Exp1, N = 61, age = 24.1 ± 4.37; Exp 2, N = 61, age = 23.5 ± 2.45) using JW protocols, in which priming conditions were strictly balanced between repetition/taxonomic/thematic. In Exp 2 we also manipulated encoding depth across three levels (shallow, taxonomic, thematic). Results of Exp 1 showed that, with a classical encoding phase (read and remember), all 3 priming conditions significantly increased familiarity-based false alarms ($F_{(1)} = 15.54$, $p < .001$, $\eta_p^2 = .21$), but not hits. Results of Exp 2 showed that semantic encoding conditions (taxonomic/thematic) significantly increased hits ($F_{(2)} = 134.32$, $p < .0001$, $\eta_p^2 = .43$) especially those based on familiarity ($F_{(2)} = 166.15$, $p < .0001$, $\eta_p^2 = .47$), and that the participants had even more familiarity-based hits when the encoding phase encouraged deep thematic or taxonomic processing and that the priming was of repetition type (*Tukey adj.* $p = 0.03$). Our

[1] These authors contributed equally to this article.

Table 1a Design experiment 1.

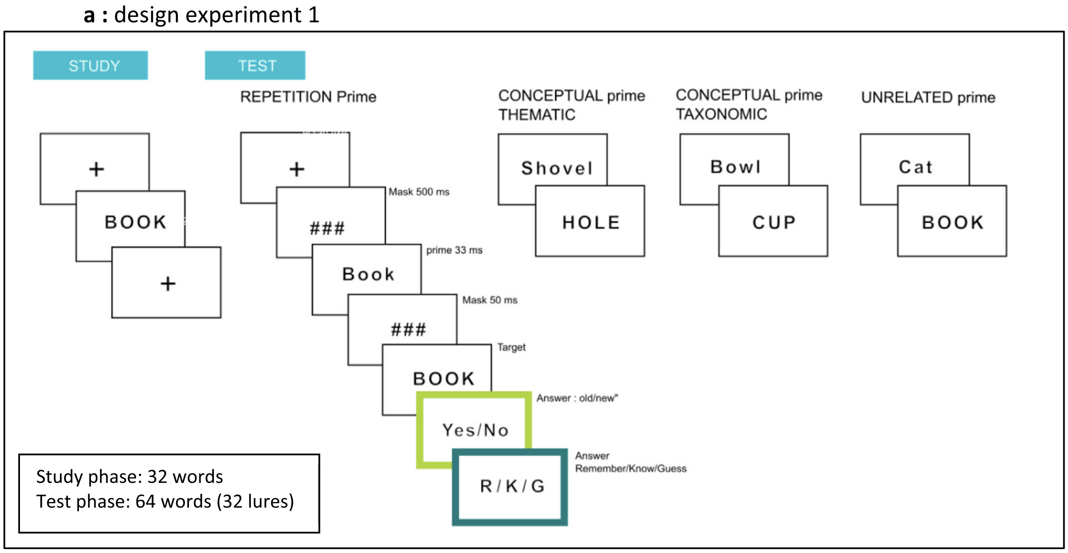
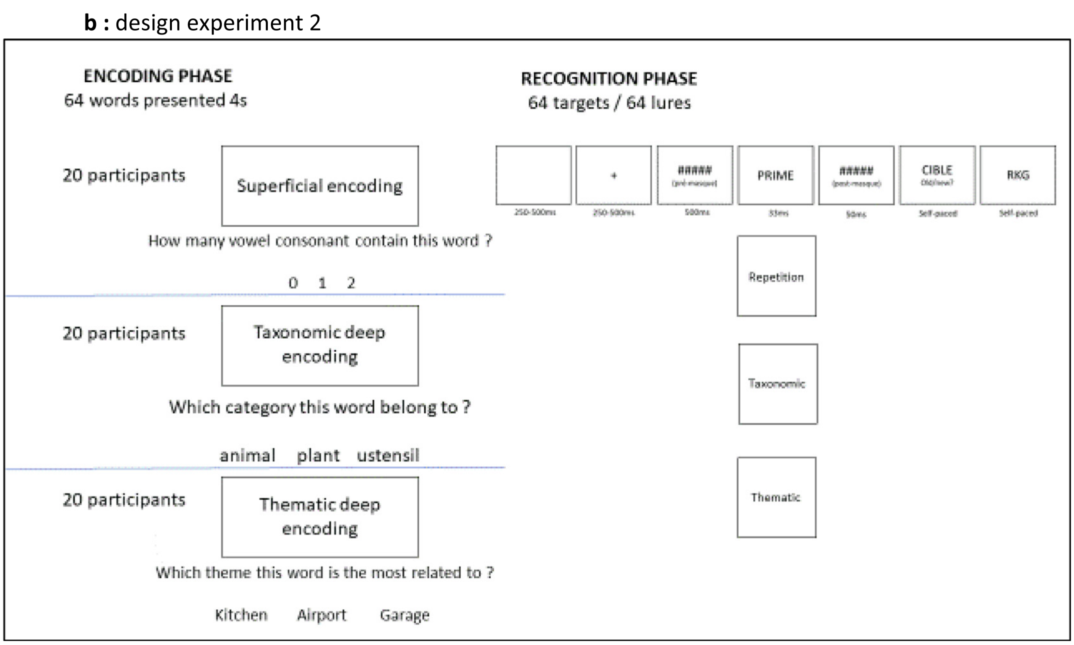


Table 1b Design experiment 2.



findings indicate that, with classical encoding phase, strict control of semantic priming renders its effect equal in magnitude to repetition priming, but that after deep semantic encoding, repetition priming is the most effective in enhancing correct recognition based on a sense of familiarity (Table 1a and Table 1b).

References

Rajaram, S., Geraci, L., 2000. Conceptual fluency selectively influences knowing. Journal of Experimental Psychology: Learning, Memory, and Cognition 26 (4), 1070–1074. https://doi.org/10.1037/0278-7393.26.4.1070.

Taylor, J.R., Henson, R.N., 2012. Could masked conceptual primes increase recollection? The subtleties of measuring recollection and familiarity in recognition memory. Neuropsychologia 50 (13), 3027–3040. https://doi.org/10.1016/j.neuropsychologia.2012.07.029.

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SARS-CoV-2 infection is associated with impairments in hippocampus-supported memory operations

Patric Meyer[a,b,*], Ann-Kathrin Zaiser[a]

[a] *Department of Cognitive Neuroscience, Faculty of Applied Psychology, SRH University, Heidelberg, Germany*
[b] *Department for General and Applied Linguistics, Heidelberg University, Germany*
* Corresponding author.