Neural Origins of Persistent Mental Content

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Recent experiences linger in mind.

> E.g. "book hangover" , or after a great movie.

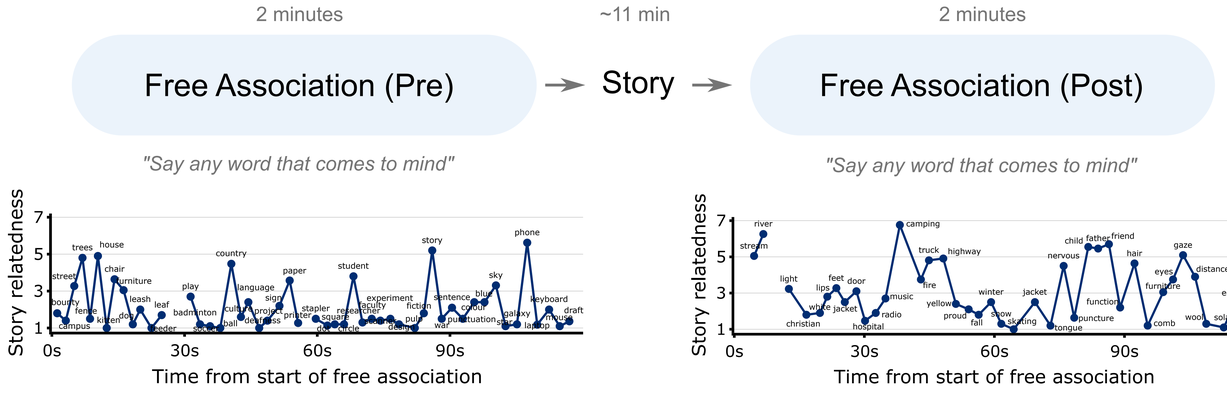
> Lingering is spontaneous, not eliminated by WM interference[1].

> May relate to mental continuity in open-ended world[2].

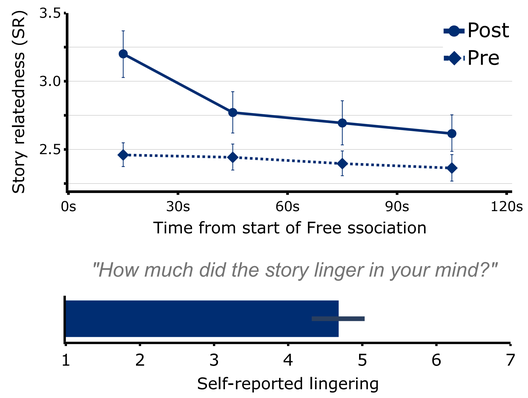
> May relate to rumination and anxiety[3].

What neural processes underlie non-voluntary, spontaneous memories?

METHODS



BEHAVIOR



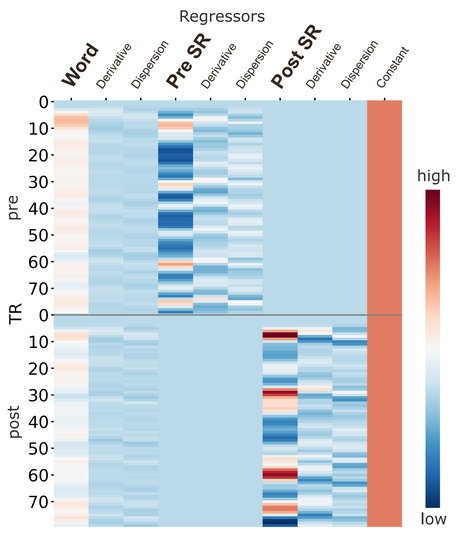
GENERALIZED LINEAR MODEL

> Schaefer-400 parcellated data.

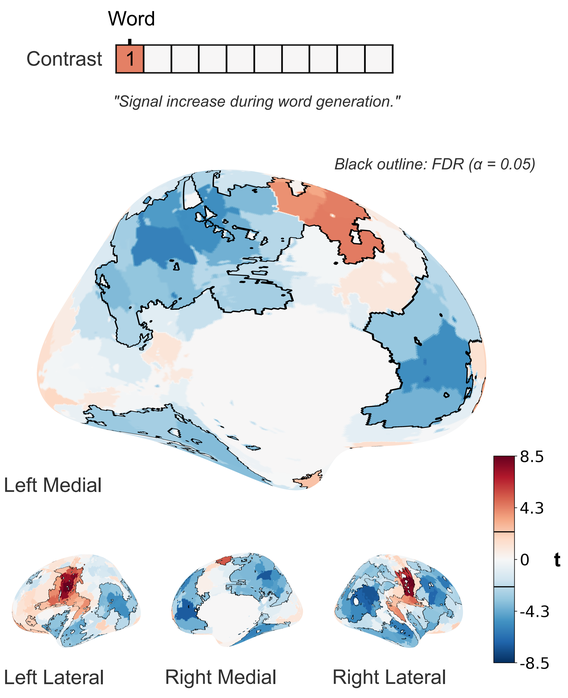
> First-level GLM fit to each individual (N=63).

> Second-level GLM group analysis.

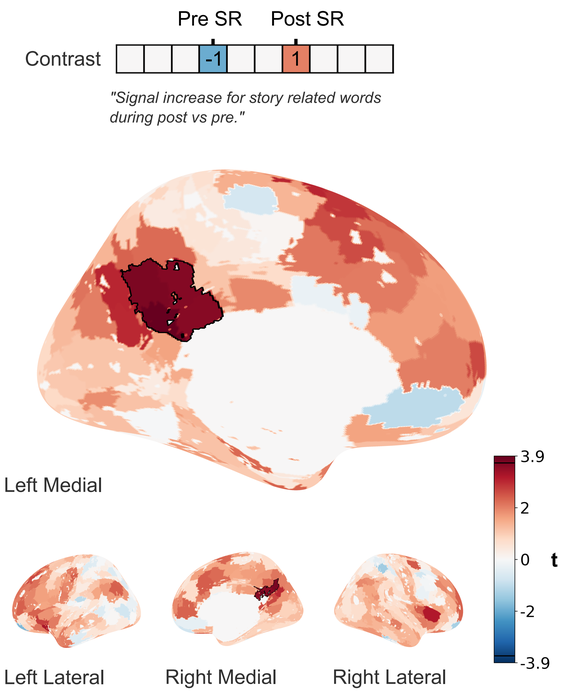
EXAMPLE FIRST-LEVEL DESIGN MATRIX



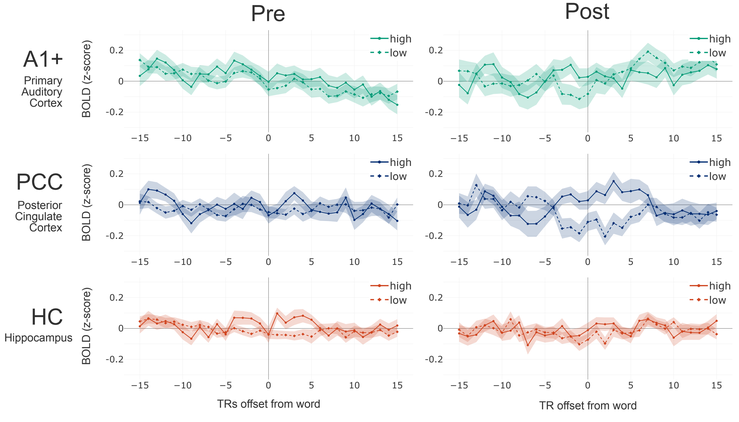
BOLD SIGNAL DURING WORD GENERATION



STORY-RELATEDNESS OF WORDS MODULATES BOLD SIGNAL



BOLD SIGNAL~ HIGH VS LOW STORY RELATEDNESS



INTERIM CONCLUSION

Posterior Cingulate Cortex may spontaneously reinstate narrative content.

Q: *Evidence for reinstatement?*
Q: *Link to subjective feeling of lingering?*

[1]Kressin Palacios et al., under review; [2]Honey et al. 2023; [3]Andrews-Hanna et al. 2022

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