

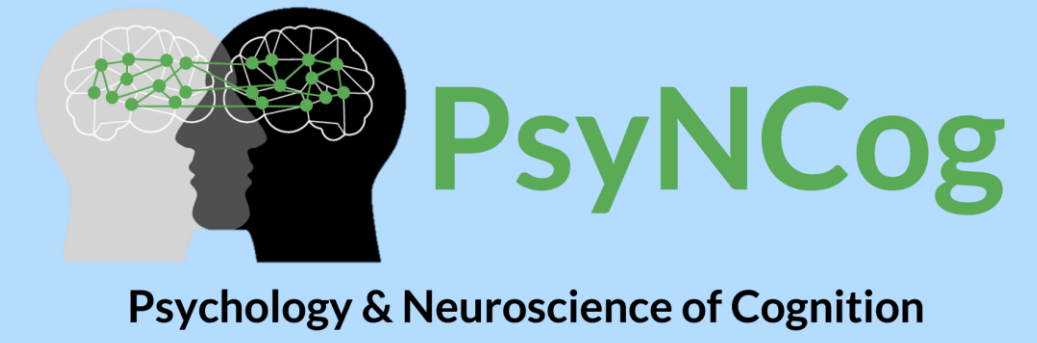
Temporal compression of emotional events in episodic memory:

Reduced compression for negative but not positive events

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Introduction

Remembering past events typically takes less time than the actual duration of prior experience (Jeunehomme & D'Argembeau, 2019)

→ **Temporal compression of events in episodic memory**

Temporal compression is not constant but varies depending on event characteristics

One of the key characteristics influencing temporal compression = Emotional value of the event

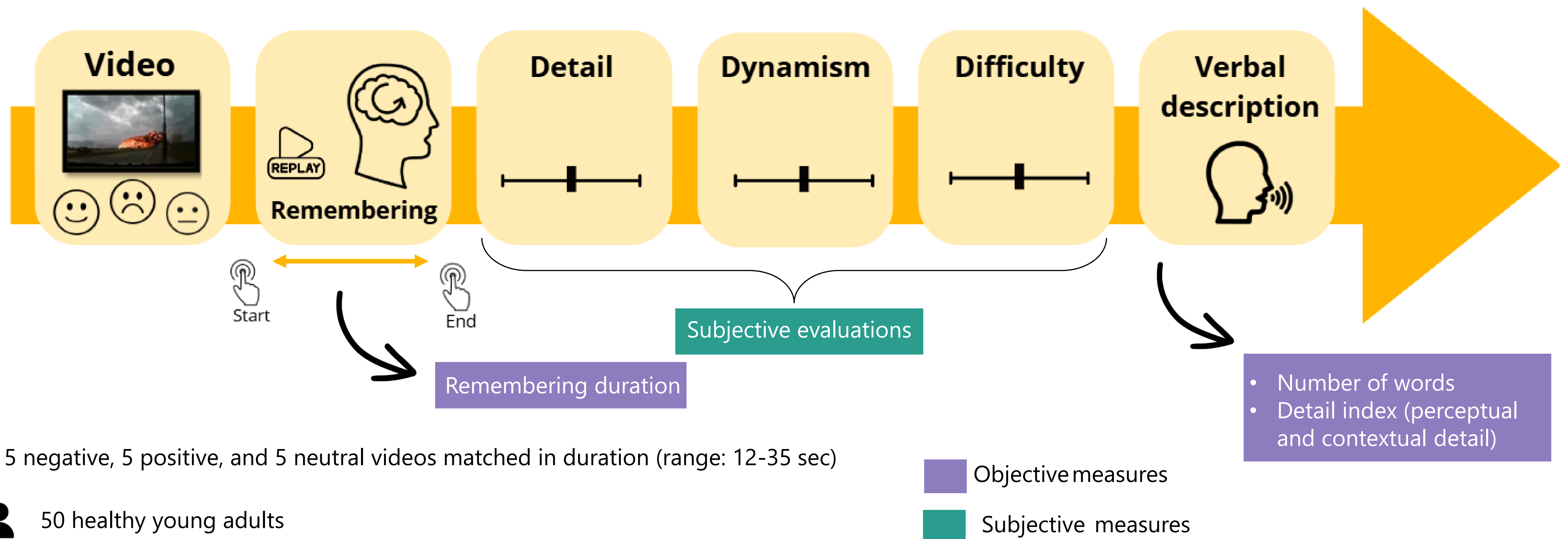
Negative events are less compressed in memory than neutral events (Colson et al., 2026)

By contrast, the effects of positive emotion on temporal memory are not clear (Petrucchi & Palombo, 2021)



How **positive emotions** affect the temporal compression of episodic memories?

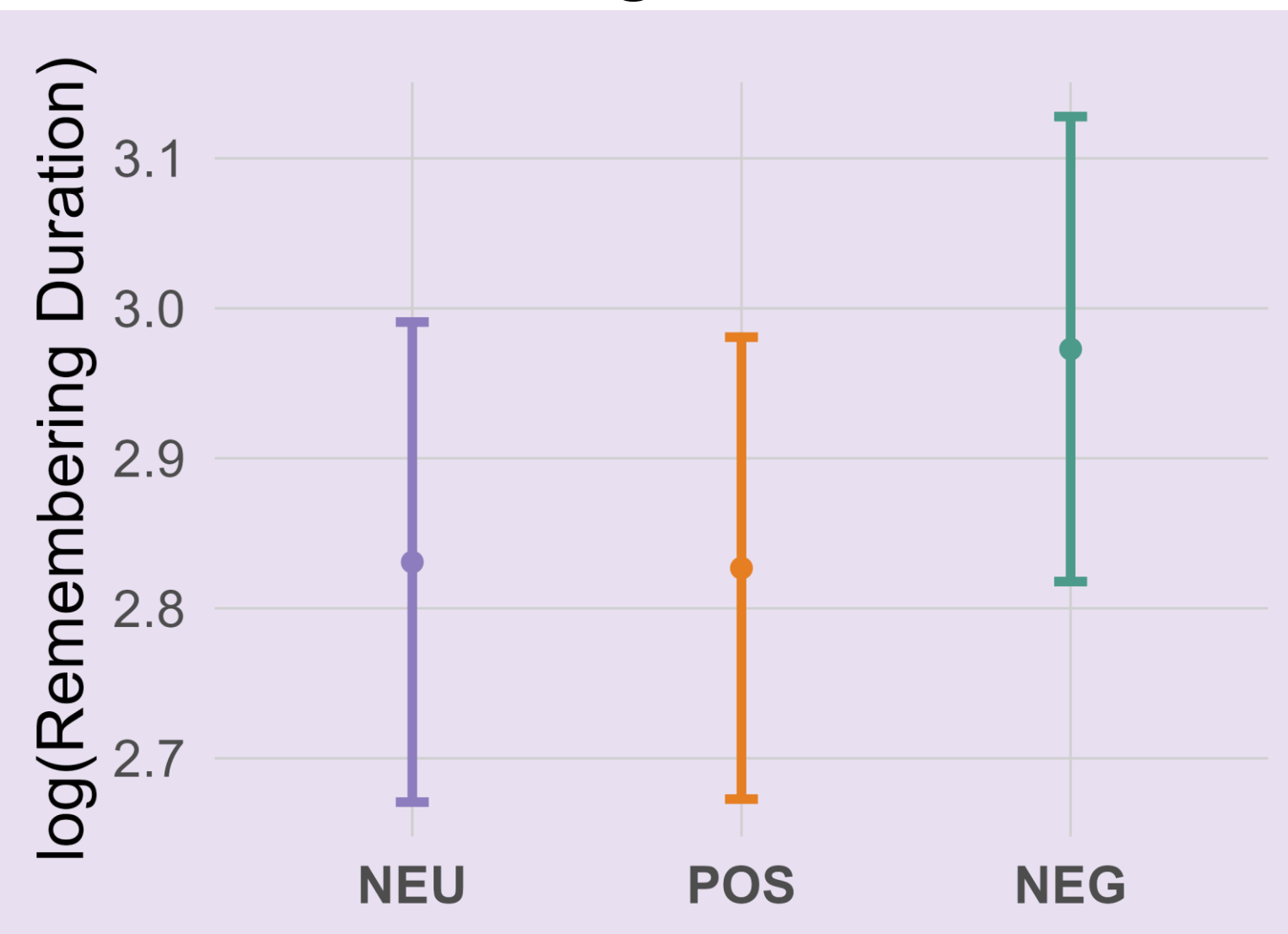
Method



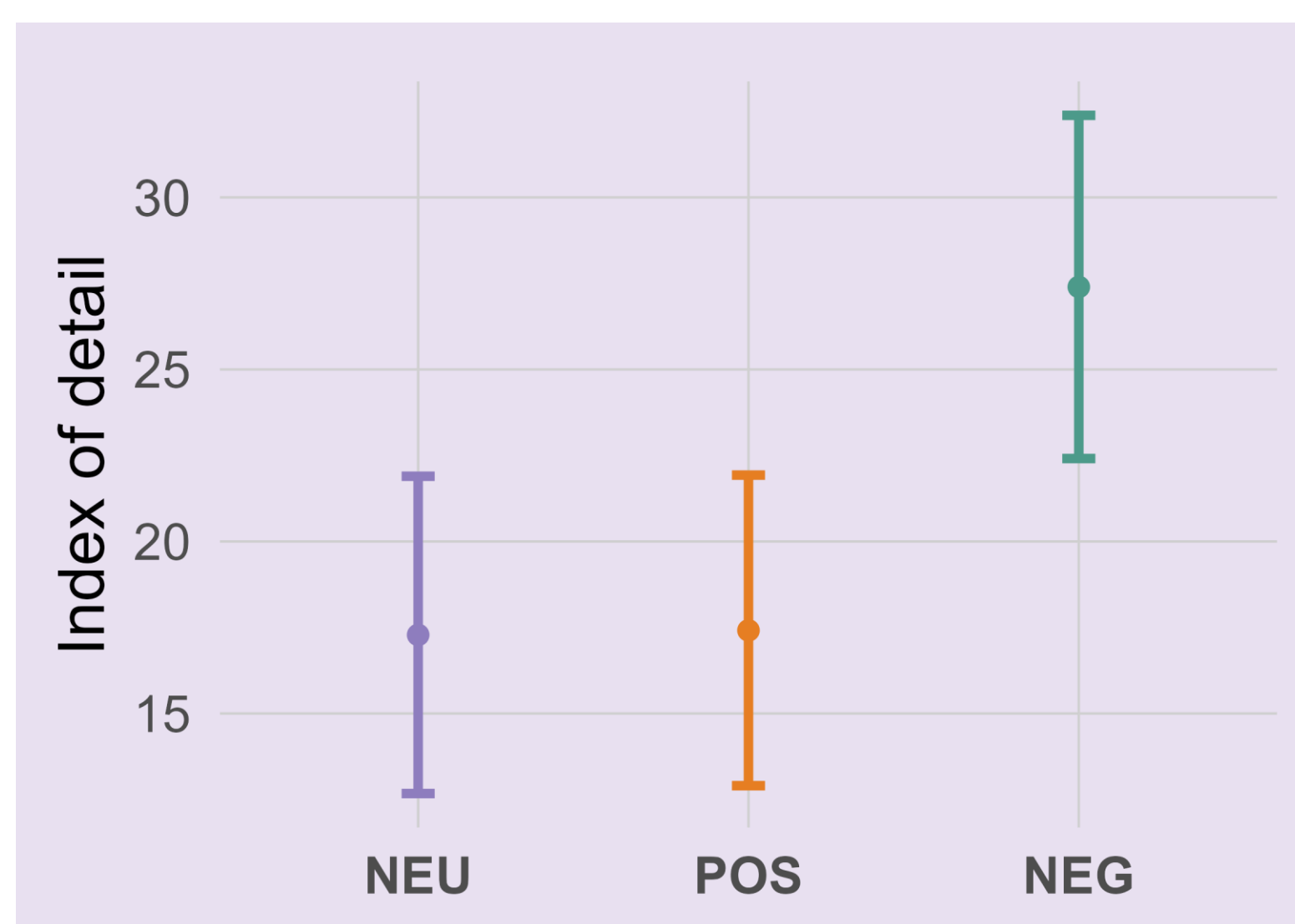
Results

Robust Linear Mixed-effects Models (Koller, 2016)

Remembering Duration

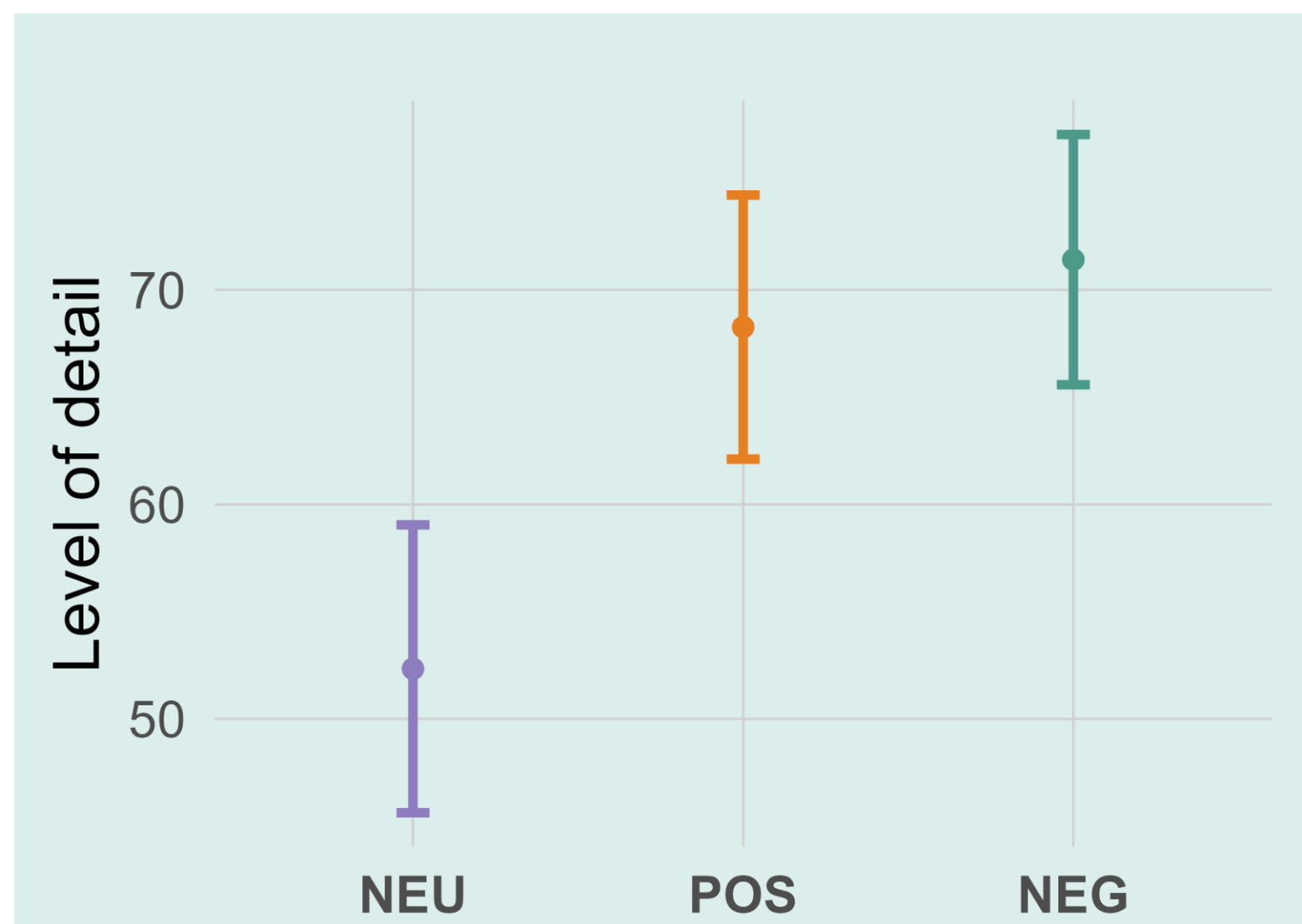


Index of detail

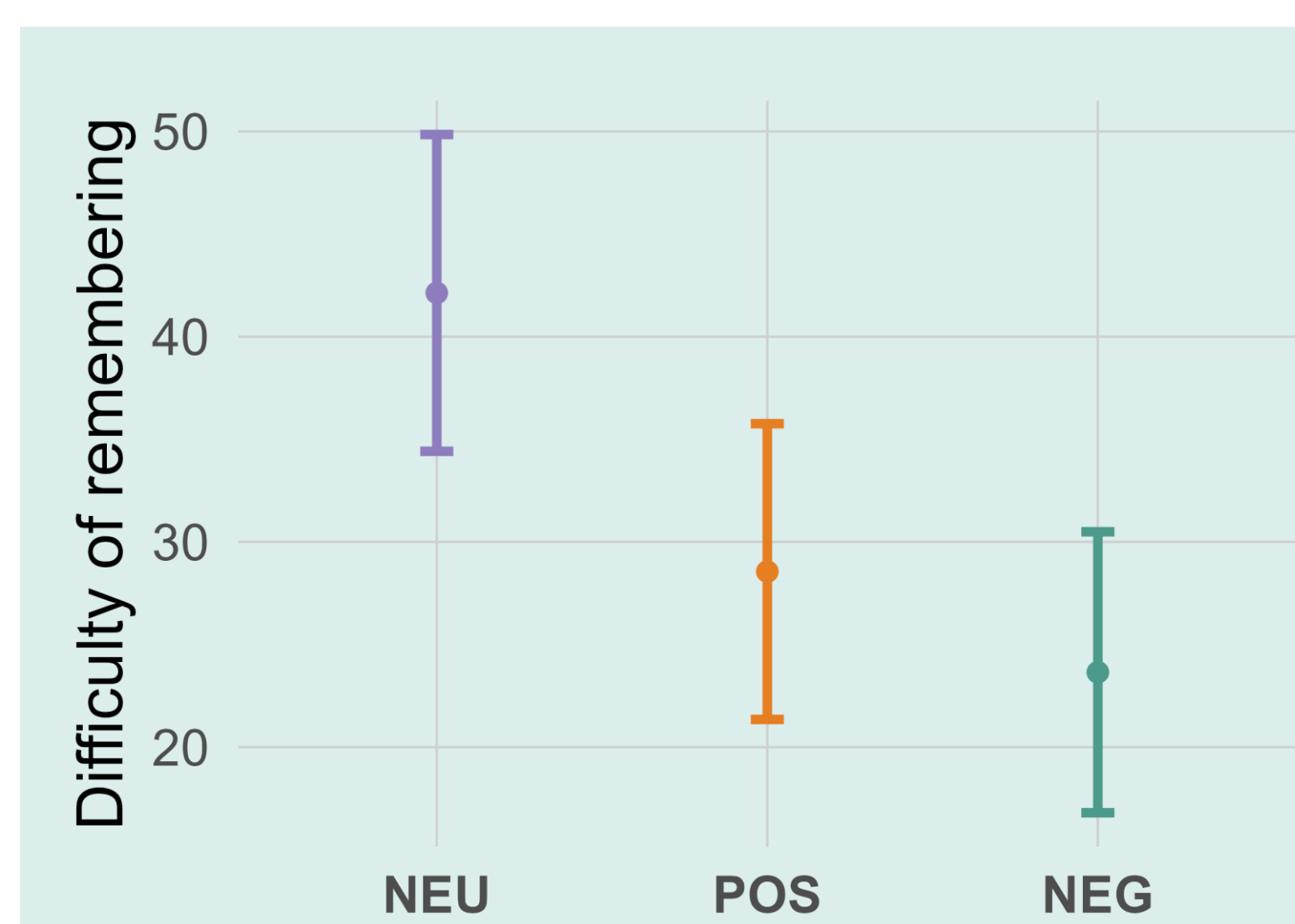


NEU = POS < NEG

Level of detail



Difficulty of remembering



NEU < POS = NEG

Note. The graphs display estimated marginal means. Error bars represent 95% confidence interval.

Discussion

Negative events are less compressed in memory than neutral and positive events

But

Negative **and** positive emotions enhance subjective aspects of remembering

⚡ Positive emotion enhances subjective but not objective aspects of event unfolding representations

This may reflect **valence-specific processes** that shape which aspects of event representations are preferentially encoded and preserved

Negative emotion → detail-oriented processing (Kensinger, 2009)
→ richer event representation

Positive emotion → conceptual/gist-based representations (Kensinger, 2009) → subjective richness without richer unfolding

Future studies: Which mechanisms explain valence-specific differences?

References:

- Colson, C., Panneels, G., & D'Argembeau, A. (2026). Negative emotion reduces the temporal compression of events in episodic memory. *Cognition and Emotion*, 40(2), 271–286. <https://doi.org/10.1080/02699931.2025.2501047>
- Jeunehomme, O., & D'Argembeau, A. (2019). The time to remember: Temporal compression and duration judgements in memory for real-life events. *Quarterly Journal of Experimental Psychology*, 72(4), 930–942. <https://doi.org/10.1177/1747021818773082>
- Kensinger, E. A. (2009). Remembering the Details: Effects of Emotion. *Emotion Review*, 1(2), 99–113. <https://doi.org/10.1177/1754073908100432>
- Koller, M. (2016). **robustlmm**: An R Package for Robust Estimation of Linear Mixed-Effects Models. *Journal of Statistical Software*, 75(6). <https://doi.org/10.18637/jss.v075.i06>
- Petrucchi, A. S., & Palombo, D. J. (2021). A matter of time: How does emotion influence temporal aspects of remembering? *Cognition and Emotion*, 35(8), 1499–1515. <https://doi.org/10.1080/02699931.2021.1976733>

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