

# Autobiographical Memory for Emotional Events: A Test of the ‘Warning Signal’ Hypothesis

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Moments before positive and traumatic events were represented as more vivid and more detailed than neutral events.

The prioritization of preceding stimuli in memory appeared to be a result of emotional intensity, rather than type of arousal. Thus, this effect was not specific to memories of traumatic experiences.

### Intro

According to the warning signal hypothesis (Ehlers et al., 2002), details from the moments prior to a traumatic experience might be prioritized in memory in order to serve as ‘warning signals’, indicating potential danger if encountered again.

From an evolutionary perspective, these details can serve as valuable early indicators of danger. However, such warning signals may also increase the likelihood that harmless cues trigger involuntary, intrusive, and distressing memories of the traumatic event.

This hypothesis is however underexplored.

### Aim and hypotheses

The aim of this study was to experimentally test the warning signal hypothesis, by comparing the voluntary retrieval of episodic details from three autobiographical memories (neutral, positive, traumatic).

**H<sub>1</sub>:** The recollection of the moments before traumatic events would be represented as more vivid and more detailed, compared to positive and neutral events.

**H<sub>2</sub>:** Posttraumatic stress reactions could be associated with the memory vividness of the moments before a traumatic event.

### Methods

175 participants provided two narratives for each event: 1) their memory of the actual event, and 2) their memory of the moments prior to the event. They rated their memories on level of vividness and detail.

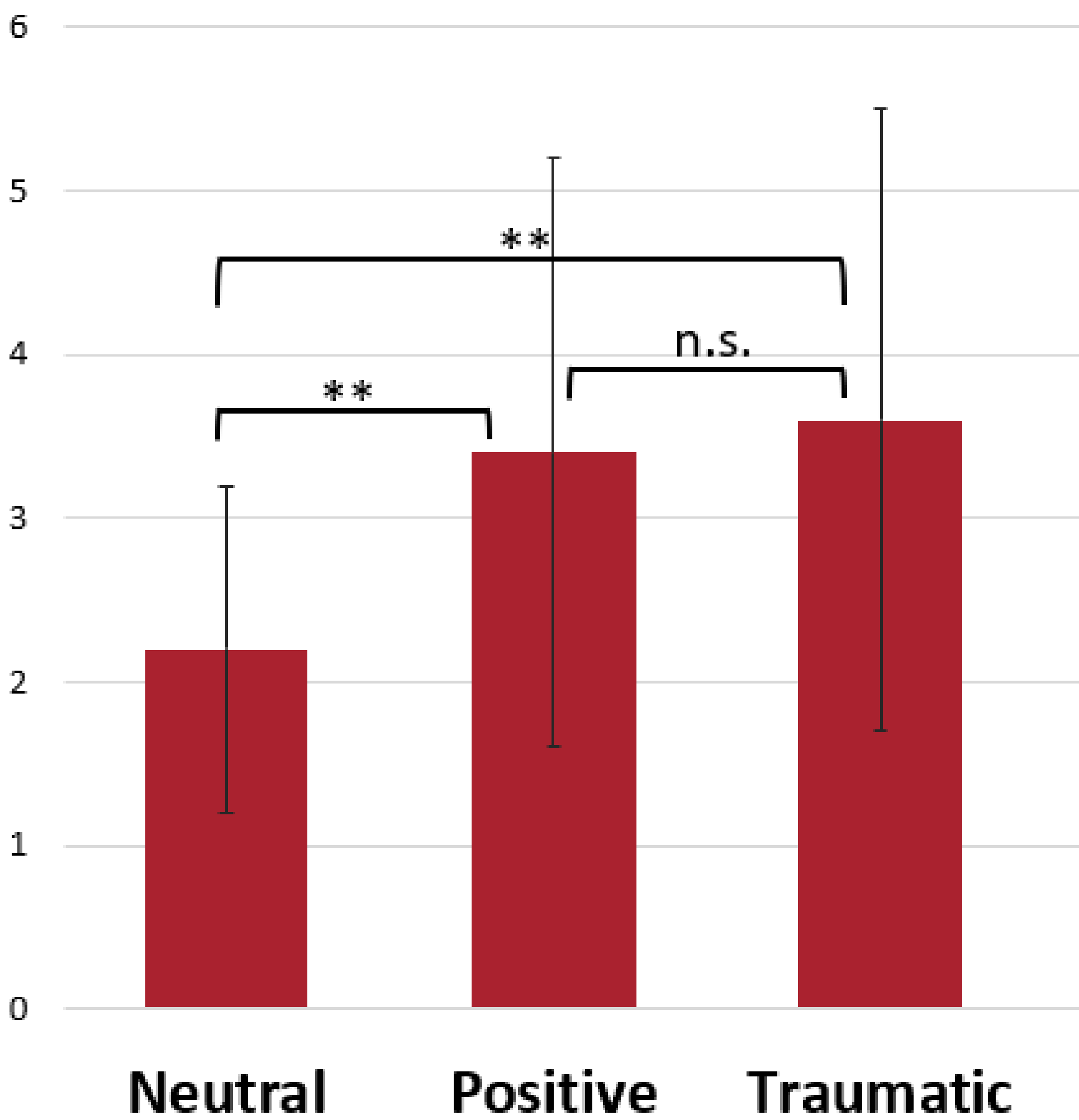
### Results

- Moments before positive and traumatic events were more vivid and more detailed than neutral events.
- There was no significant difference between positive and traumatic events.
- Two regression analyses were performed. When entered separately, vividness of moments before the traumatic event was significantly associated with a higher level of posttraumatic stress reactions. However, when controlling for memory vividness of the actual event, vividness of moments before was no longer a significant predictor.

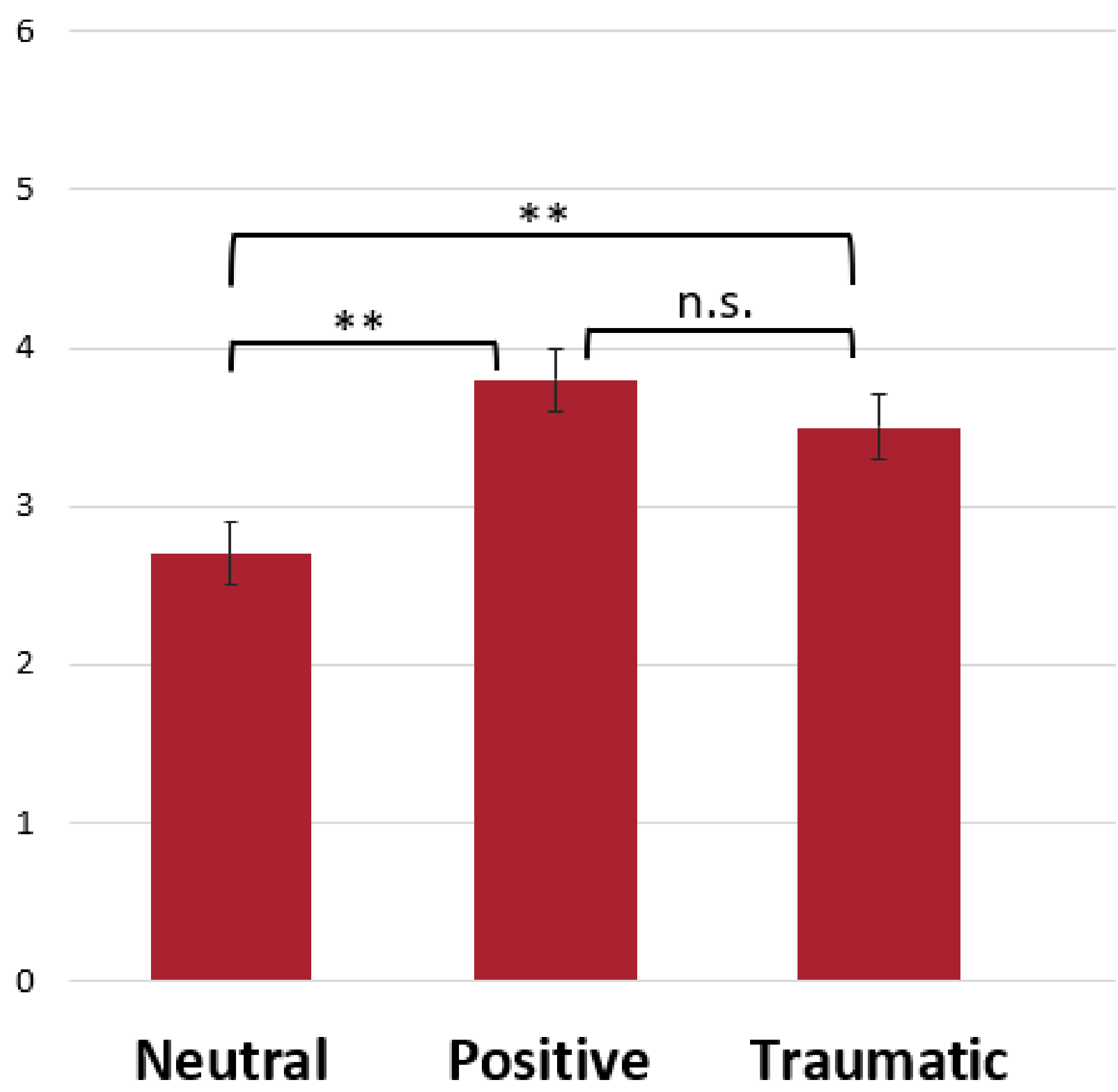
### Conclusion

Our results suggest that aspects of what happened in the moments prior to an emotionally arousing experience, regardless of valence, may be selectively enhanced and prioritized in memory.

Mean level of vividness <sup>a</sup>



Mean level of details <sup>b</sup>



\*\* p < .001

<sup>a</sup> Measured using a set of rating scales from the Autobiographical Memory Questionnaire. Participants indicated on a 7-point scale [from 1 (not at all) to 7 (to a very large extent)] how they experienced their memory in terms of sensory vividness, sense of reliving and emotional intensity.

<sup>b</sup> Participants indicated on a 7-point scale [from 1 (no details) to 7 (a great amount of details)] the level of details they remembered from five specific time intervals prior to the event.