

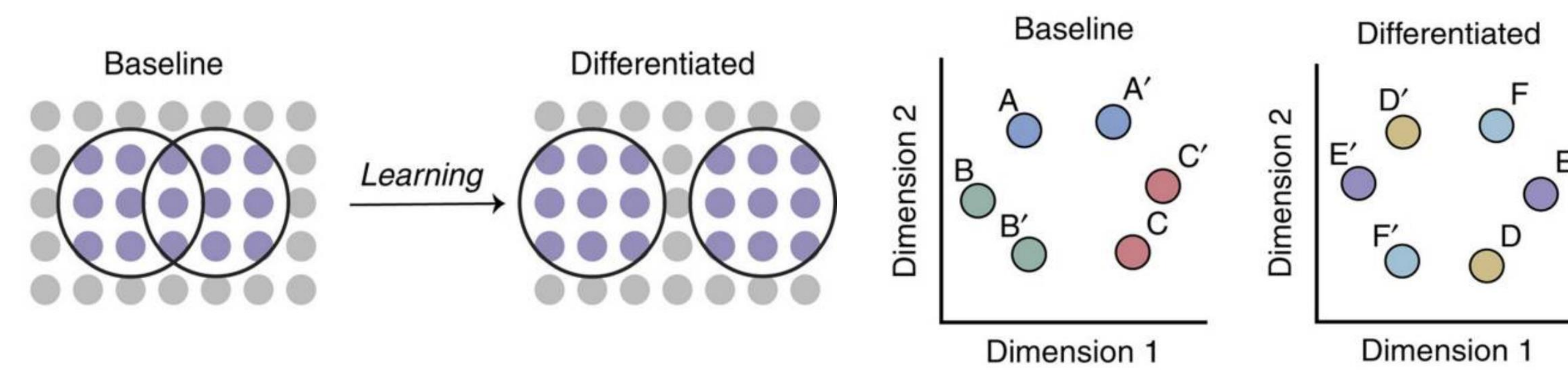
Emotionally-motivated differentiation of hippocampal memory representations – Sketchpad Series

R. Gerald Monkman, Vishnu P. Murty & Brice A. Kuhl
Department of Psychology, University of Oregon



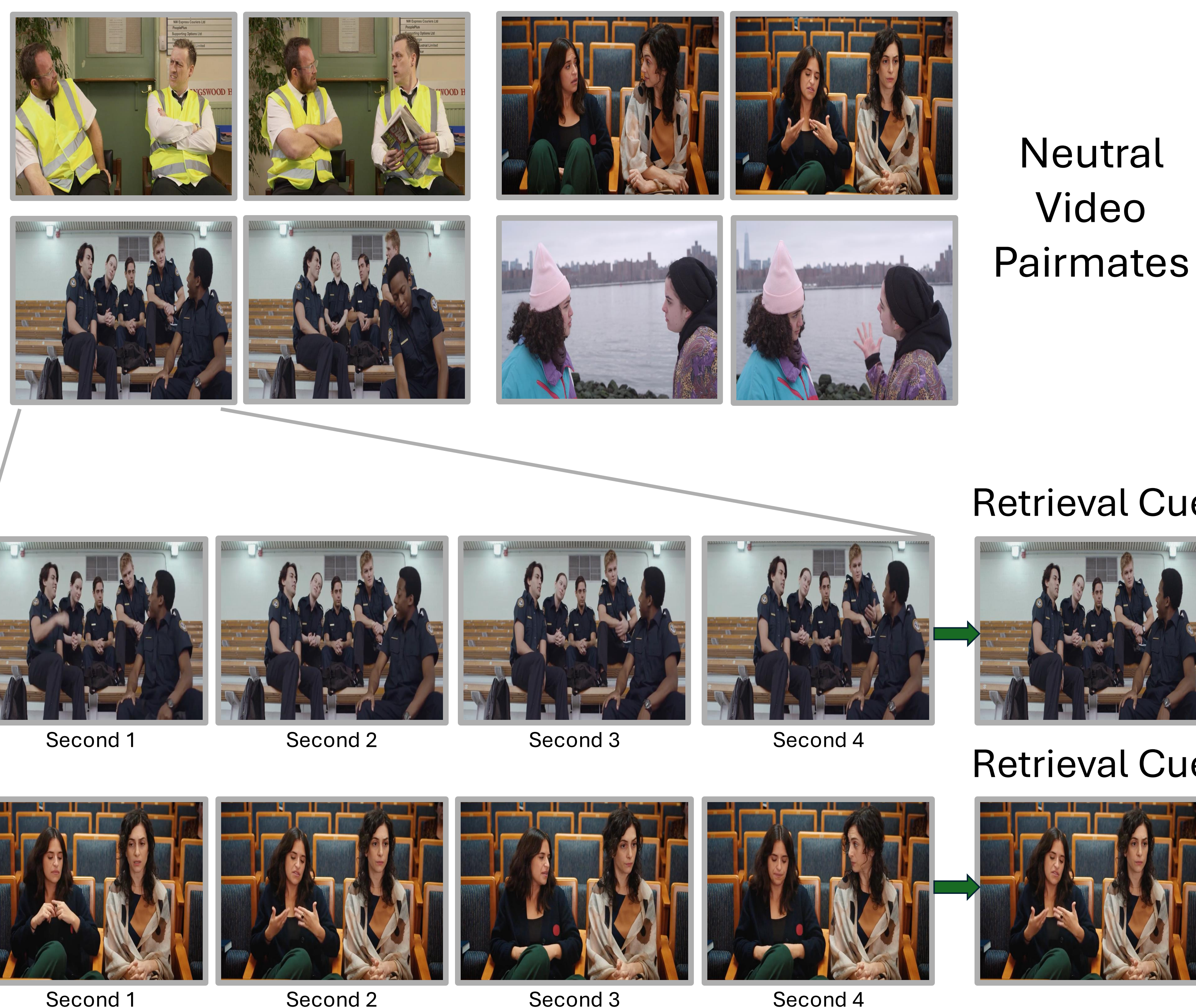
Introduction

- Hippocampus plays key role in **differentiating** interfering memories (1-3)

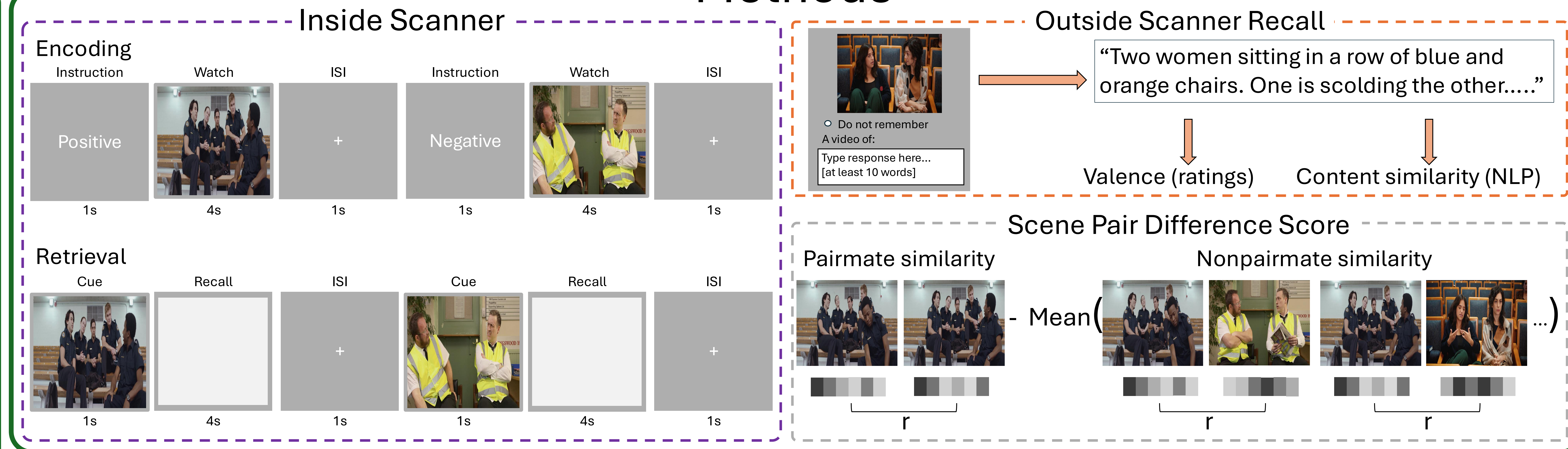


- Emotion** can benefit memory in a multitude of ways (4), but emotional memories can be highly susceptible to interference (5)
- Some evidence that valenced stimuli influence hippocampal differentiation (6)
- Current Study:** How does **emotional appraisal** of highly similar neutral stimuli influence hippocampal differentiation?

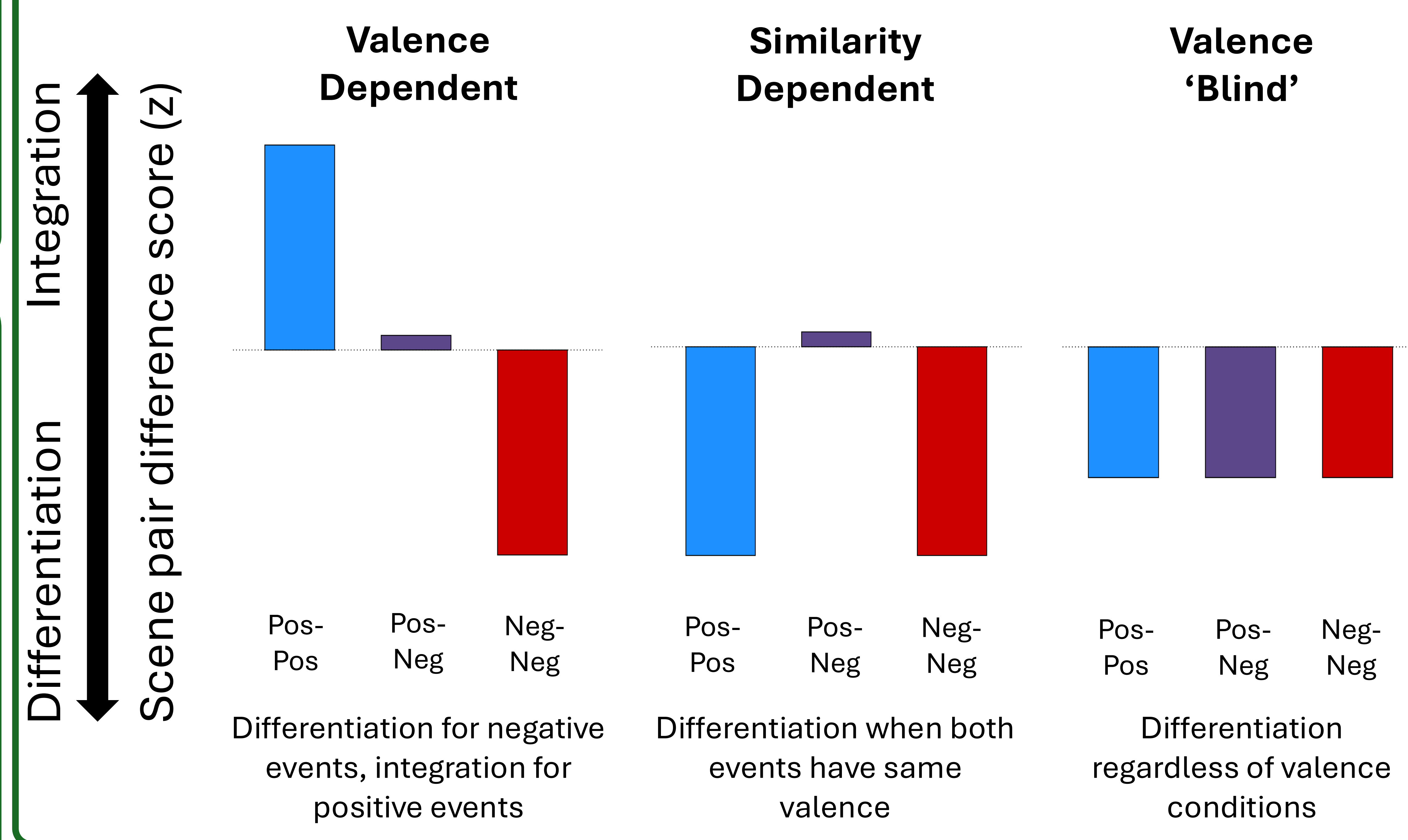
Stimuli



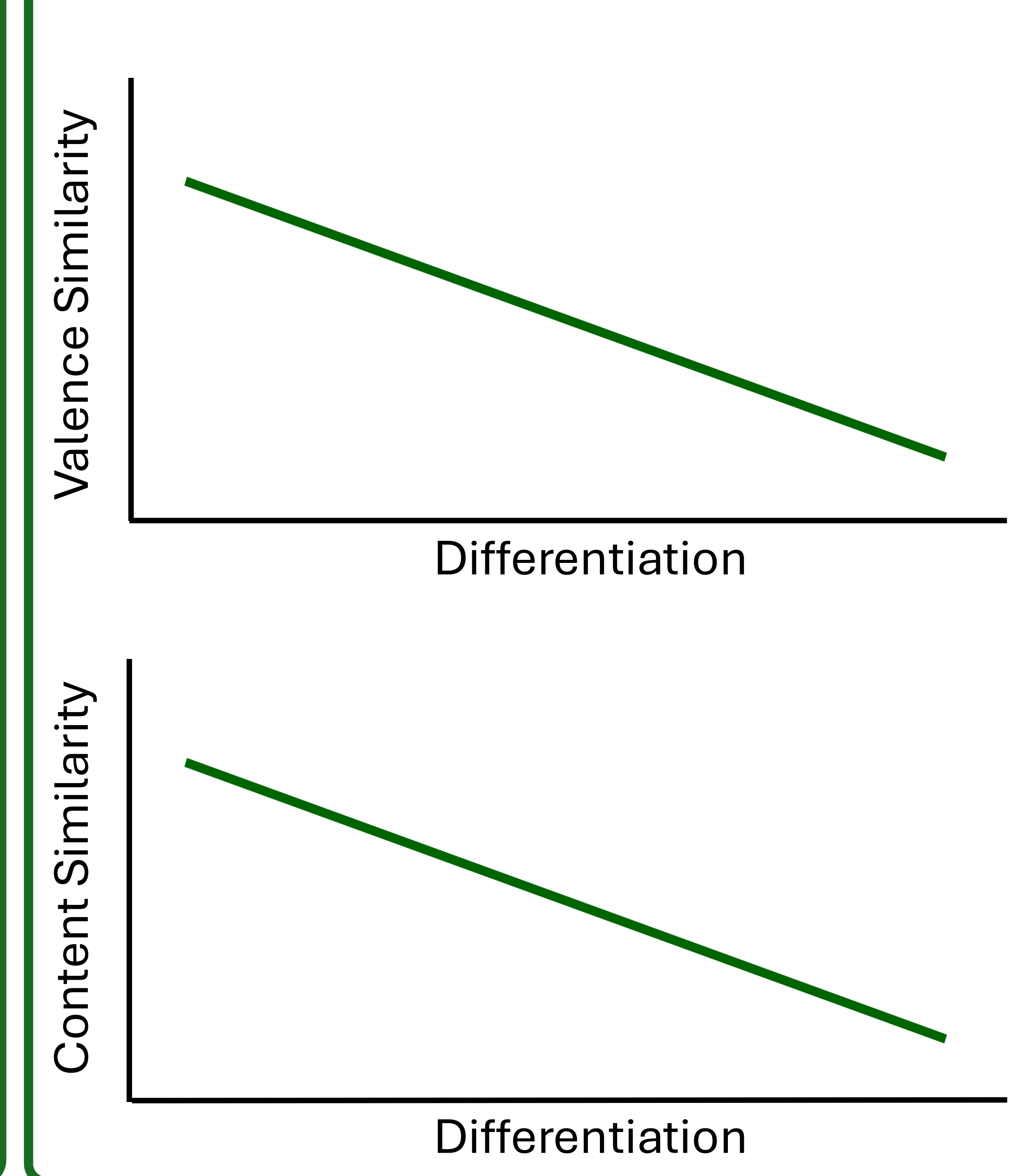
Methods



Possible Effects of Appraisal on Hippocampal Differentiation



Correlates of Differentiation



Significance

- We will establish whether hippocampal differentiation is influenced by emotional appraisal
 - Does valence matter, or just similarity?
- What effect does differentiation have on underlying memories?
 - Differences in *remembered valence*?
 - Differences in *remembered content*?
- Findings will be relevant to theories of hippocampus and emotional memory

References

- Favila, S. E., Chanates, A. J. H., & Kuhl, B. A. (2016). *Nat. Comm.*, 7, 11066
- Wanjia, G., Favila, S. E., Kim, G., Molitor, R. J., & Kuhl, B. A. (2021). *Nat. Comm.*, 12(1), 4816.
- Hulbert, J. C., & Norman, K. A. (2015). *Cereb. Cortex*, 25(10), 3994–4008.
- Talmi, D. (2013). *Curr. Dir. Psychol. Sci.*, 22(6), 430–436.
- Mather, M. (2009). In *Psychology of Learning and Motivation* (Vol. 51, pp. 101–120). Elsevier.
- Leal, S. L., Tighe, S. K., Jones, C. K., & Yassa, M. A. (2014). *Hippocampus*, 24(9), 1146–1155

Acknowledgement: This research is supported by NIH NINDS 2R01NS089729 to B.A.K