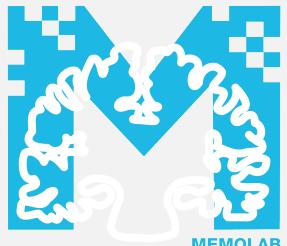


# THE PROTECTIVE EFFECTS OF RETRIEVAL PRACTICE ON POSITIVE MEMORIES

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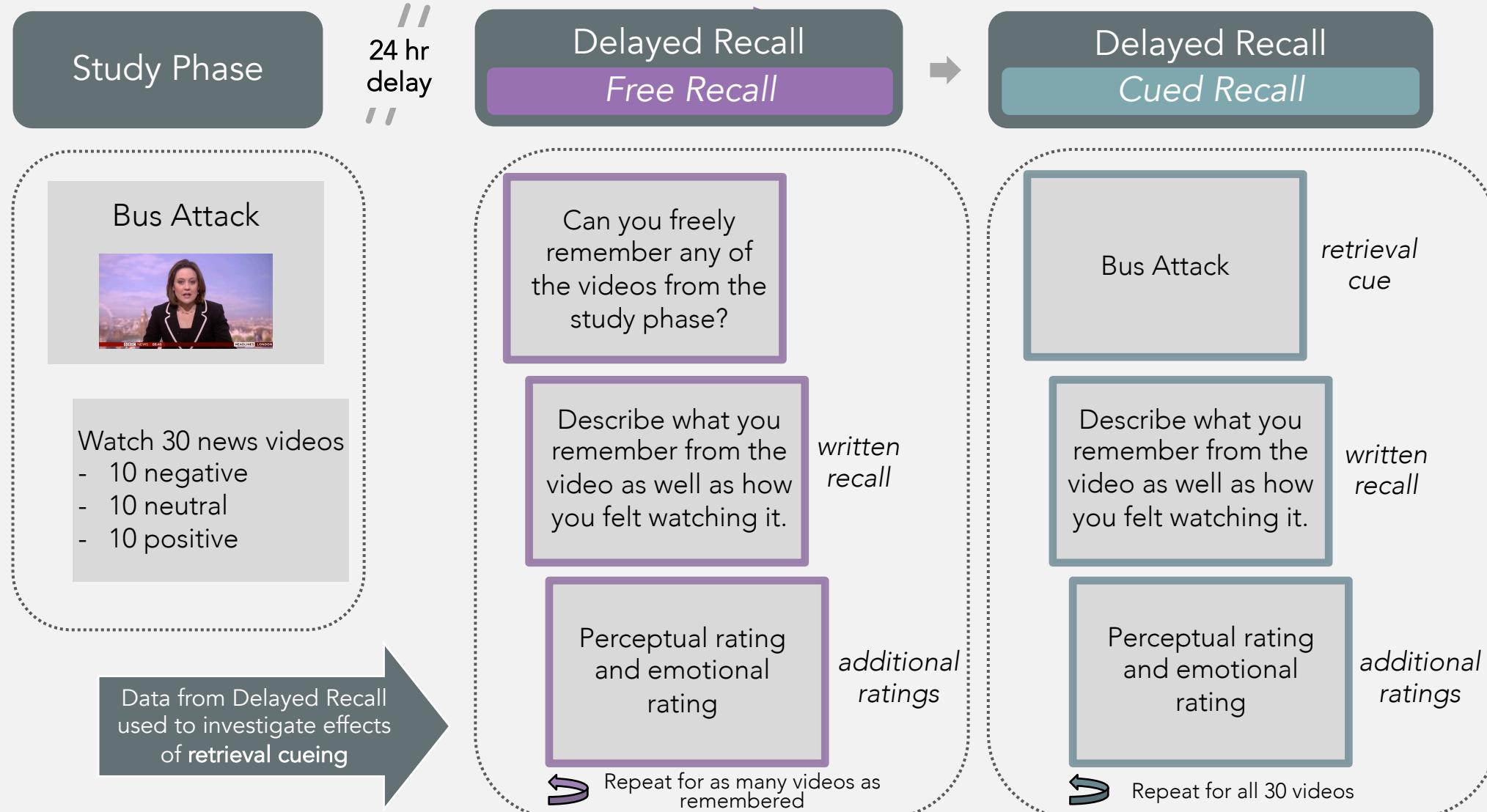


## BACKGROUND

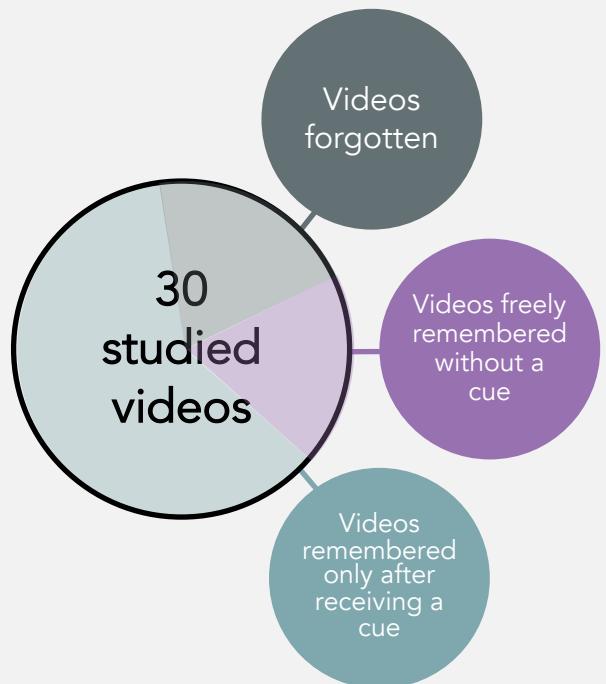
- Emotional experiences are known to be perceived and remembered differently from non-emotional experiences. Negative emotional experiences tend to be especially arousing and vividly remembered, and greater memory for these negative events can have long-lasting consequences for mental health. (Ford et al., 2012; Kensinger, 2009)
- Developing strategies to boost positive information in memory could be beneficial for counteracting the effects of negative memories. (Hertel et al., 2016)
- **Here, we investigate the effects of negative and positive emotion on memory recall, testing the impact of two strategies thought to improve the accessibility of memories: retrieval cueing and retrieval practice.** (Sheldon et al., 2020; Jia et al., 2019)

# EXPERIMENT I

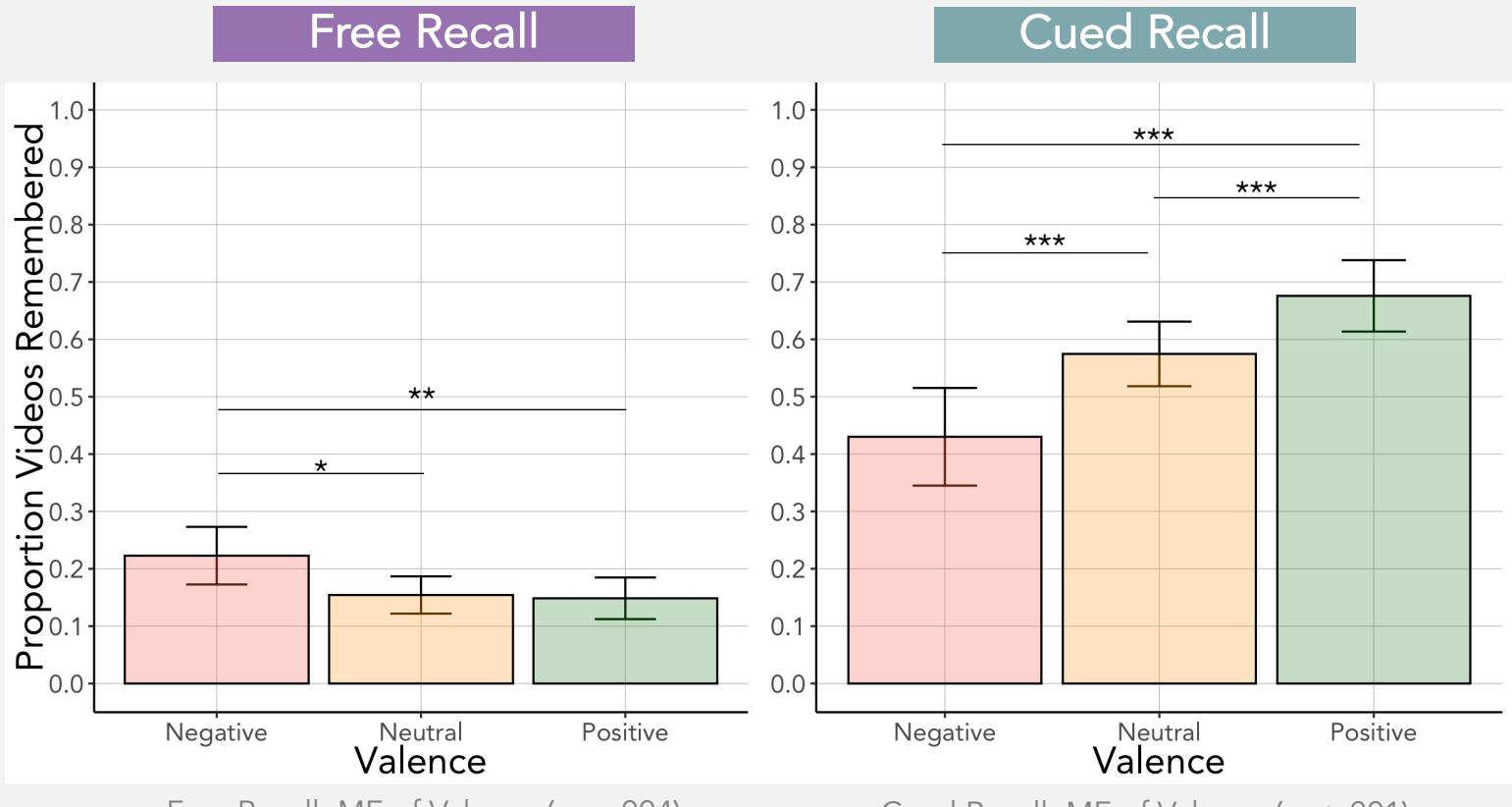
n = 35 healthy young adults



# RESULTS



Video counted as "remembered" if at least two correct details are provided in written description



Subjects freely recalled more negative videos than neutral and positive videos. However, a retrieval cue increased memory for neutral and positive videos over negative videos.

\* -  $p < .05$ , \*\* -  $p < .01$ , \*\*\* -  $p < .001$

## EXPERIMENT I - TAKEAWAY

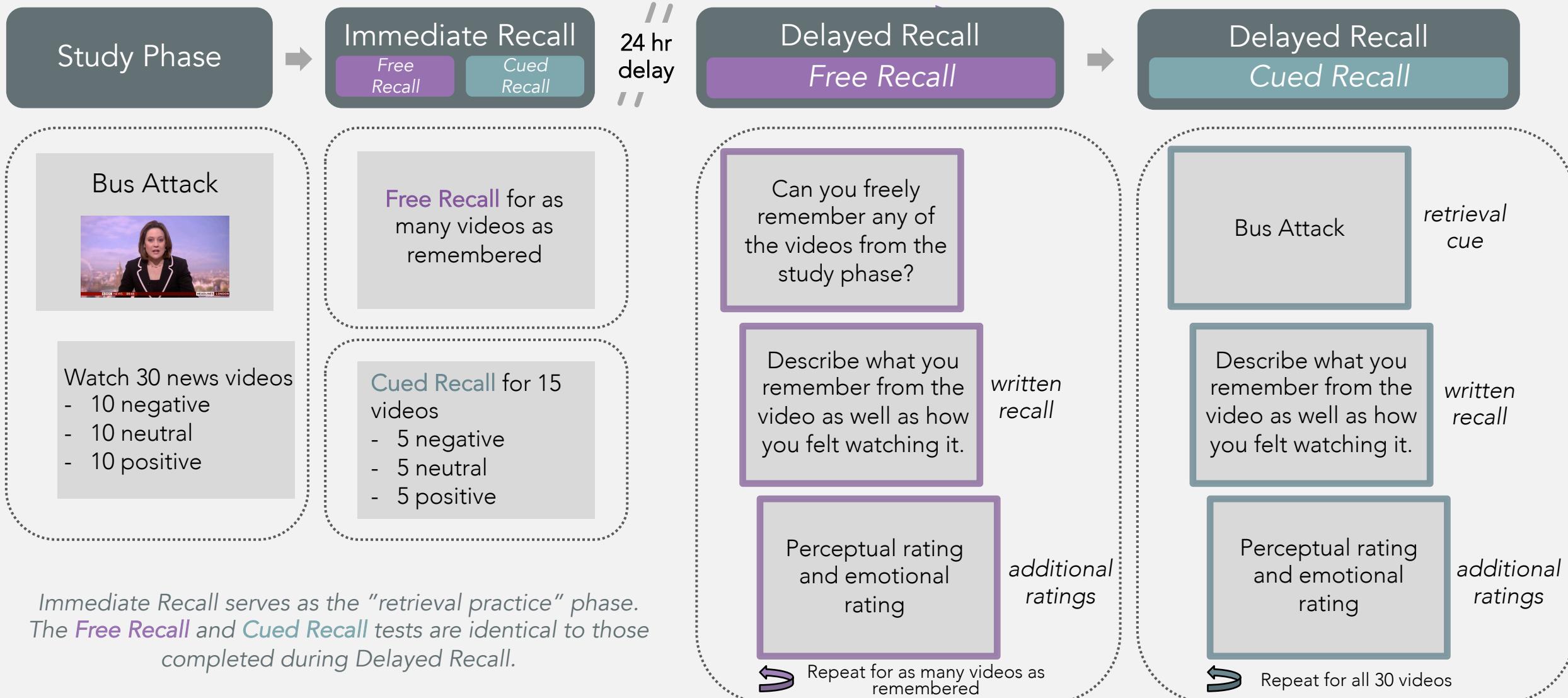
- After a 24 hour delay, negative videos were more accessible in memory than neutral and positive videos
- Retrieval cueing improves memory for neutral and positive videos

### OUTSTANDING QUESTIONS

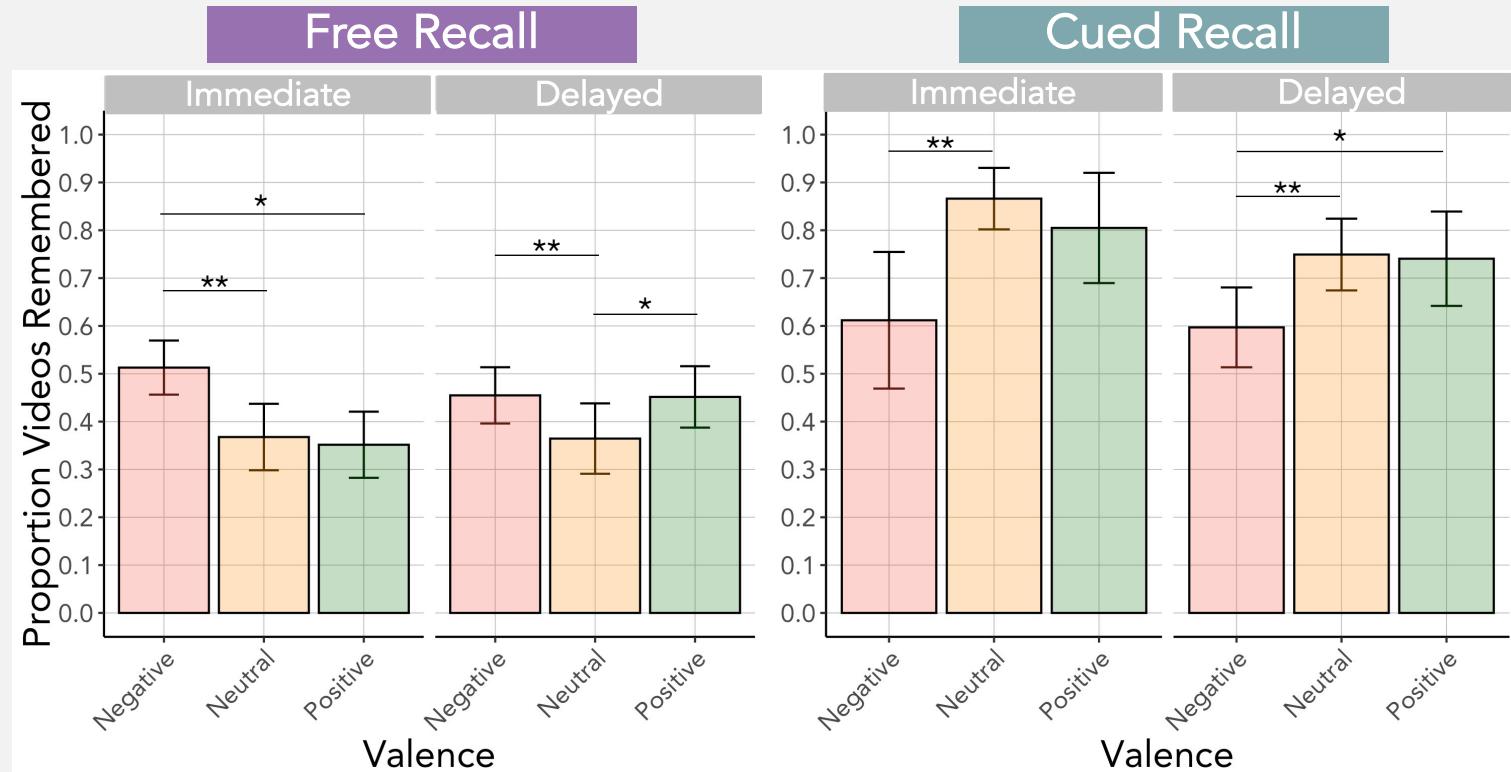
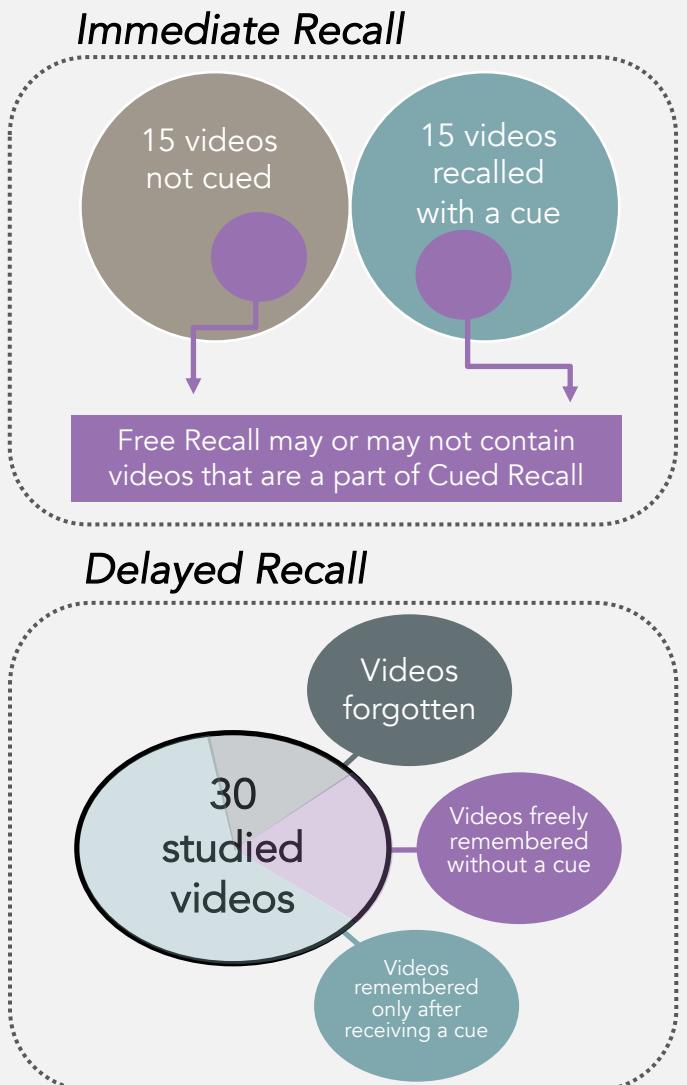
Does cueing memory retrieval have lasting effects on memory accessibility? In particular, does immediate retrieval practice protect the accessibility of positive memories in a delayed test?

# EXPERIMENT 2

n = 31 healthy young adults



# RESULTS



Free Recall – Immediate: ME of Valence ( $p = .007$ ), Cued Recall – Immediate: ME of Valence ( $p = .006$ ),  
 Free Recall – Delayed: ME of Valence ( $p = .005$ ) Cued Recall – Delayed: ME of Valence ( $p = .003$ )

Negative videos were initially most accessible in memory. Following retrieval practice, accessibility for positive videos increased. Additionally, retrieval cueing increased recall performance for both neutral and positive videos over negative videos.

\* -  $p < .05$ , \*\* -  $p < .01$ , \*\*\* -  $p < .001$

## EXPERIMENT 2 - TAKEAWAY

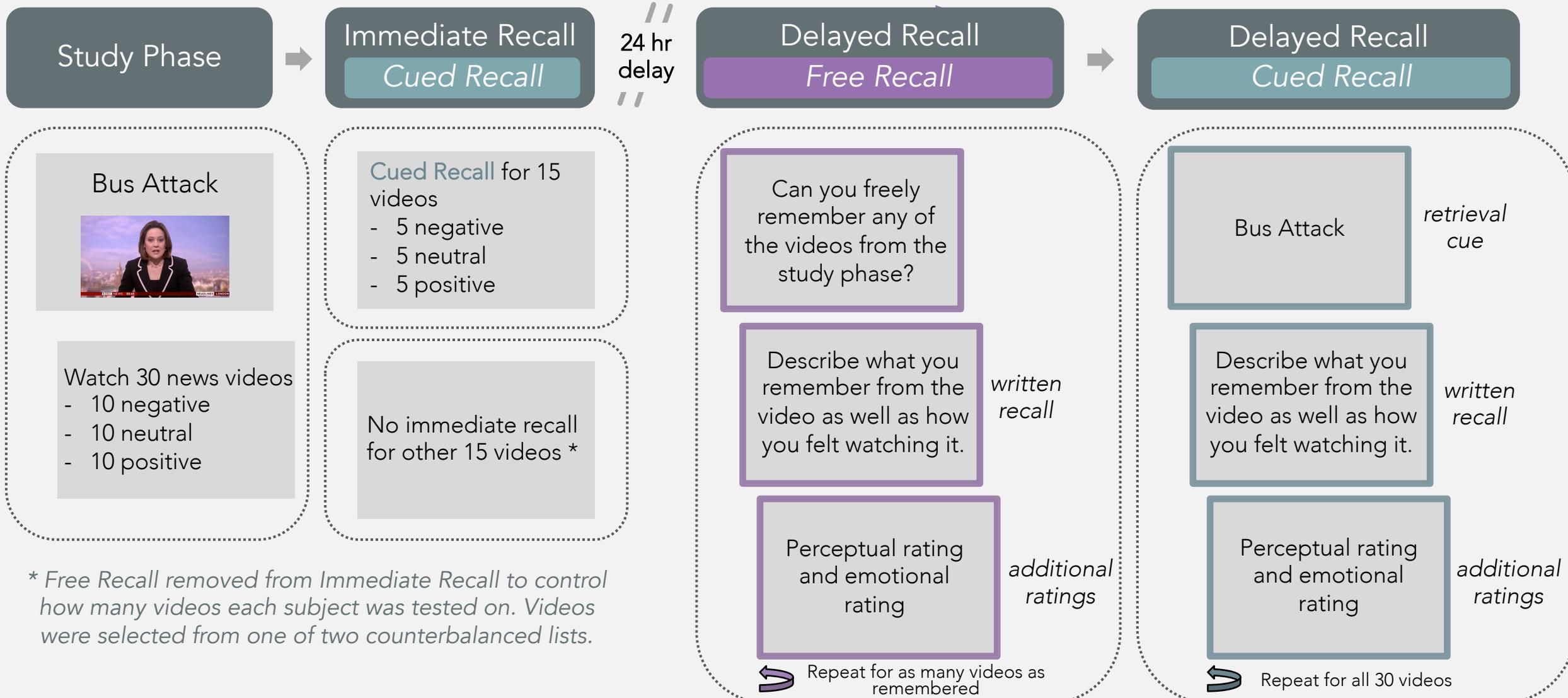
- Negative memories are most easily accessible unless a retrieval cue is provided
- An immediate recall test (retrieval practice) generally improves accessibility for positive videos in the delayed free recall task. The benefits of retrieval cues were seen during both immediate and delayed tests.
- However, because Free Recall was included in the immediate test, there was variability in how much retrieval practice each subject experienced

### OUTSTANDING QUESTION

Can we replicate the results of Experiment 2 using only cued recall at immediate test?

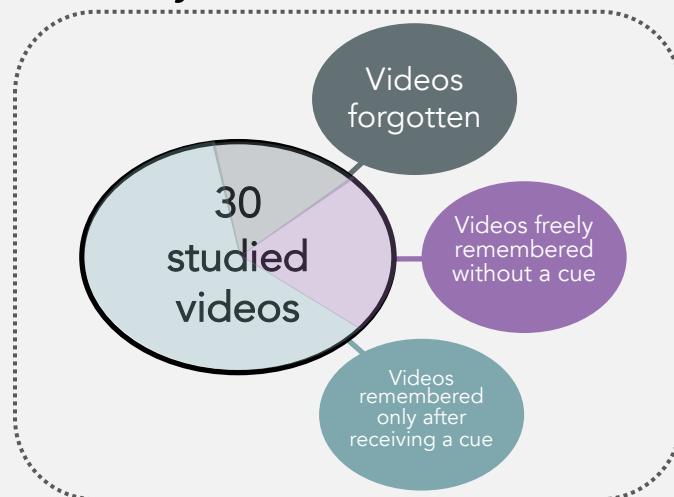
# EXPERIMENT 3

n = 31 healthy young adults



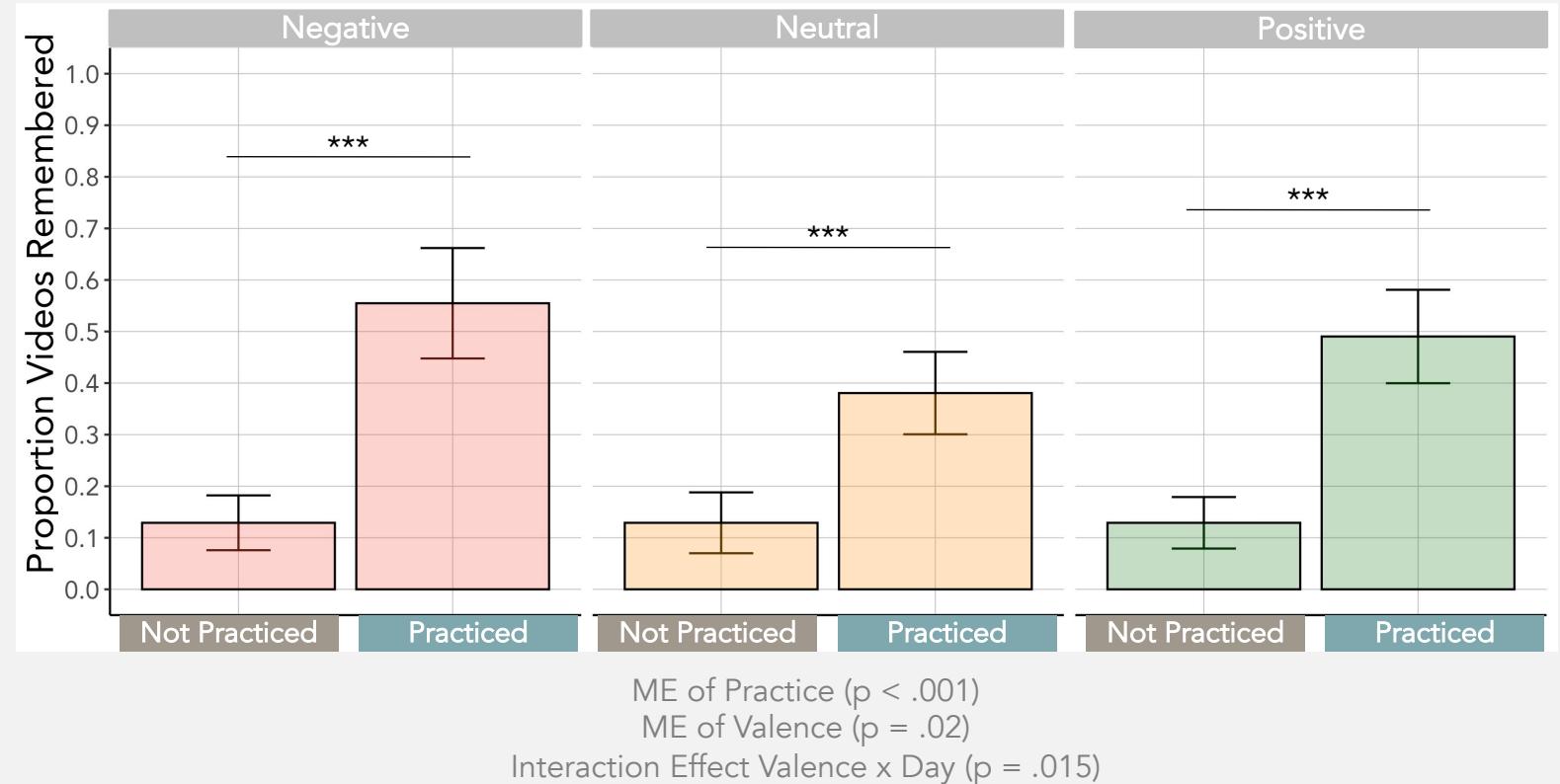
# RESULTS

## Delayed Recall



We replicated results from Experiment 2 and again found negative memories to be most accessible initially. Following retrieval practice and retrieval cueing, recall for neutral and positive videos increased.

## Delayed Free Recall



Trials that received retrieval practice after encoding were remembered better than those that did not. Additionally, practice had a bigger effect for emotional videos than neutral.

\* -  $p < .05$ , \*\* -  $p < .01$ , \*\*\* -  $p < .001$

## EXPERIMENT 3 - TAKEAWAY

- We replicated our Experiment 2 results using only Cued Recall during an immediate recall test
- When participants are given retrieval practice after encoding, positive memories are equally as accessible after a delay as negative memories
- Retrieval practice adds a beneficial effect for not only for positive memories, but also for negative memories. Moreover, this effect is bigger for emotional memories than neutral memories.

### FUTURE DIRECTIONS

Does practicing only positive items during immediate retrieval bias the accessibility of emotional memories in a delayed test?

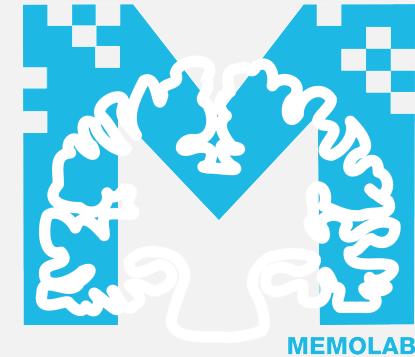
## CONCLUSION

- When recalling past events, negative memories tend to be more readily accessible than neutral and positive memories
- A retrieval cue shifts the accessibility bias away from negative items and toward positive items in memory
- Retrieval practice improves overall accessibility for items in memory and raises positive free recall to the level of negative free recall

# THANK YOU!



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If you have any questions, please join my Zoom room or send  
me an email at [schmidhd@bc.edu](mailto:schmidhd@bc.edu)!