

Visual memories can recover from recognition-induced memory biases

Joseph M. Saito & Keisuke Fukuda
University of Toronto Mississauga



Research Question

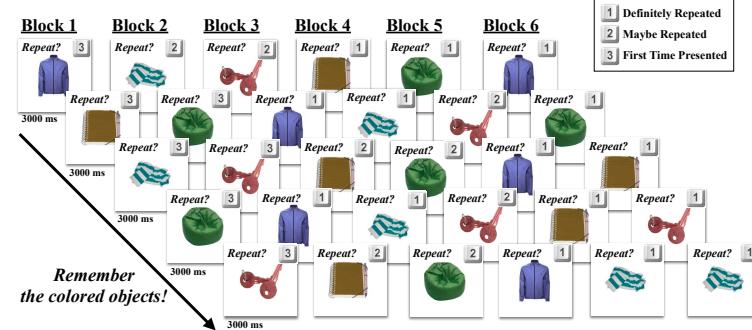
Recent work* suggests that subjective recognition judgments about information available at the time of retrieval may explain memory biases reported during subsequent recall

1. Are long-term memories altered by *recognition-induced memory biases*?
2. Are recognition-induced memory biases permanent?
3. Are *consolidated* memories protected against recognition bias?

* Fukuda, K., Pereira, A., Saito, J.M., Tsubomi, H., & Bac, G.Y. (in prep). Recognition biases visual working memory representations.

Method

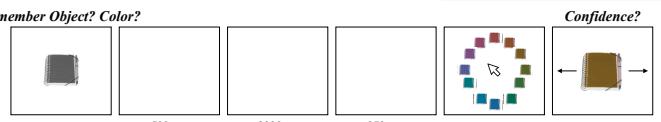
Object Encoding



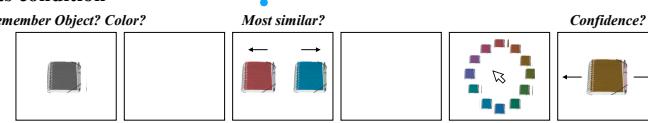
Participants encoded 240 objects presented 6 times across 6 blocks (1x/block)
Participants indicated whenever an object repeated by indicating their confidence

Recognition Practice & Memory Recall

Baseline condition

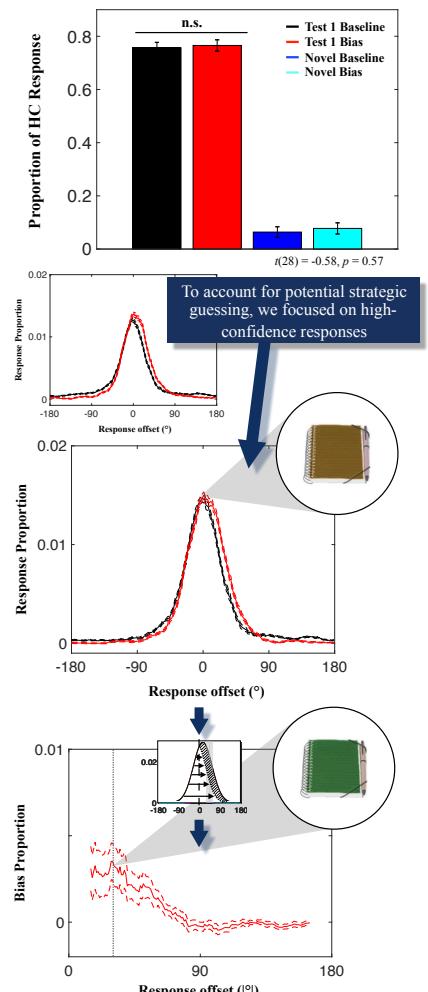


Bias condition



Participants recalled each object and reported its color with a confidence rating
Bias was induced using a similarity recognition judgment during maintenance

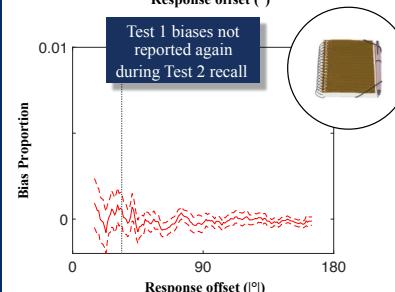
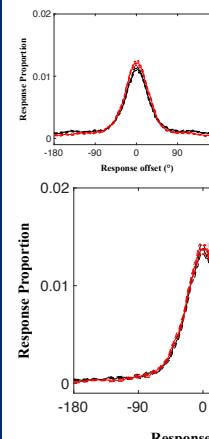
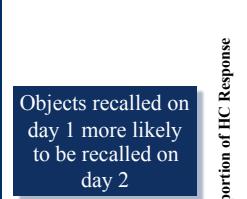
Memory bias in LTM



Long-term memories are susceptible to recognition bias

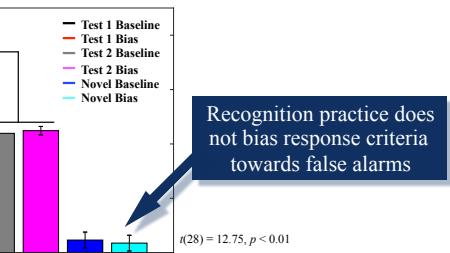
Results

Persistence of memory bias

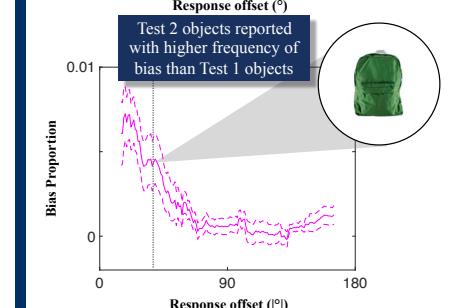
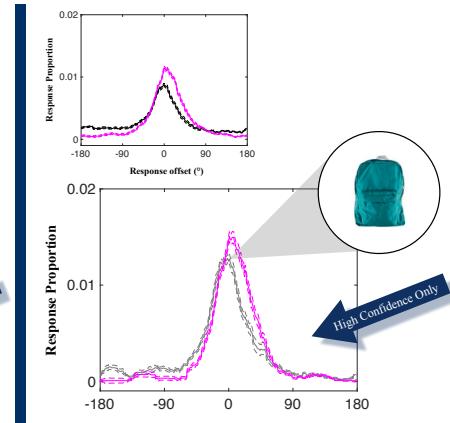


Recognition-induced memory bias is transient

Consolidated LTM bias



Recognition practice does not bias response criteria towards false alarms



Consolidated memories are prone to recognition bias

Future Directions

Can control mechanisms responsible for bias be primed towards differentiation?
Are recognition biases more likely to persist in re-consolidated memories?

What are the neural mechanisms responsible for recognition bias? Long-term memory supporting working memory?