

# The role of metacognitive uncertainty in the delayed retrieval shift in older adults

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Strategic choice behavior in the noun-pair lookup task (NPLT) can be characterized as a shift from scanning an external source to retrieving from memory (Logan, 1988; Rickard, 1997)

Older adults (OAs) often show a delayed shift to retrieval, even when they know the information (Hines, Hertzog, & Touron, 2012)

### Current motivation

- To examine the potential role of metacognitive uncertainty in explaining retrieval aversion in OAs.

### General procedure

Older and younger adults participated in a NPLT in which they were forced to choose between scanning a table for information or retrieving from memory.

Half of the pairs had been previously learned to criterion.

Each pair was queried in each of the 24 blocks on the intact and a rearranged trial.

For half of the participants, each trial was preceded with a “pre-cue”, which indicated whether it had been prelearned or not.

### Noun-pair lookup task (NPLT)

FILE – BATTLE	MOUNTAIN – SEED	ODOR – BEAM	PARK – LOBBY
DRILL – SAUCE	POCKET – FOREST	MATCH – NEST	EXERCISE – BANK
VILLAGE – BEEF	WOUND – GAUGE	EYE – MOTEL	FOUNTAIN – HIGHWAY

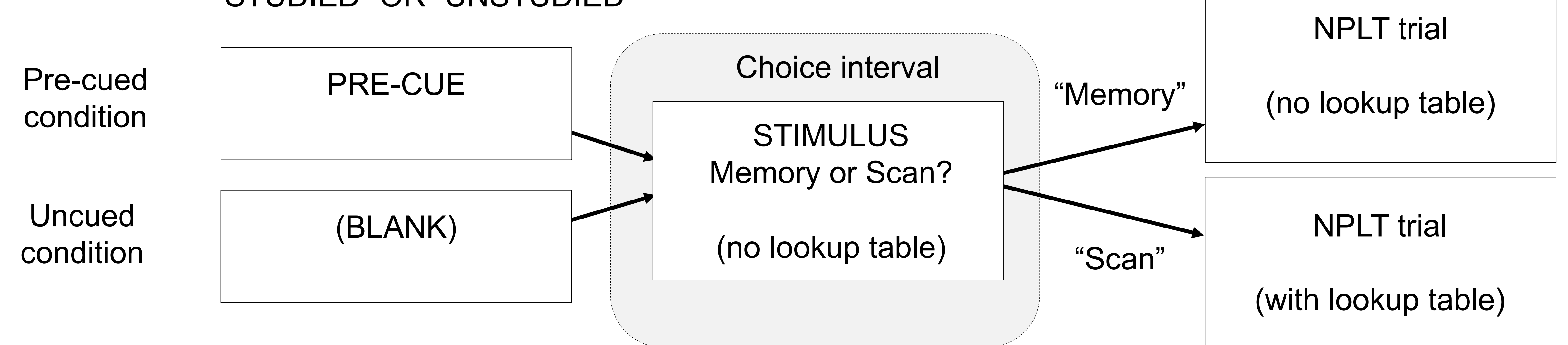
VILLAGE – BEEF  
Is this pair of words matched?  
Y = Yes N = No

Participants were shown a “lookup table” along with a center pair.

On each trial, participants are asked whether the center pair is present in the table.

Because the pairings in the table do not change during practice, one can begin to retrieve the information from their memory.

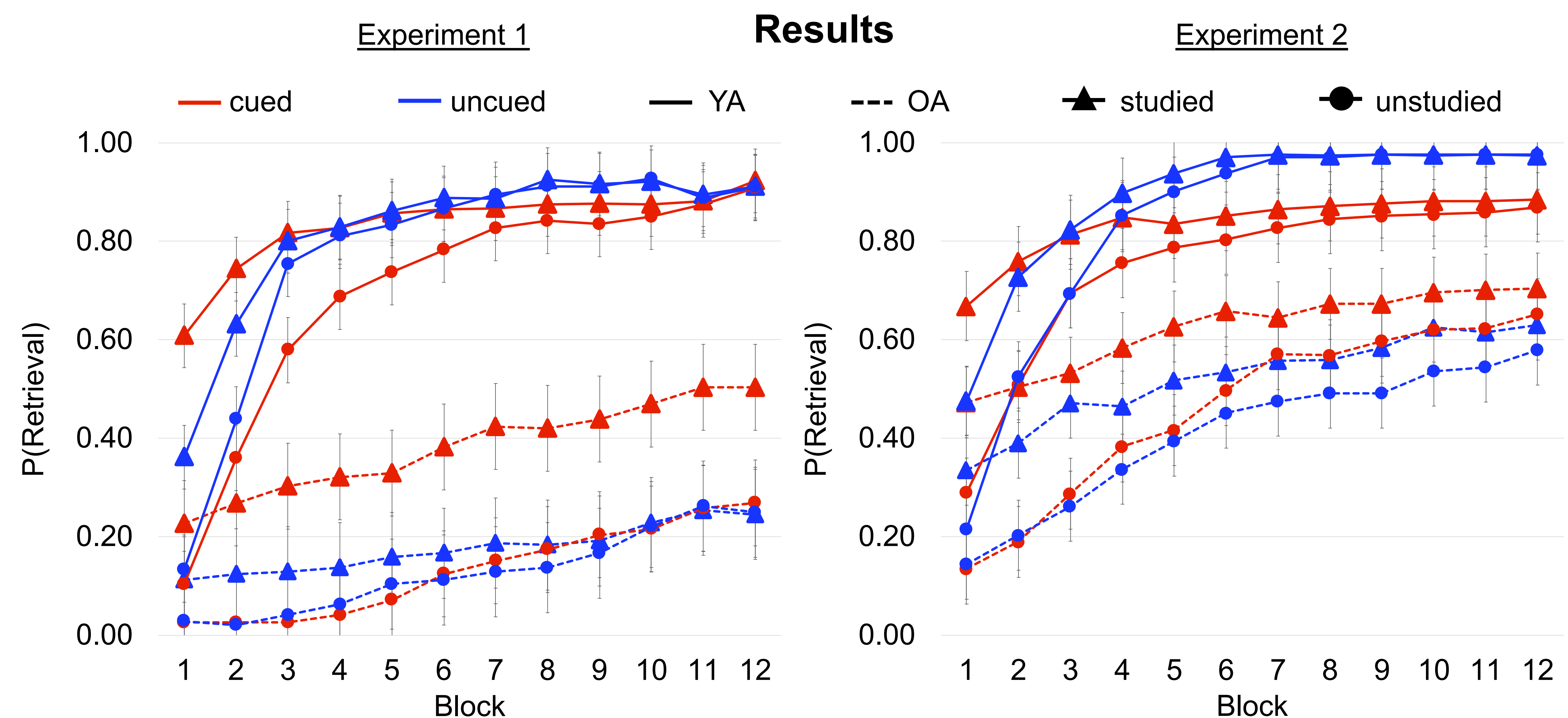
### Design



2 (OA vs. YA) X 2 (Pre-cued vs Uncued) X 2 (Studied vs. Unstudied) X 12 (Block) X 2 (Intact vs. Rearranged)

In Experiment 1: STIMULUS = the left-hand member of the paired associate; hard deadline to choose

In Experiment 2: STIMULUS = the entire paired associate; soft deadline to choose



Pre-cueing increased retrieval in OAs for studied items but did not affect retrieval of unstudied items. This effect was more pronounced in Experiment 2 on rearranged trials (not shown here).

Pre-cueing did not affect accuracy, reinforcing the idea the retrieval avoidance is not due to a lack of knowledge.

No effect of pre-cueing was observed for YAs.

Confidence during prelearning tests predicted retrieval choice, for OAs more than YAs, even in the cued condition, supporting the metacognitive uncertainty hypothesis.

Results suggests that retrieval aversion in OAs is exacerbated by metacognitive uncertainty.