Scully & Hupbach: Different reactivation procedures enable or prevent episodic memory updating

**Models**: **classical, prototype, exemplar, explanation-based**

Hippocampus + amnesia

**Brown-Peterson**: trigram+interference task+recall trigram, worse perform until task change

**Conclusions:** Direct reminders (test/restudy) **limit RI**

-Indirect reminders ‘**expose’** memories to changes

-More **comprehensive reactivation = less likely to contaminate** reactivated memory

-**Direct reminders** likely draw attention to event differences and thereby enhance **event segregation**.

**Results:** proactive interference (Fig. 4, session 3 test of AC)

-No difference between conditions in either recall or intrusions from AB into AC

-Insignificant intrusion into later learned list rules out general source confusion as an explanation for intrusions (in either direction)

**Participants likely actually remember AC words as belonging to AB pairs**

**Method (Fig. 1)**: ABAC paradigm, 2x4 design

**Session 1:** 15 word-pairs, each presented 2s + 1s inter-stimulus interval. Twice in random order, anything not recalled in test, repeatedly tested until remembered (**corrective FB**)

**Session 2:** 2x4 design (control/interference x reminder task)

|  |  |  |  |
| --- | --- | --- | --- |
| No reminder + sudoku (control) | Test + sudoku (control) | Restudy AB + sudoku (control) | Cue-word + sudoku (control) |
| No reminder + learn AC | Test AB + learn AC | Restudy AB + learn AC | Cue-word + learn AC |

**Session 3:** recall B targets in response to A cues.

**Motivation:** Despite others observing episodic memories being sensitive to post-reactivation manipulation, the **mechanism was missing**.

-This study assesses several **reactivation procedures’ impact** on new learning on reactivated memories

**Hypotheses**

**Control/sudoku group**

-**Testing effect**: better AB recall for testing than restudy

-Testing and restudy better than no and subtle reminders.

**Interference (AC learning) group**

-Less AC intrusion into AB in no reminder than subtle remind

-More protection against interference in test than restudy

**Criticism**: Are we really looking at episodic memory?

-**Tulving**: Participants *might* need to remember **when** they learnt B compared to C to **distinguish** them when presented with A (**autonoetic**)

-But is the specific memory of the episode necessary? Maybe they can be stored as **2 different pairs**? (**noetic**)

-Control: delayed cued recall (def not episodic)

-ABC learning? Did participants connect C to B?

**Results:** Retroactive interference (Fig. 2)

Control groups: testing, restudy and subtle cue reminders performed the same and outperformed no reminder

Interference group: **testing and restudy performed the same**, and both **outperformed** subtle and no reminder groups

-Sudoku group and AC learning group are different in all other conditions than testing -> **testing protects against RI**

-Cue and no reminder conditions had more intrusions from AC to AB than test and restudy conditions

**Fig. 3**: Considers only test condition.

-Control: performed better in session 3 than in session 2, no interference (nothing to interfere)

-Interference: performed worse in session 3 than in session 2 -> **retroactive interference**

**LTM:** Processes by which information is encoded (learned), stored, and retrieved

-Learning: The combined effect of all encoding, storage, and retrieval in gradually enhancing task performance.

-Retrieval: accessing stored memory traces. Retrieval may affect the memory.