Retrieval practice transfer effects for multielement event triplets

Jade S Pickering a,b, Lisa M Henderson b, Aidan J Horner b

a University of Southampton, UK; b University of York, UK

Stage 1 Registered Report at Royal Society Open Science: osf.io/qgah7

References:

INTRO

• Retrieval Practice (RP) actively contributes to long-term learning relative to re-exposure (restudy) 1.
• Does RP allow for transfer to untested but related information?
• Pattern completion 2 could be one mechanism that allows for transfer to associated information.
• Registered Report assessed RP for both directly tested and associated but untested material for multielement triplets 3.

METHOD

• 113 participants aged 18-35 (mean age 26.56) recruited via Prolific.

RESULTS

Retrieval practice effect:
• Tested retrieval practice associations > control associations (t(112) = 17.04, p < 0.001, BF10 = 4.25 x 1029, d = 1.65). See (A) and (E) on Fig 3.
• No difference between tested retrieval practice associations and re-exposed associations (t(112) = 1.48, p = 0.07, BF10 = 0.30, d = 0.10). See (A) and (C) on Fig 3.

Transfer from tested to untested material:
• Untested retrieval practice associations > control associations (t(112) = 8.72, p < 0.001, BF10 = 2.37 x 1011, d = 0.57). See (B) and (F) on Fig 3.
• No difference between untested retrieval practice associations and non-exposed associations (t(112) = 1.63, p = 0.94, BF10 = 0.38, d = -0.11). See (B) and (D) on Fig 3.

DISCUSSION

• Retrieval practice offered no additional benefit over re-exposure. This may be because re-exposure elicits some automatic retrieval when the information is highly-integrated, and thus the two conditions were not as distinct as anticipated.
• Transfer does occur for related but untested material. If retention of untested related material can be boosted, this enhances the pedagogical value of retrieval practice.
• Future research should examine boundary conditions for RP versus re-exposure and conditions of transfer to untested but related material.

METHOD

• 113 participants aged 18-35 (mean age 26.56) recruited via Prolific.

RESULTS

Retrieval practice effect:
• Tested retrieval practice associations > control associations (t(112) = 17.04, p < 0.001, BF10 = 4.25 x 1029, d = 1.65). See (A) and (E) on Fig 3.
• No difference between tested retrieval practice associations and re-exposed associations (t(112) = 1.48, p = 0.07, BF10 = 0.30, d = 0.10). See (A) and (C) on Fig 3.

Transfer from tested to untested material:
• Untested retrieval practice associations > control associations (t(112) = 8.72, p < 0.001, BF10 = 2.37 x 1011, d = 0.57). See (B) and (F) on Fig 3.
• No difference between untested retrieval practice associations and non-exposed associations (t(112) = 1.63, p = 0.94, BF10 = 0.38, d = -0.11). See (B) and (D) on Fig 3.

DISCUSSION

• Retrieval practice offered no additional benefit over re-exposure. This may be because re-exposure elicits some automatic retrieval when the information is highly-integrated, and thus the two conditions were not as distinct as anticipated.
• Transfer does occur for related but untested material. If retention of untested related material can be boosted, this enhances the pedagogical value of retrieval practice.
• Future research should examine boundary conditions for RP versus re-exposure and conditions of transfer to untested but related material.