

Introduction

The Age of Acquisition (AoA) effect results in early-acquired words being processed more quickly and accurately than later-acquired words (Juhasz, 2005).

Argued to result from gradual development of semantic representations and changing neural network throughout development (Chang et al., 2018).

Some forms of the Recognition Without Identification (RWI) effects have been observed at a perceptual level (Langley et al., 2008)- recognize a situation as familiar (e.g. face), while details of that specific memory are unidentified (e.g. name).

Aim of the study: Use the RWI paradigm to examine whether the AoA effect is situated at the perceptual loci.

Method

Participants. 97 in Experiment 1.

Stimuli. 48 black and white line drawings from Barry et al. (2001), 24 with had early-acquired labels and 24 had late-acquired labels.

To create the picture fragments, 80% of the pixels were deleted to resemble the “recoverable” or geon fragments.

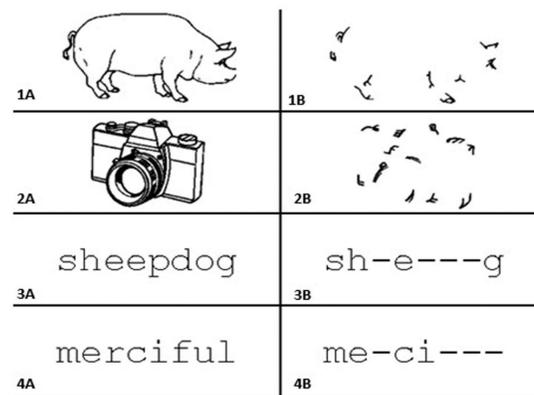
	Experiment 1: Picture	Experiment 2: Word
Early acquired	Pig	Sheepdog
Late-acquired	Camera	Merciful

Testing phase: Each stimulus was on screen for 2 seconds. If participants could not identify the picture, they pressed the space bar, if they did identify it, they had to type in the name of the original picture. Irrespective of whether the item was recognised, participants rated how likely the item was in the original list from 0: (definitely not) to 10 (definitely).

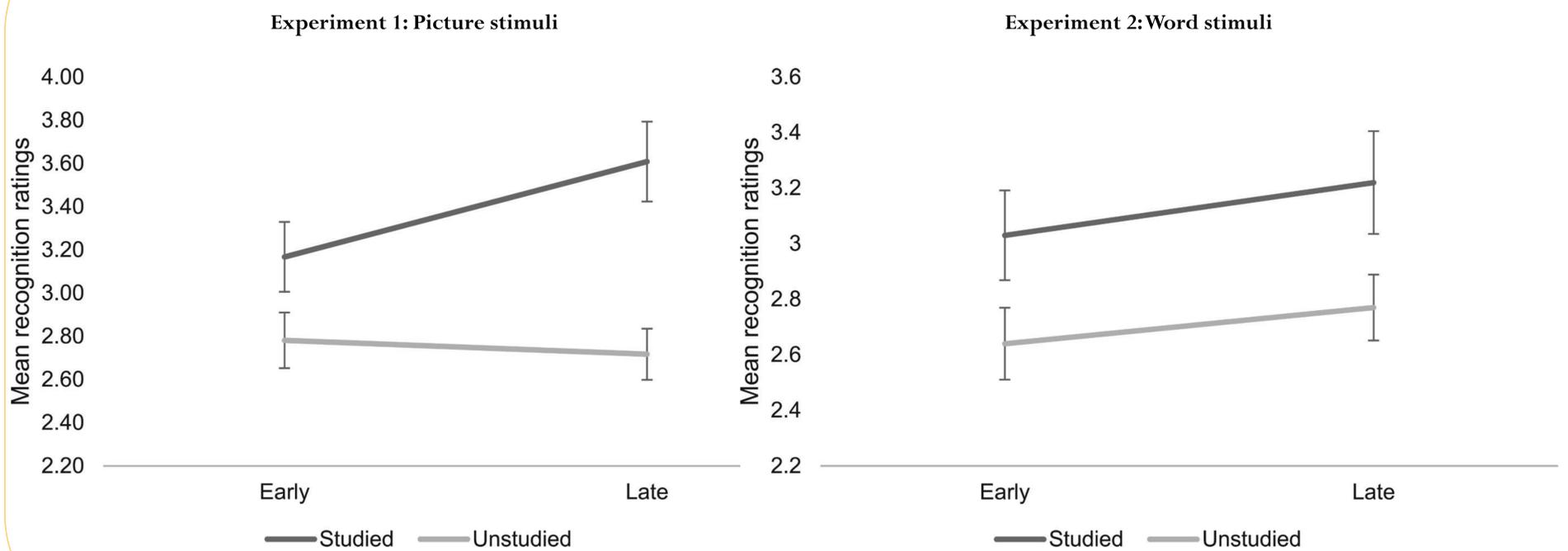
Participants. 77 in Experiment 2.

Stimuli. A total of 192 words were used, including 96 early-acquired words and 96 late-acquired words taken from Kuperman et al. (2012).

To create word fragments, four letters were removed from any position except the first letter of the word.



Results



Conclusion

- In both experiments, results showed that studied items were recognised more accurately than unstudied items, even when they could not be identified and late-acquired items were recognised more than early-acquired items, even when they were not identified. Importantly, the significant interaction between AoA and RWI (for pictures) also suggests that AoA effects occur at the same level as RWI for the processing of pictorial stimuli, specifically at the perceptual level of processing, supporting Dent et al. (2007).
- Notably, the interaction between AoA and RWI was only observed with pictorial, not word, stimuli. This would suggest that whilst AoA effects can be found at the perceptual loci for pictures, they are not present at the level of grapheme analysis for words. The integrated view of the AoA effect for words originates at the post-perceptual stages, whereas for pictorial stimuli, it begins at the perceptual stage, extending the research of, and in line with, Catling and Elsherif (2020).
- The current findings suggest an AoA locus of effect resides at an early perceptual level of processing. However, this is limited to linguistic stimuli and needs to be expanded to non-linguistic stimuli such as music in order to assess whether the AoA effect occurs pre-semantically, allowing us to determine if the integrated account should start at the pre-semantic level such as the perceptual representation or if it should remain at the semantic level.

References

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