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**Title:** Evaluating the Interaction Between Mental Imagery Vividness and Recognition Ability of Faces and Objects: New Insights on Item Visual Processing Theories

Being able to remember and identify known items within one’s environment is a crucial feature to the way people evolve in and interact with their surroundings. However, research on this recognition process has revealed that not all individuals are equal in their capacities to remember and identify previously seen items. In particular, extreme cases of item recognition impairments dreadfully impact the everyday life of people affected by the condition, as they are left unable to differentiate between previously encountered items and new ones. The mechanisms underlying the higher visual processing of items have been at the centre of a debate among researchers, as evidence account for two opposing theories. To determine whether item processing is general or category-specific, different explanations have been outlined and put in perspective. Evidence from the literature suggests that a potential way to account for recognition discrepancies could be the use of mental imagery, a highly individually specific process enabling the formation of more or less vivid images in one’s mind. Based on patients reporting face- and object-specific recognition impairments, this study aimed to distinguish between faces and objects when evaluating the link between mental imagery and recognition ability. A cohort of adult participants (*N* = 49, *Mage*= 25.9) were recruited online. They reported their mental imagery vividness for faces and objects on two questionnaires before they were tested on their recognition ability for each type of item on 2-alternative forced-choice tests. Overall, no interaction between mental imagery vividness and recognition ability was present across item categories. However, object mental imagery vividness significantly predicted object recognition ability, suggesting a category-specific interaction. Mental imagery vividness for the two scales was positively correlated (*r* = .58), with participants reporting more vivid object mental imagery. However, participants performed significantly better on the face recognition test, with no significant correlation between face and object recognition ability (*r* = .18). Contrary to accounts of a strong influence of mental imagery on recognition ability, our results did not present an explicit correlation between the two processes overall. An item-specific link was observed for objects, congruent with domain-specific processing of information. The absence of correlation between the recognition tests was also consistent with this theory, though the correlated mental imagery scores mitigated these findings. No strong evidence for either visual processing theory arose from these observations; these mixed results contribute to the growing evidence for both domain-general and domain-specific aspects of visual processing. Follow-up areas of interest involve inquiring for participants’ memorising strategies in order to target people who actively create and use mental images to remember item and recruiting a cohort of poor recognisers to investigate the relationship between imagery vividness and recognition ability in a greater variety of participants. The present study took a first step in investigating the link between mental imagery vividness and recognition while thoroughly differentiating item categories between faces and objects. Following-up to refine these findings could enhance knowledge on both visual processing as a whole, and on the role of mental imagery in this field.