

# Exploring the relationship between visual imagery and episodic memory

## Introduction

Why do some individuals recall vivid and detailed memories, while others do not?

Role of visual imagery?

- ▶ Theoretical, behavioral and neurological evidences of the relationship between visual imagery and episodic memory (1,2,3,4)
- ▶ Visual imagery is not a unitary concept : different measures can evaluate different facets

**Object imagery :**  
specific details, properties of objects

**Spatial imagery :**  
relationship, movements, transformations of objects

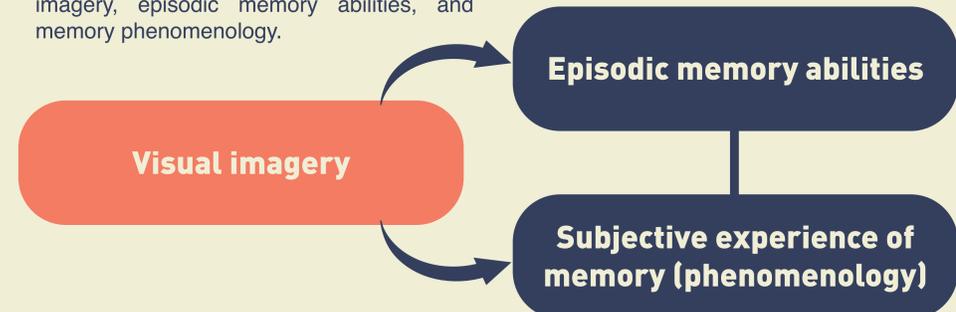
Different links with episodic memory (2,5)

Perceptual details recall

Global event recall

## Aim of the study :

- ▶ To explore the relationship between visual imagery, episodic memory abilities, and memory phenomenology.



## Participants

42 (24 females) healthy French-speaking Belgian participants (Age : M = 35.33 ±14.45, range = 19 – 62; Education : M = 14.76±1.79 years, range = 12–20)

## Measures

### Visual imagery

- Vividness of Visual Imagery Questionnaire (VVIQ) : to assess the general **ability** to form visual images and their **vividness**
- Object Spatial Imagery and Verbal Questionnaire (OSIVQ) : self-report of preferred **cognitive style**

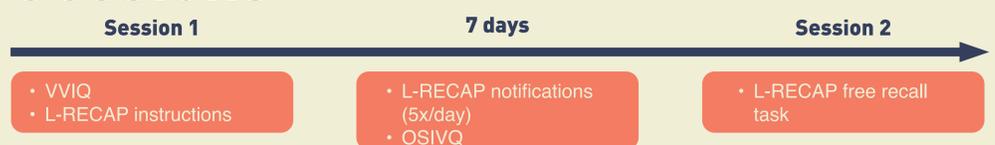
### Episodic memory abilities

- Liege Recall of Events via Continuous Assessment of Personal experiences (L-RECAP) : a new ecological test

### Phenomenological aspects of memory

- Autobiographical Recollection Test (ART) : self-report of general autobiographical memory quality : **reliving, vividness, narrative coherence, life-story relevance, visual imagery, scene, rehearsal**

## Sessions



## Zoom on the L-RECAP

Curious ? Ask me more about it !

Creation of a tailored memory test : Sampling of 5 life events via an app

Exploration of variables surrounding memories (e.g. mood, frequency, personal significance, ...)  
Assessing episodic memory in **CONTEXT**

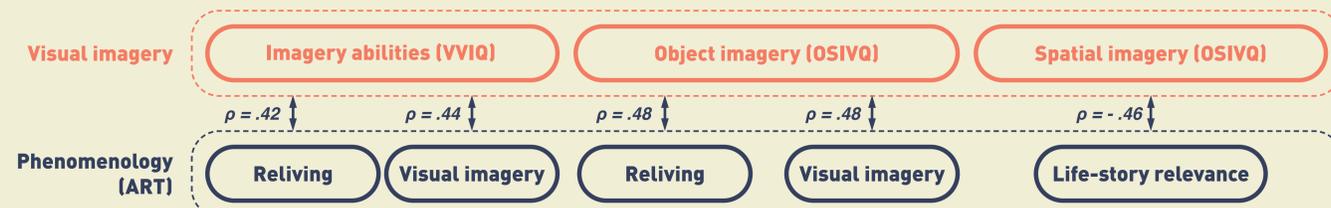
Free recall task : evaluation of accuracy, specificity and richness



## Statistical analyses

Spearman rank correlations with Benjamini-Hochberg correction ( $p < .0075$ )

## Results



- ▶ No significant correlations were found between visual imagery and objective episodic memory performance (L-RECAP)(all  $ps > .04$ ).
- ▶ Individuals with higher visual imagery abilities and object imagery scores reported experiencing more reliving and more visual details in their autobiographical memories. Surprisingly, a negative association was found between spatial imagery and life-story relevance.

## Discussion

- ▶ The relationship between visual imagery and some phenomenological aspects corroborates existing findings<sup>(5)</sup>
- ▶ However, no relationship between visual imagery and episodic memory abilities was found
- ▶ Importance of distinguishing between different components of imagery and memory

## References

- (1) Greenberg & Knowlton. Mem. Cogn., 2014
- (2) Sheldon et al. Memory, 2017
- (3) Dawes et al. Cognition, 2022
- (4) Vannucci et al. Scand. J. Psychol., 2020
- (5) Aydin. Memory, 2018



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