

# Do Metacognitive Judgments Impact Environment Learning?

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Imagine walking through Boston for the first time. You travel from the conference hotel to a restaurant. Would you be able to find your way back? Monitoring how we navigate through a new city seems crucial to learning the environment, yet it is an understudied phenomenon.

**Purpose:** the present studies utilize a JOL-reactivity methodology to examine the role of metacognitive monitoring in environment learning

**Hypothesis:** participants in the JOL condition will have more accurate landmark memory, as measured by deviation scores, than participants in the RNG condition

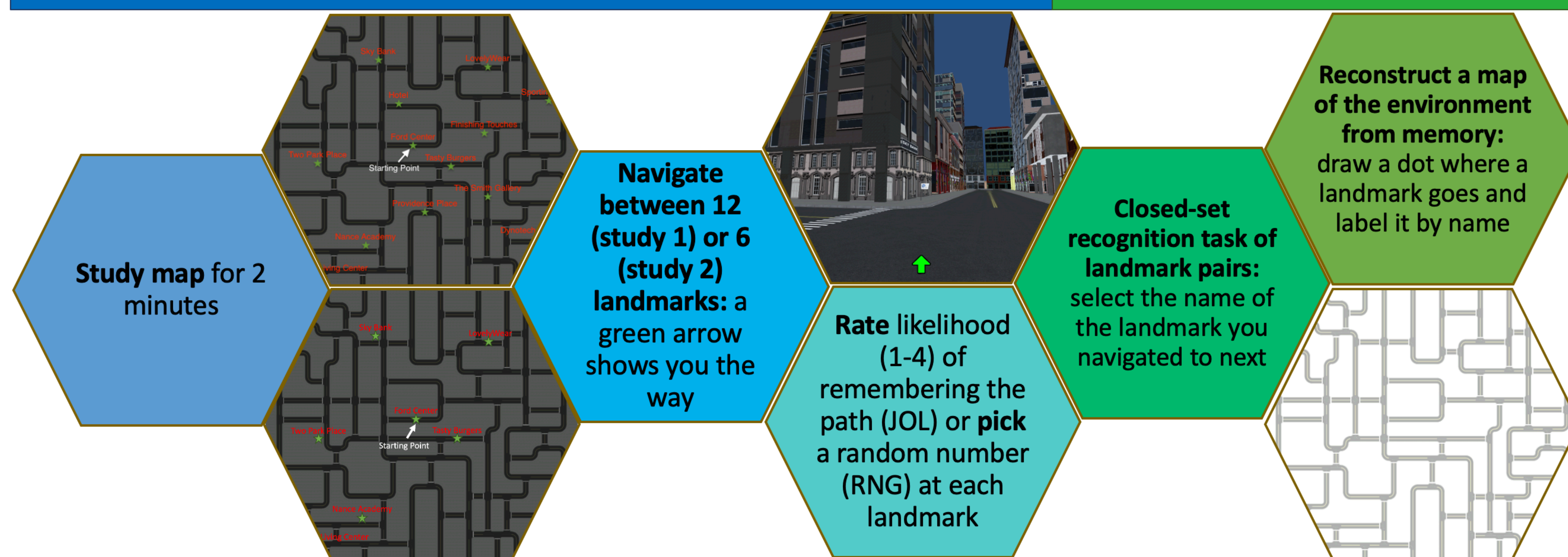
**Environment Learning:** developing spatial knowledge about one's surroundings  
**Spatial Cognitive Microgenesis Framework:** internal, spatial representations of a new environment consist of landmark, route, and survey knowledge  
**Judgments of learning (JOLs):** a metacognitive monitoring prediction of future retrievability

**Preliminary Findings:** JOLs impact performance on a closed set landmark recognition task. Subjects in the JOL group showed smaller deviation scores as compared to those in the RNG group. In other words, they more accurately remembered the next landmark.

## Methods

### LEARNING

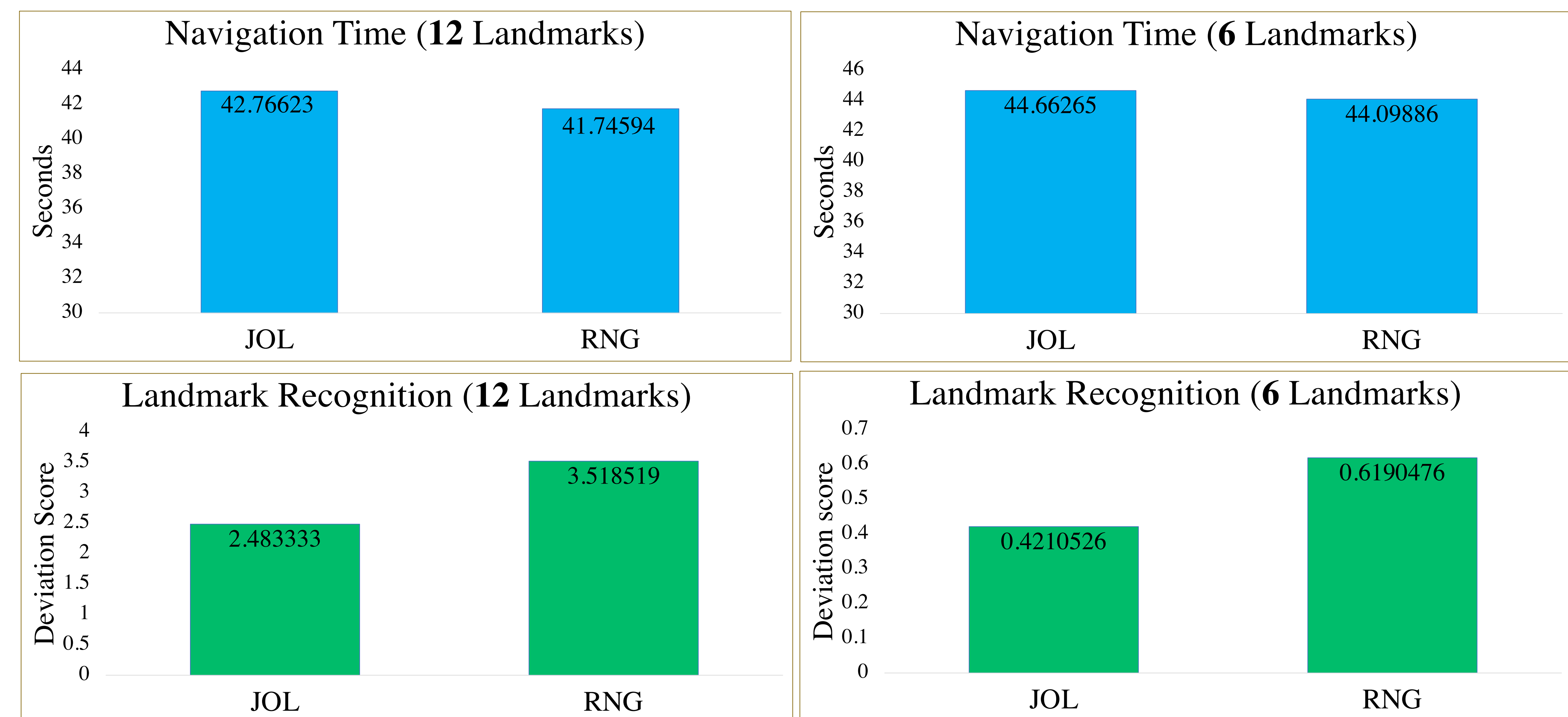
### TEST



## Discussion

Our preliminary and exploratory analyses suggest that metacognitive monitoring influenced memory for traveled routes, as evident from the deviation scores on the closed set landmark recognition task. In contrast, monitoring traveled routes did not promote development of configural, map-based memory. Future studies exploring metacognition in environment learning might examine impacts of cognitive load (# of landmarks), timing of metacognitive judgments, and/or the nature of the spatial memory task (e.g., re-navigate learned routes).

## Results



### Map Drawing: Relative Landmark Placement Accuracy

12 Landmarks		6 Landmarks	
JOL	0.312	JOL	0.289
RNG	0.371	RNG	0.284