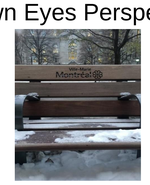
Creativity Influences the Visual Perspective of Autobiographical Memories

Selen Kucuktas,[1] Daniel L. Schacter,[2] and Peggy L. St. Jacques[1]

1. University of Alberta, Canada, 2. Harvard University, USA

Introduction

Own Eyes Perspective



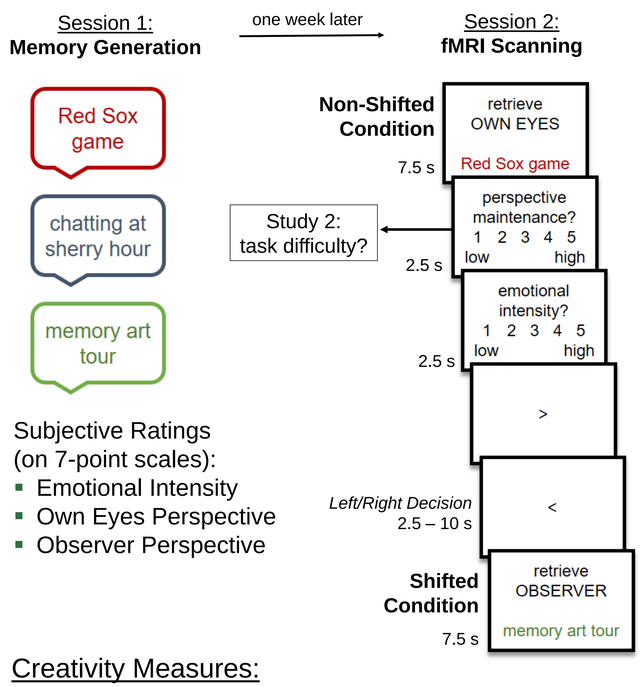
Observer-Like Perspective

- Autobiographical memories (AM) are retrieved from own eyes and observer-like visual perspectives.[1]
- There is individual variability in visual perspective abilities during retrieval.[2]
- Creativity supports the constructive nature of episodic retrieval,[3-4] and has been linked to recruitment of precuneus[5] and angular gyrus.[6]

Is creativity related to individual differences in visual perspective during AM retrieval?

Methods

Data combined from St. Jacques et al. (2017, 2018)[7-8]



Subjective Ratings (on 7-point scales):
- Emotional Intensity
- Own Eyes Perspective
- Observer Perspective

Creativity Measures:

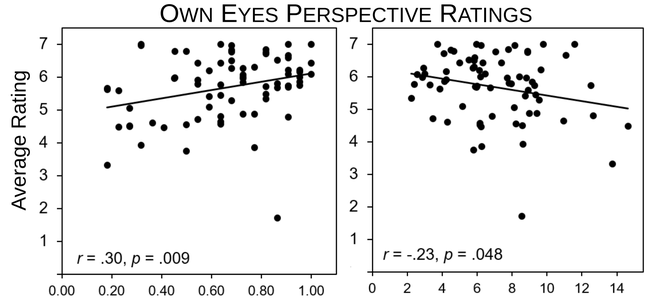
1. Convergent Creativity
   → **Remote Associates Test (RAT)**[9]
   (e.g., "pine – sauce – crab - ?" "apple")

2. Divergent Creativity
   → **Alternate Uses Task (AUT)**[10]
   (e.g., using "eyeglasses" as a "fire starter")

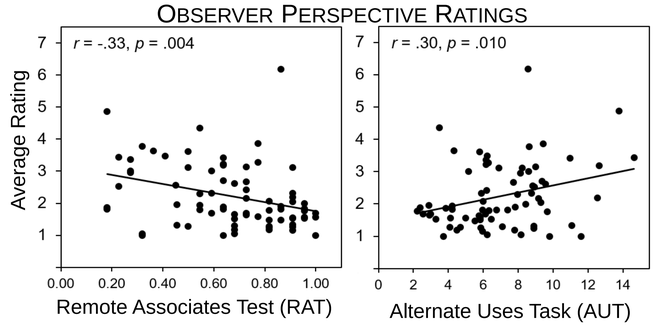
n = 73 (42 women, Age = 21.77 yrs, SD = 3.26)

Naturally Adopted Perspectives

Own Eyes Perspective Ratings



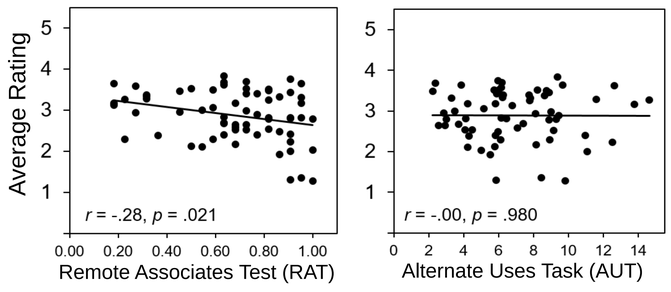
Observer Perspective Ratings



RAT and AUT were significantly related to average perspective ratings, but in the opposite direction

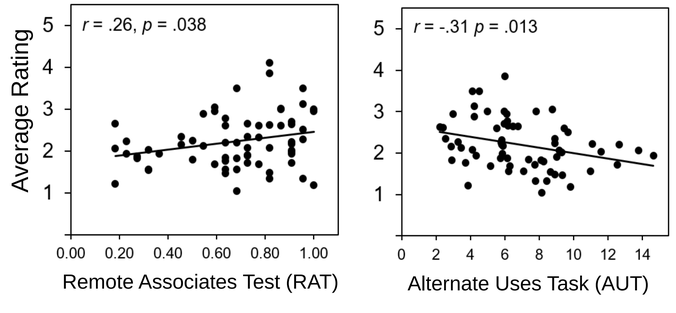
Shifting Visual Perspective

Emotional Intensity: Shifted Condition



RAT was negatively related to changes in emotional intensity and uniquely predicted emotional intensity when shifting perspective, $B = -.75$, $p = 027$

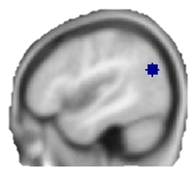
Task Difficulty: Shifted Condition



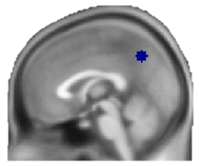
RAT and AUT were both significantly related to task difficulty in the shifted condition, but in the opposite direction.

AUT uniquely predicted task difficulty when shifting perspective, $B = -.06$, $p = .028$

Region of Interest Analyses

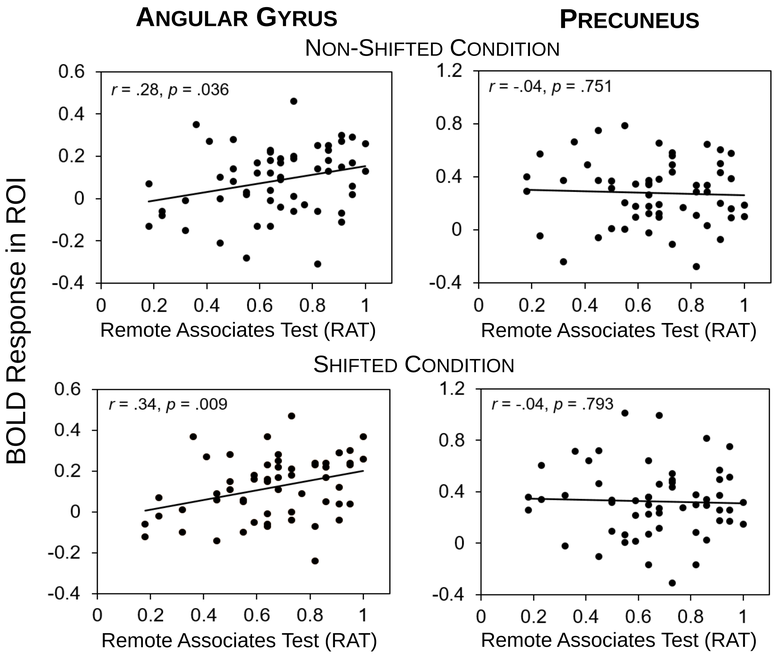


Angular Gyrus
MNI (46, -68, 26)



Precuneus
MNI (0, -60, 44)

6 mm Spherical ROIs from St. Jacques et al. (2017)



RAT was positively related to BOLD response in angular gyrus during retrieval in both conditions.

AUT was not related to BOLD response in angular gyrus or precuneus.

Conclusions

- Observer-like perspectives are stronger in people higher in convergent than divergent creativity.
- Convergent creativity uniquely predicted greater difficulty in shifting visual perspective and greater reductions in emotional intensity during remembering.
- Convergent creativity was also associated with greater recruitment of angular gyrus during AM retrieval—irrespective of the particular perspective adopted.[11]
- People higher in convergent creativity might be less likely to adopt an alternative perspective because of greater demands to integrate disparate details of memories during retrieval.[12]

References

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kucuktas@ualberta.ca | peggy.stjacques@ualberta.ca http://sites.psych.ualberta.ca/MElab/ @peggystjacques @SelenKucuktas