Subjective vividness ratings of pictures predict exemplar-specific similarity between encoding and recall activity patterns

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Perceptual activity patterns are reinstantiated during reflection.
Background

- ... for exemplars as well as broader categories

*Lee, Kravitz, & Baker, 2012*

M.R. Johnson & M.K. Johnson, 2014
Question

- How does perceptual activity reinstatement during reflection relate to the subjective vividness of perceiving and/or remembering?
Source monitoring and vividness
Source monitoring and vividness

Perceptual detail

Contextual detail

Affective detail

...etc.

Source judgment
Design

Pattern similarity analysis

SEE

THINK
Pattern similarity analysis
Pattern similarity analysis

SEE

mountain
basket
button
pier

low 1 2 3 4 high

THINK

PIER
BASKET
MOUNTAIN
BUTTON

low 1 2 3 4 high
Pattern similarity analysis

SEE

ps1

THINK

ps1
Pattern similarity analysis
Pattern similarity analysis
Pattern similarity analysis
Pattern similarity results

- Correlations of exemplar pattern reinstatement with subjective vividness ratings:

see also: St-Laurent, Abdi, & Buchsbaum, 2015
Pattern similarity results

- Correlations of exemplar pattern reinstantiation with subjective vividness ratings:
Inter-rating correlations

- Different relationships with pattern similarity emerge *despite* the fact that See and Think ratings inter-correlate:

![Objects](image1.png)

![Scenes](image2.png)

- 'See' vividness ratings (Z-scored within participant)
- 'Think' vividness ratings (Z-scored within participant)
Summary

- Across multiple regions, reflective vividness better predicts exemplar pattern reinstatement than perceptual vividness.
- In fact, higher perceptual vividness is associated with worse reinstatement.
- Differential effects emerge despite some degree of correlation between perceptual & reflective vividness.
Questions?

- Reprint of slides:
  http://is.gd/mrj_sfn_2015

- Lab website:
  http://raplab.rocks