

Research Aim

We derived a new measure of amygdala persistence from extant data to conceptually replicate and extend prior research linking persistence of amygdala activation patterns to real-world emotion and well-being¹.

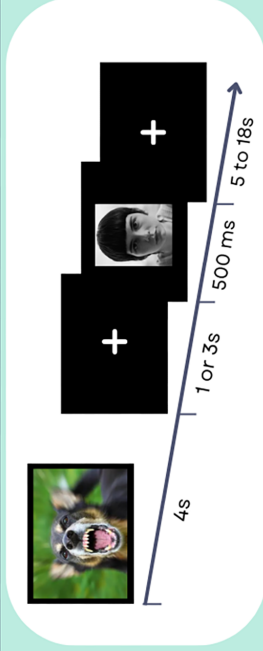
Hypothesis

Persistence of amygdala activation patterns following negative pictures will be associated with worse mood, lower well-being, higher reactivity & altered salience network (SN) resting connectivity.

Amygdala activation, mood & salience network functional connectivity.

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Emotion Persistence Task

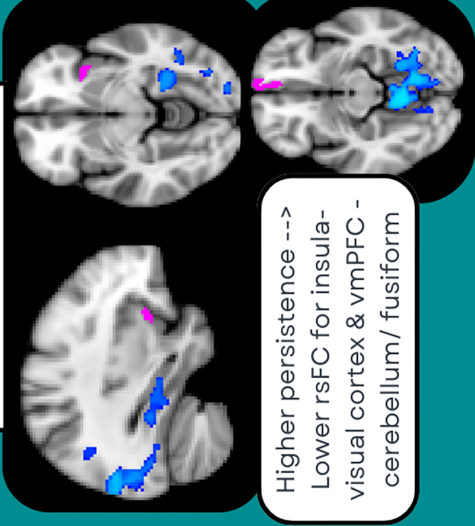


- Negative, positive & neutral pictures (IAPS⁵)
- Neutral faces - 2/3 trials
- Button press to indicate picture valence
- Passively view neutral faces

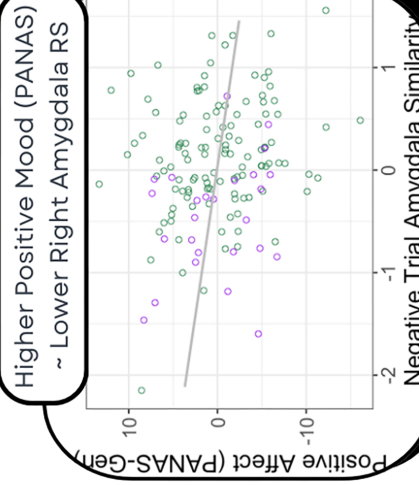
Self-Report Outcomes

- Positive and Negative Affect Scale (PANAS)²
- Non-reactivity: Five Facet Mindfulness Questionnaire (FFMQ)³
- Psychological Well-being (PWB)⁴

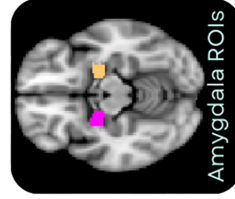
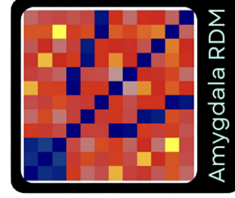
Results



Higher persistence --->
 Lower rsFC for insula-visual cortex & vmPFC - cerebellum/ fusiform

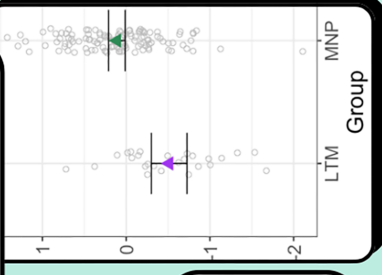


Representational Similarity (RS)



1. GLM of fMRI task data with FSL⁶
2. Used rsatoolbox⁷ to calculate RDMs
3. Regressed negative trial RS onto each outcome
4. Seed- & graph-based analysis or RS

Amygdala RS: Meditators (LTM) < Meditation-naïve (MNP)



Amygdala RS regressed on negative affect, PWB, FFMQ are N.S. (p>0.05).

References & Gratitude

Thank you to Stuti Shrivastava for technical assistance.

1. Puccetti et al., 2021
2. Watson et al., 1988
3. Baer et al., 2006
4. Ryff & Keyes, 1995
5. Lang et al., 2008
6. Jenkinson et al., 2012
7. Nili et al., 2014
8. Gordon et al., 2016



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Conclusions

Amygdala persistence to negative pictures was associated with lower positive affect, altered salience network connectivity. Meditators had dissimilar amygdala responses and less amygdala persistence.