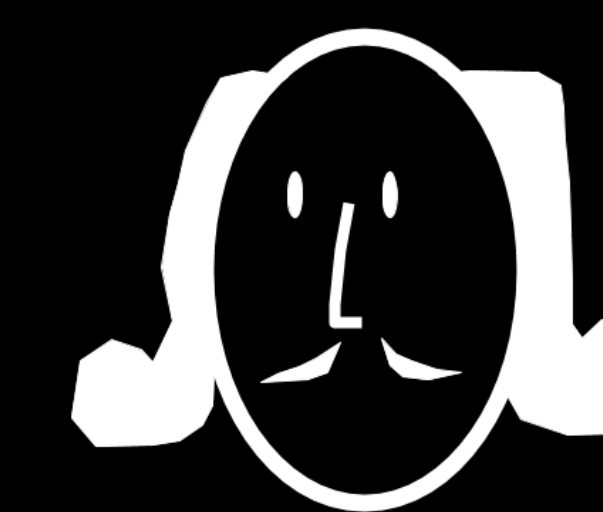




Neural Correlates of Aesthetic Engagement with Literature

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Introduction: Aesthetic experiences inform neural systems

Stories serve social and cultural functions:

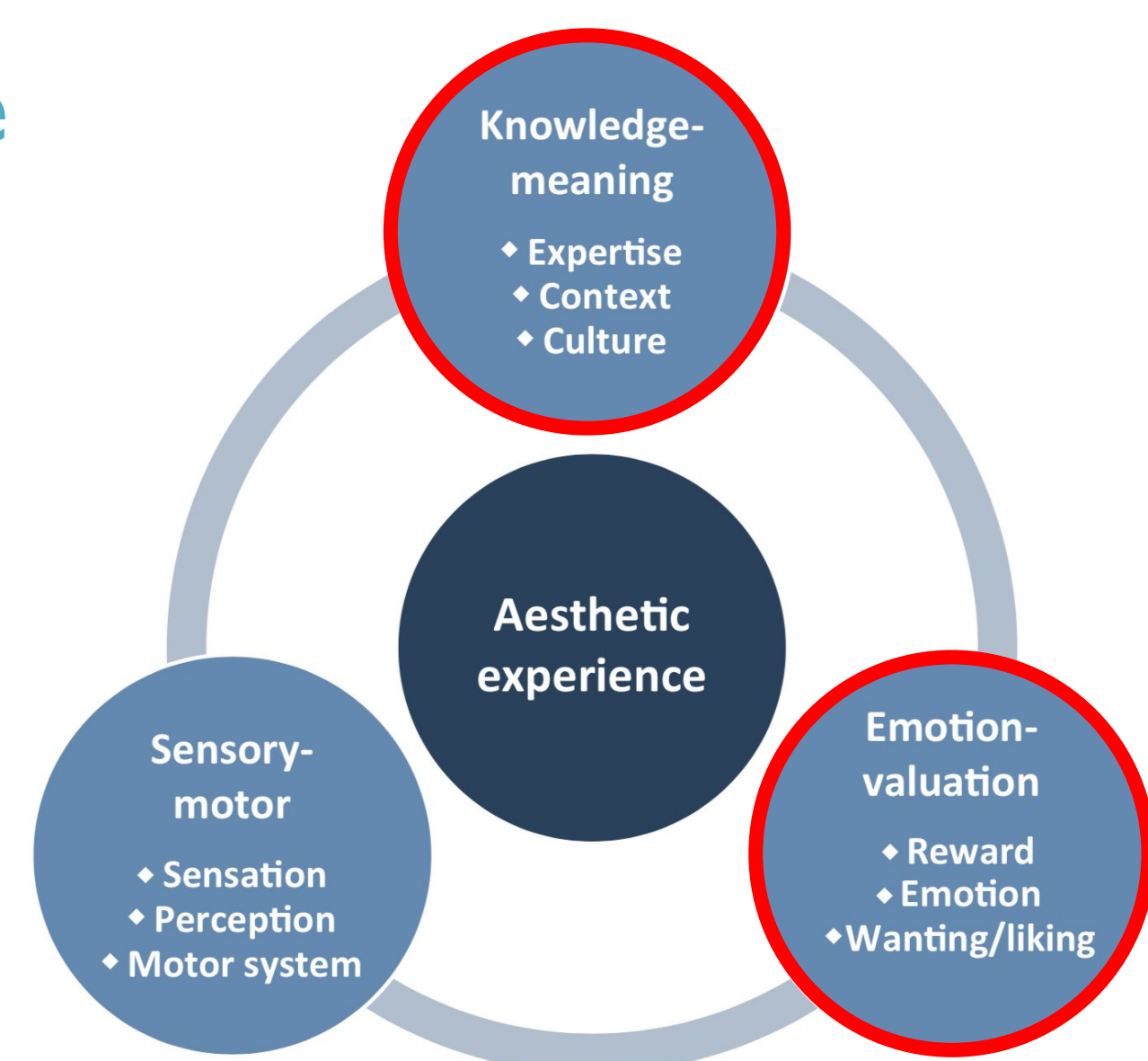
- Group-bonding
- Transmitting cultural rules/social codes
- Enhancing empathy towards people of other cultures

Brain networks involved in literature engagement

⇒ inform networks' functions and interactions

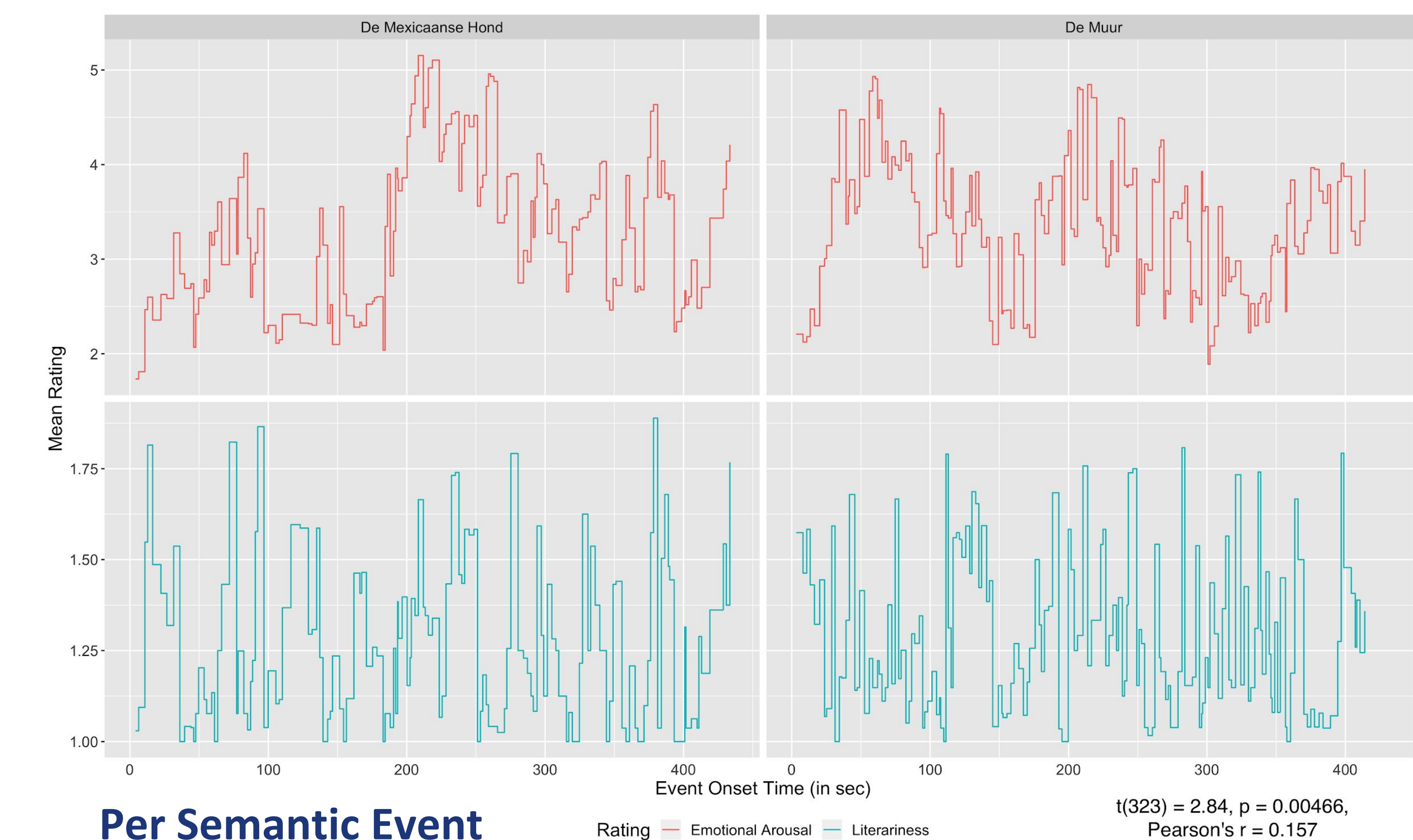
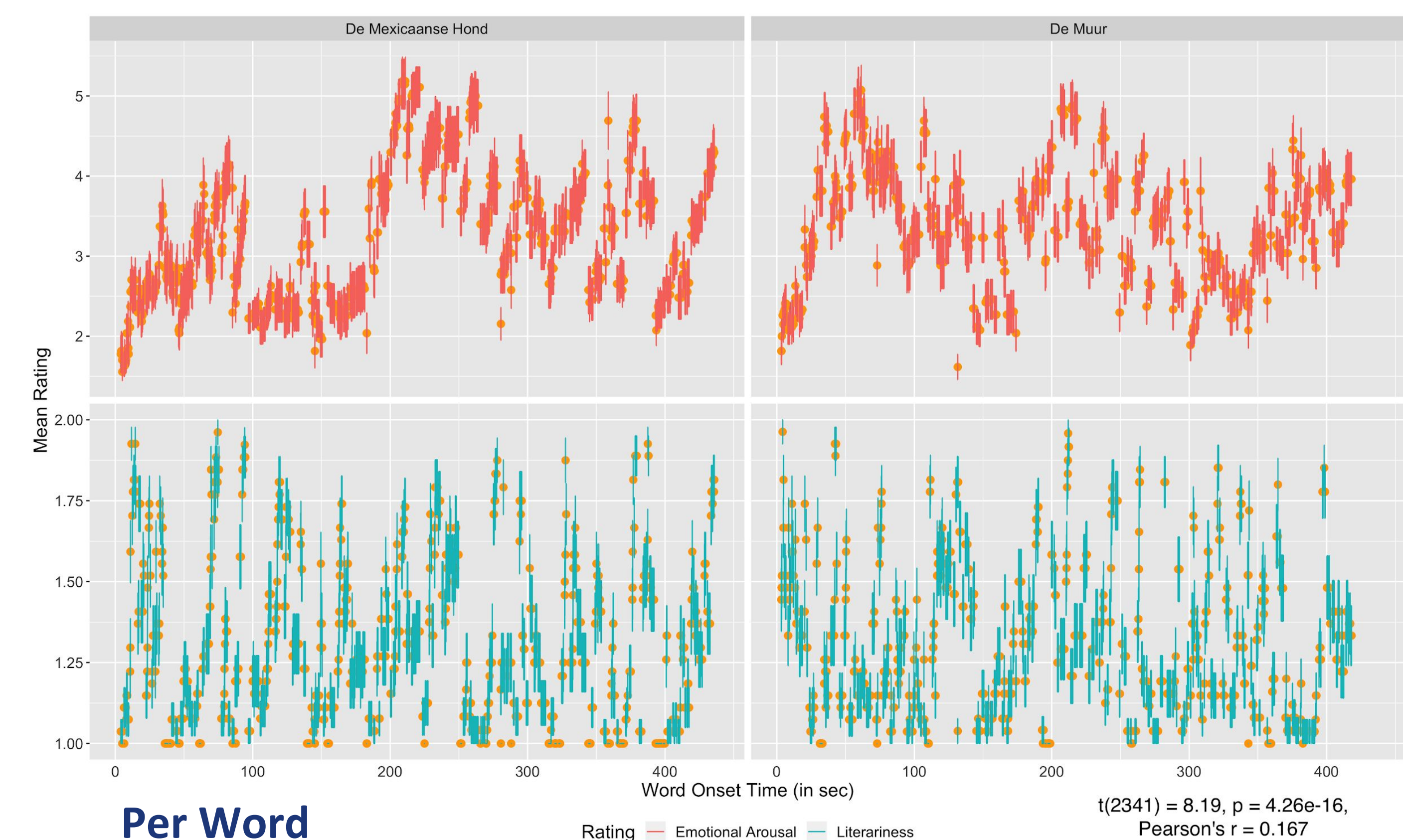
⇒ inform empirical understanding of aesthetic experience

RQ: Are there dissociable networks correlated with emotion/suspense and literariness?



Chatterjee, A., & Vartanian, O. (2014). Neuroaesthetics. *Trends in Cognitive Sciences*

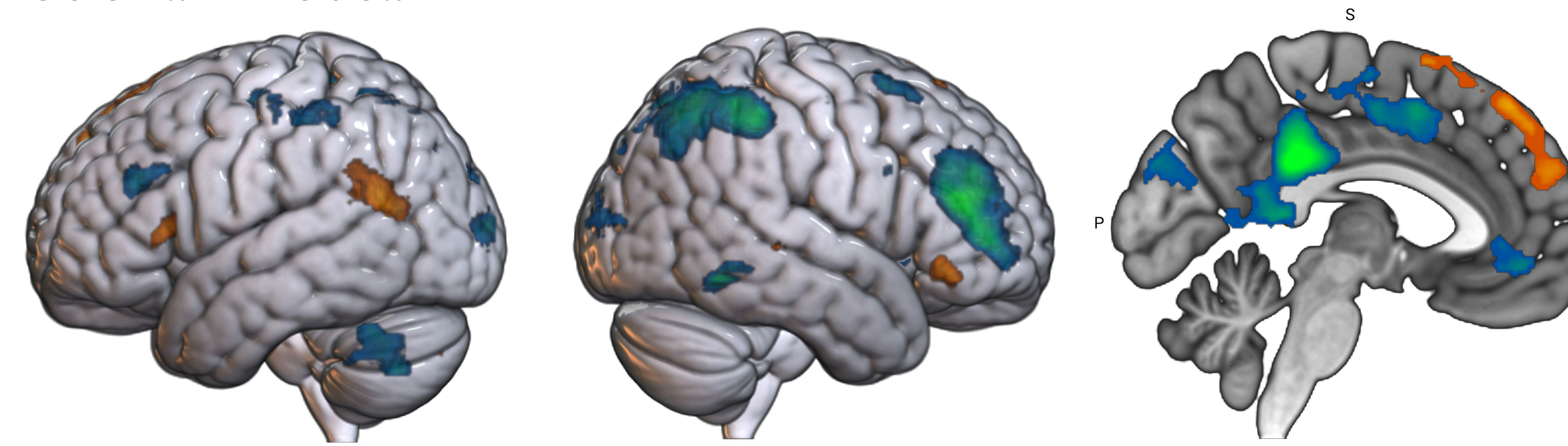
Results: Emotional arousal shows more continuous trend than literariness



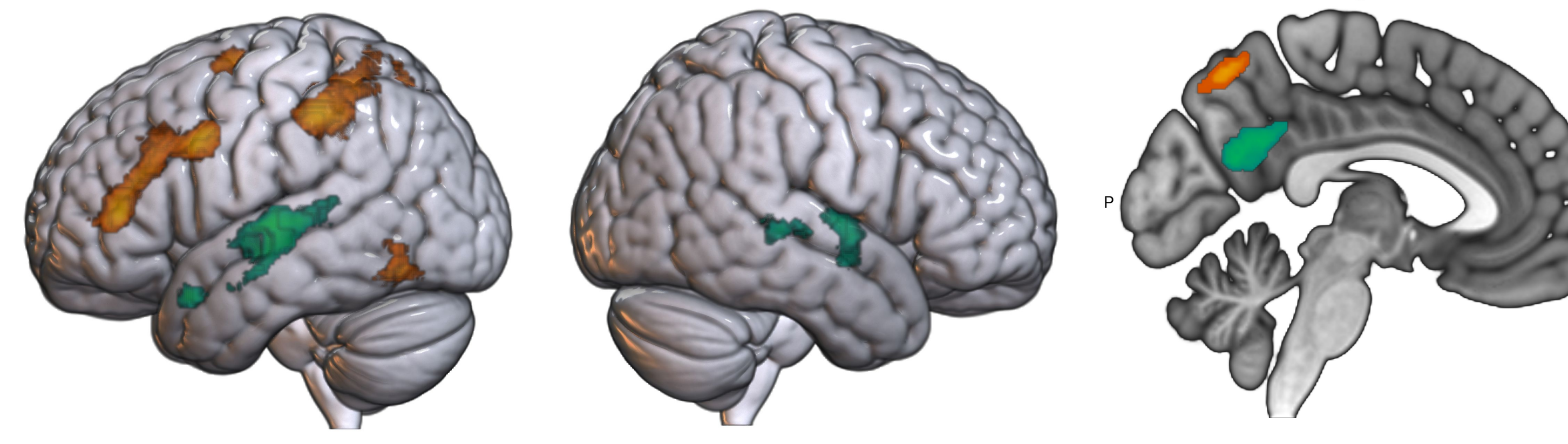
...and people agree on emotional and literary experiences, based on intraclass correlation coefficients (ICC(2,k)_{emo}=0.86, ICC(2,k)_{lit}=0.89).

Results: Emotional arousal and literariness correlate with dissociable networks

Emotional Arousal

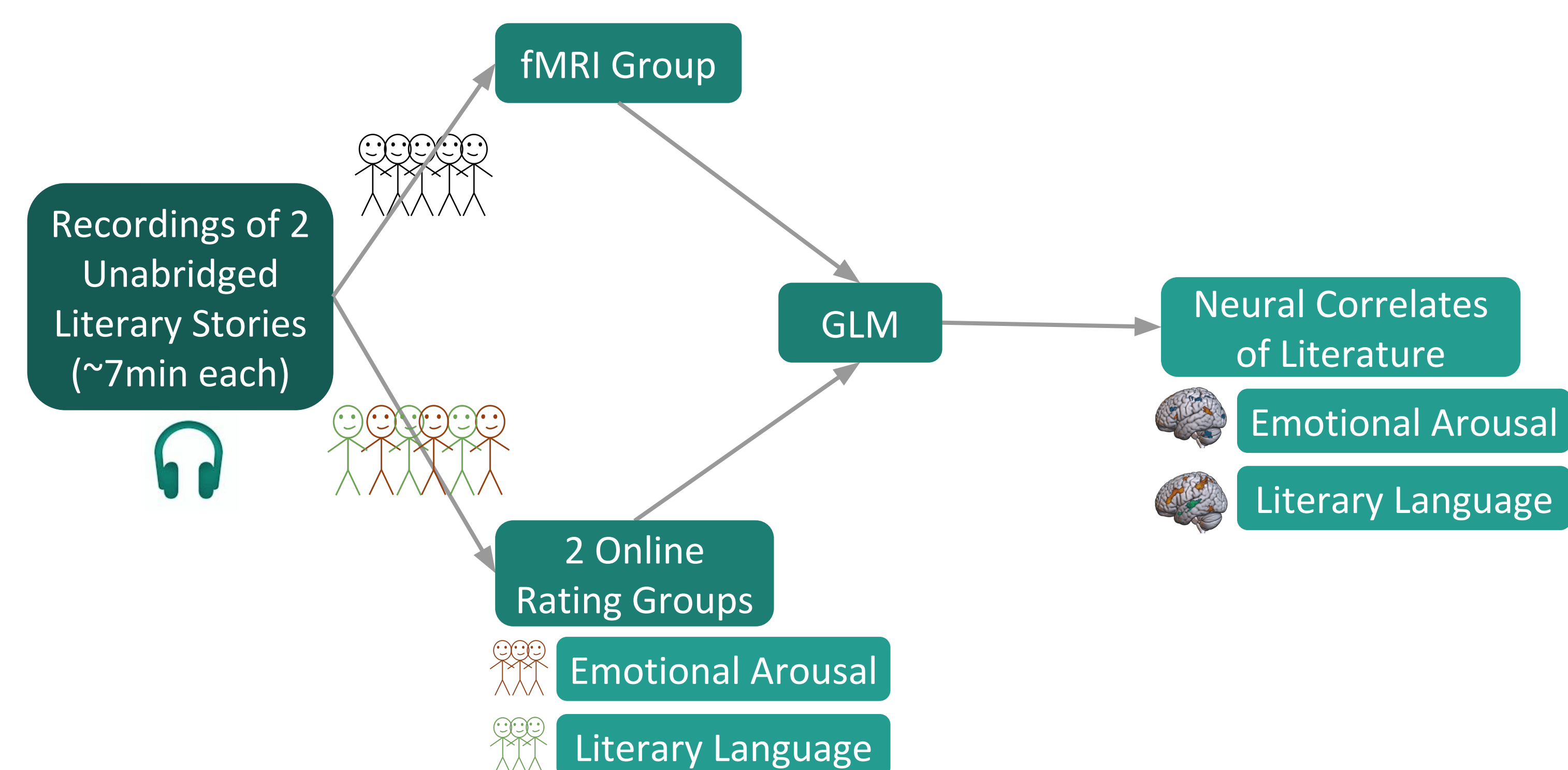


Literariness



t-value for positively correlated areas (2 to 6)
t-value for negatively correlated areas (-2 to -6)

Methods



Existing fMRI dataset from Hartung et al., 2017 (N=52, F29M23, age range: 18-35, M=23.1, SD=3.4) +

Empirical ratings for emotional arousal and literariness (2 independent groups)

- EA: N=27, F23M4, age range: 18-27, M=21.4, SD=2.6
- LL: N=27, F22M5, age range: 18-26, M=20.8, SD=2.7

Discussion: Hypotheses generation

- Dissociable networks for emotions and literariness when laypeople engage with literature
- Significant differences between individuals?
- Hypotheses for future testing:

Story-evoked emotion/suspense is facilitated by mentalizing?

Story suspense suspends control of directed attention?

Literariness is a saliency effect of statistically improbable language features?

Highly literary language decreases mental imagery i.e. sensation-related/episodic memory/ simulation i.e. semantic-related?

References

1. Hartung, F., Burke, M., Hagoort, P., & Willems, R. M. (2016). Taking Perspective: Personal Pronouns Affect Experiential Aspects of Literary Reading. *PLOS ONE*, 11(5), e0154732.
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