

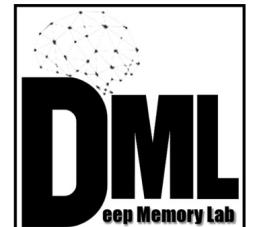
# Decoding temporal structure in narratives using functional connectivity pattern

김태훈 이수현 장하림 박선희 반영은 김구태

Taehoon Kim, Suhyun Lee, Halim Jang, Seonhwa Park, Younghen Ban & Ghoottae Kim

Deep Memory Lab, Cognitive Science Research Group

Korea Brain Research Institute

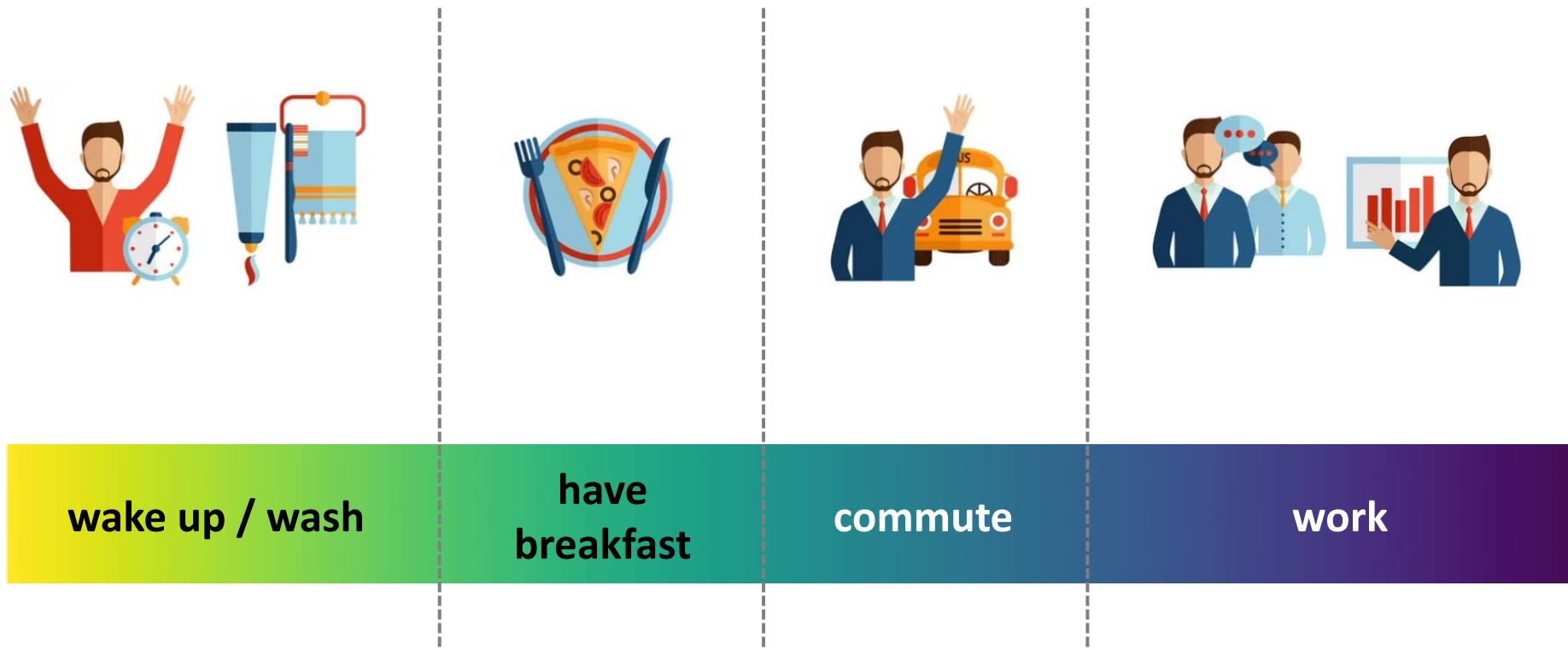


# Temporal Structure in Continuous Events

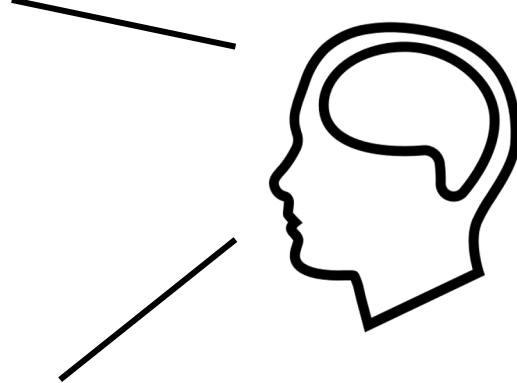


Go to work

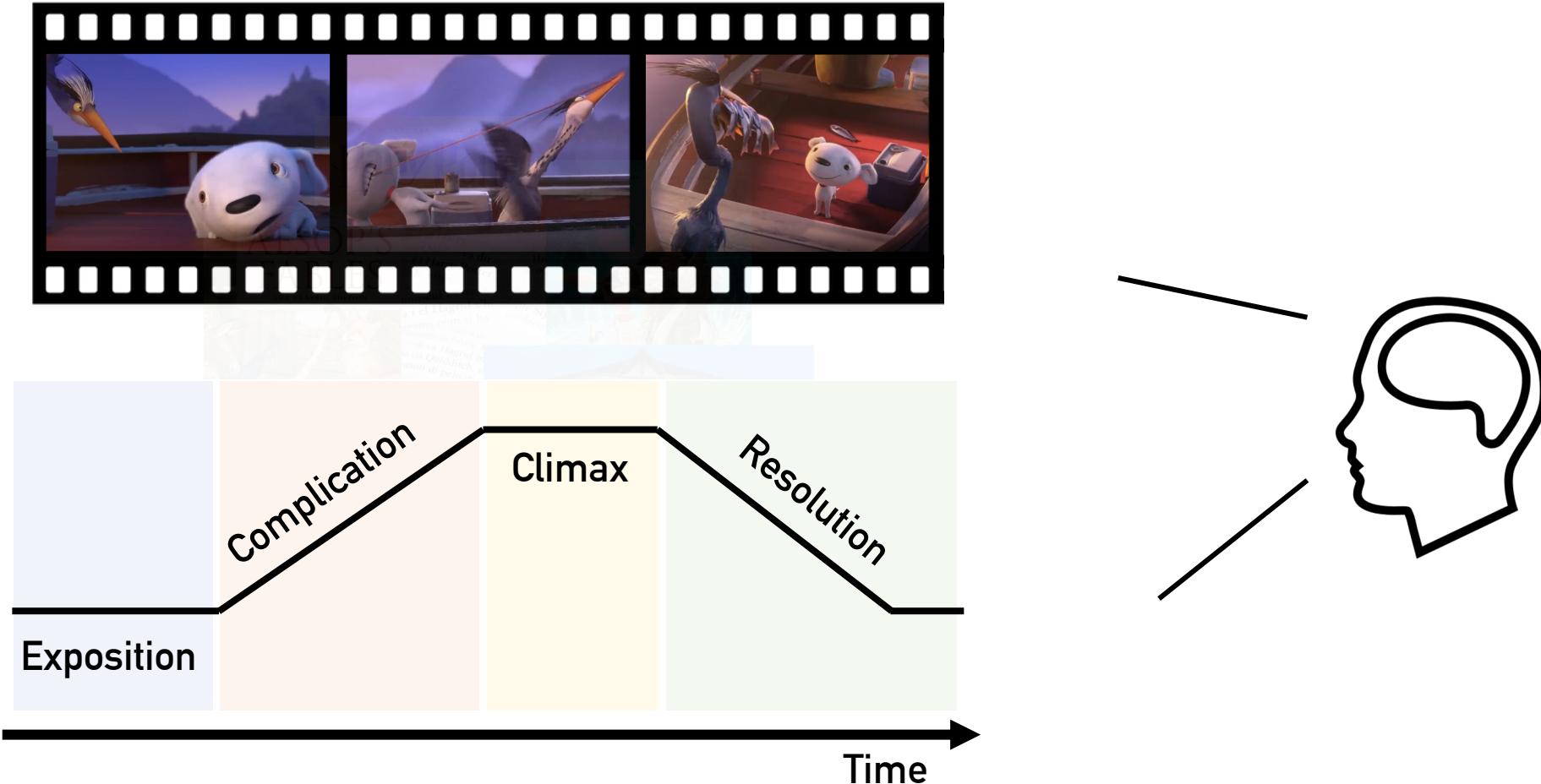
# Temporal Structure in Continuous Events



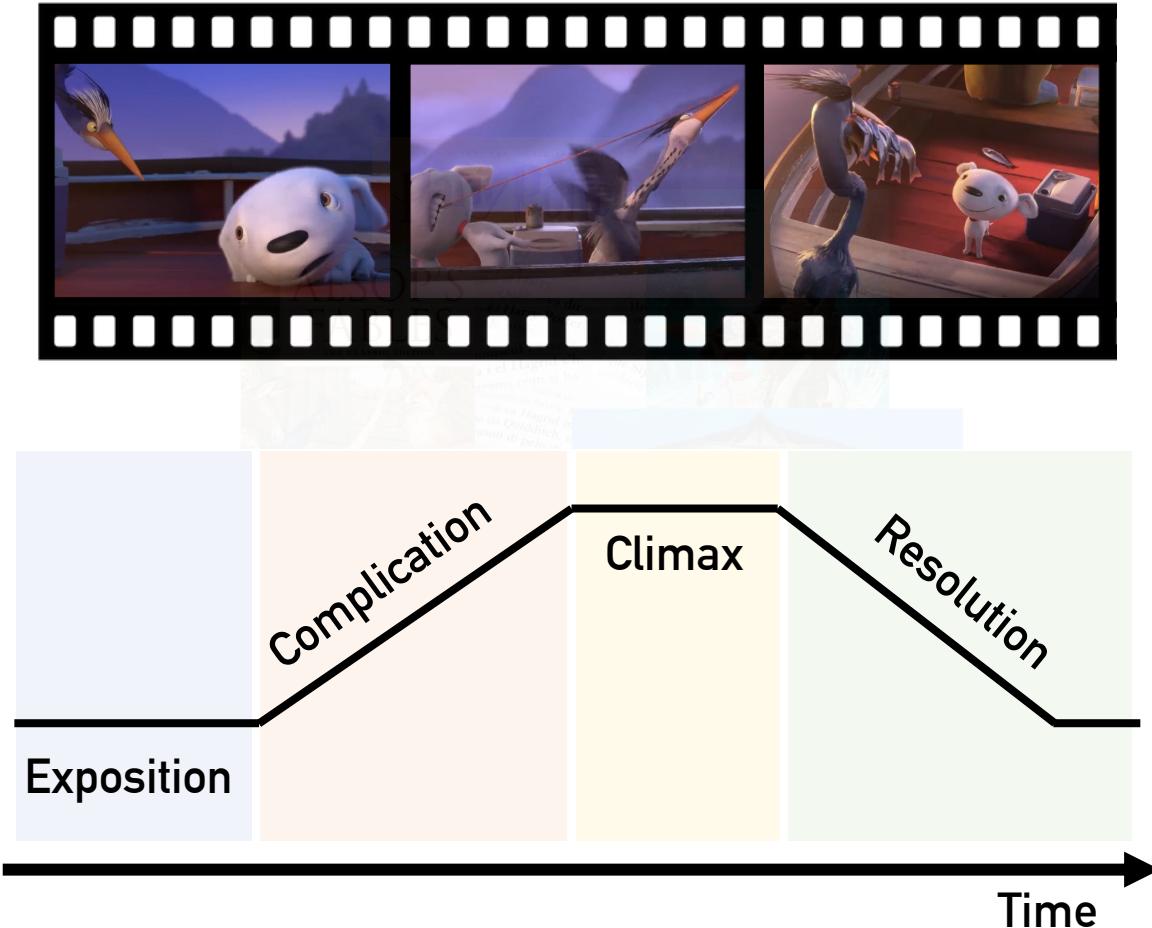
# Temporal Structure in Narrative



# Temporal Structure in Narrative

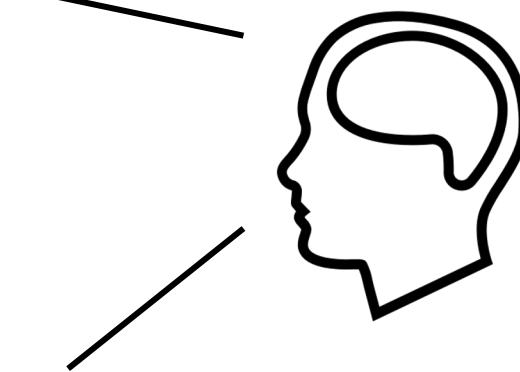


# Temporal Structure in Narrative

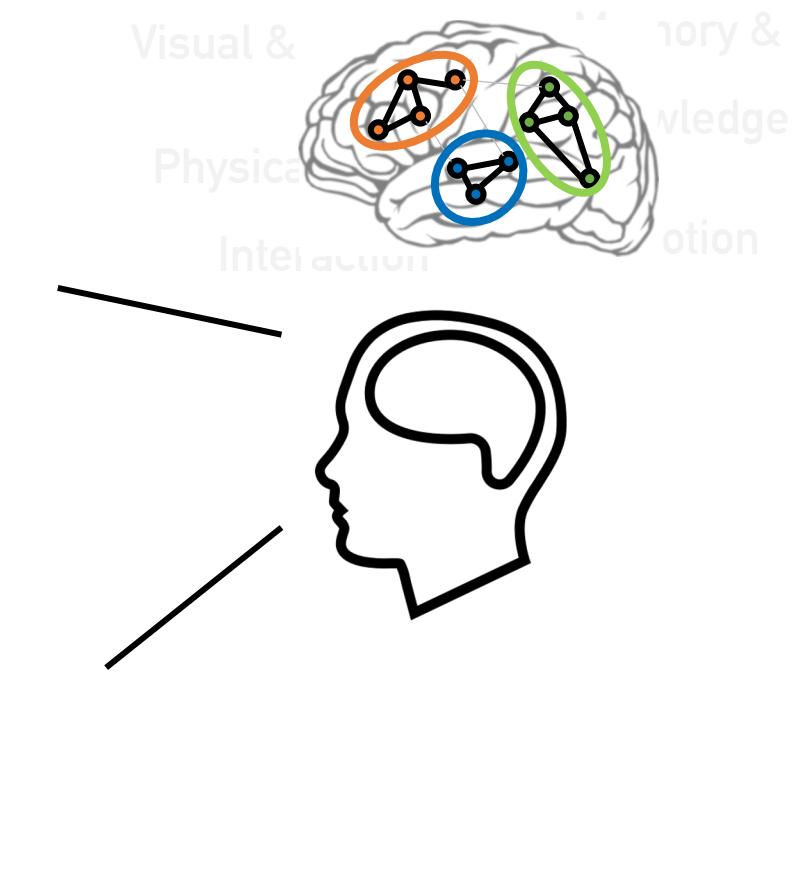
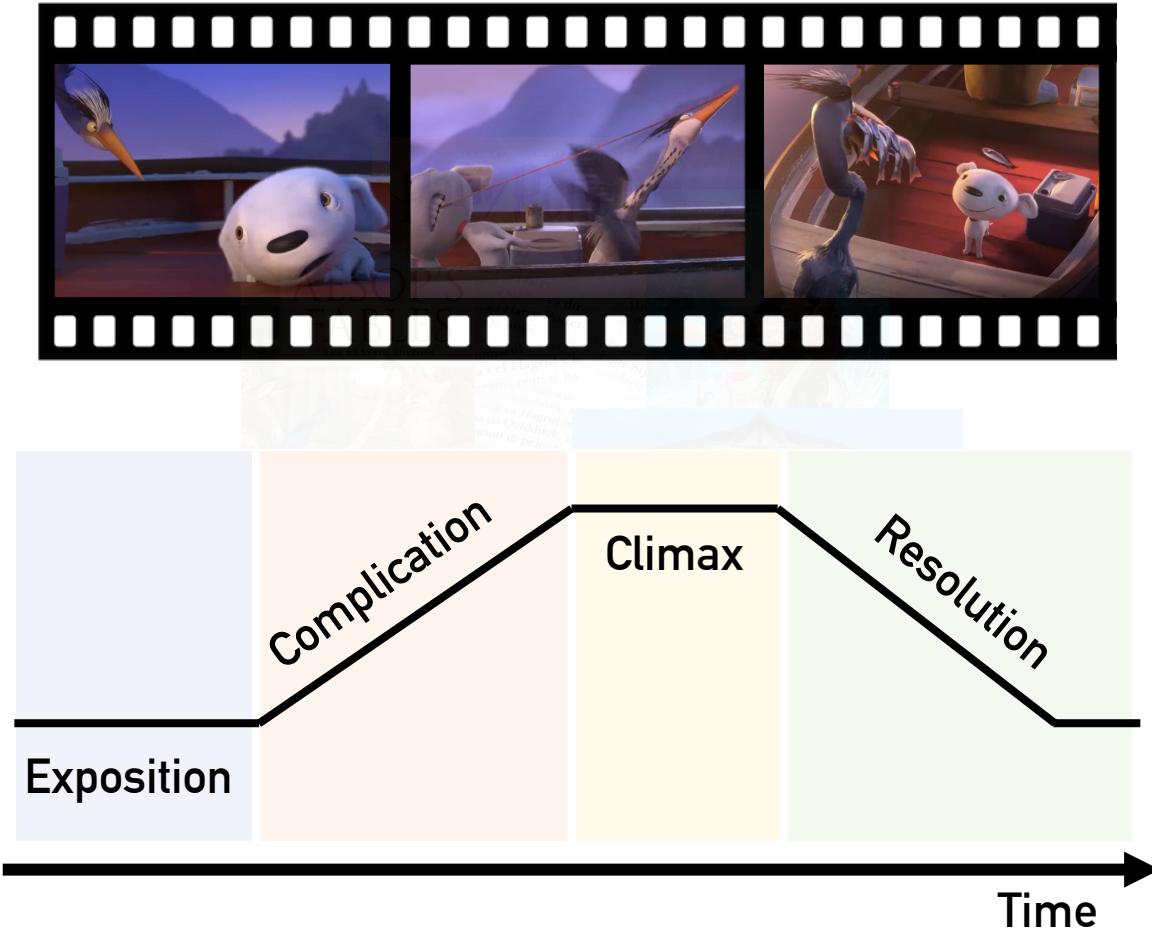


Visual & Auditory  
Physical & Social  
Interaction

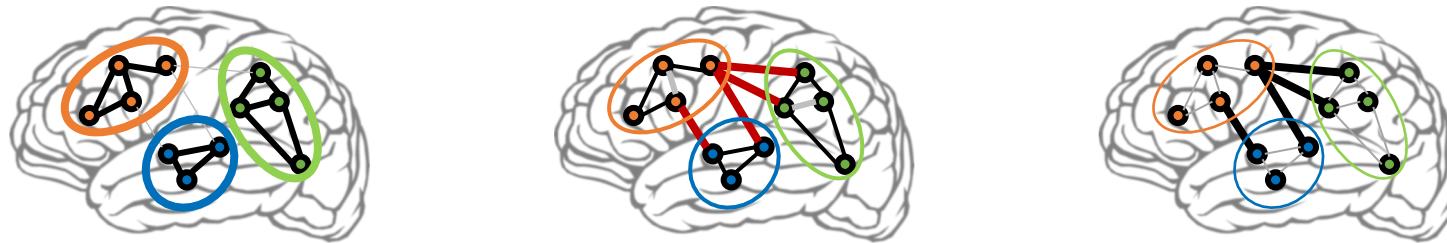
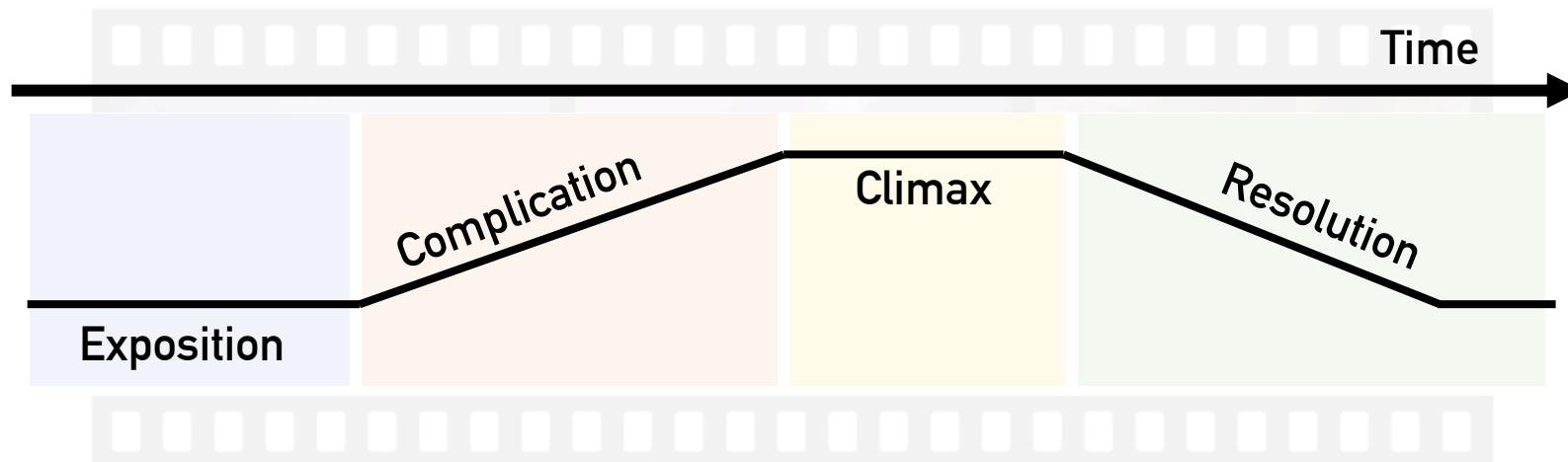
Memory &  
Knowledge  
Emotion



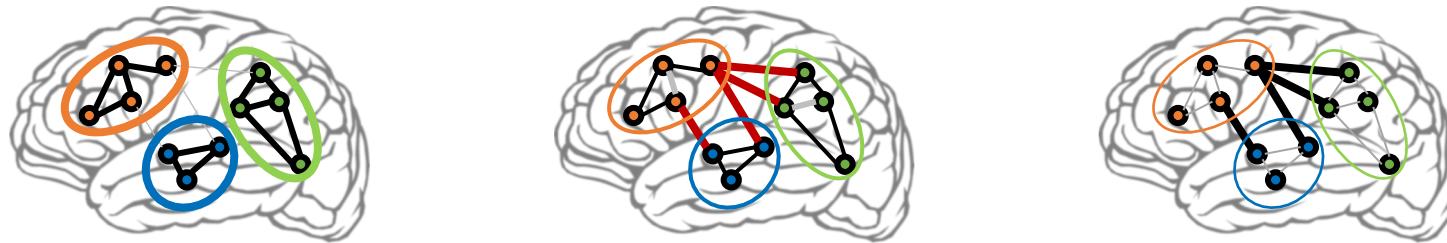
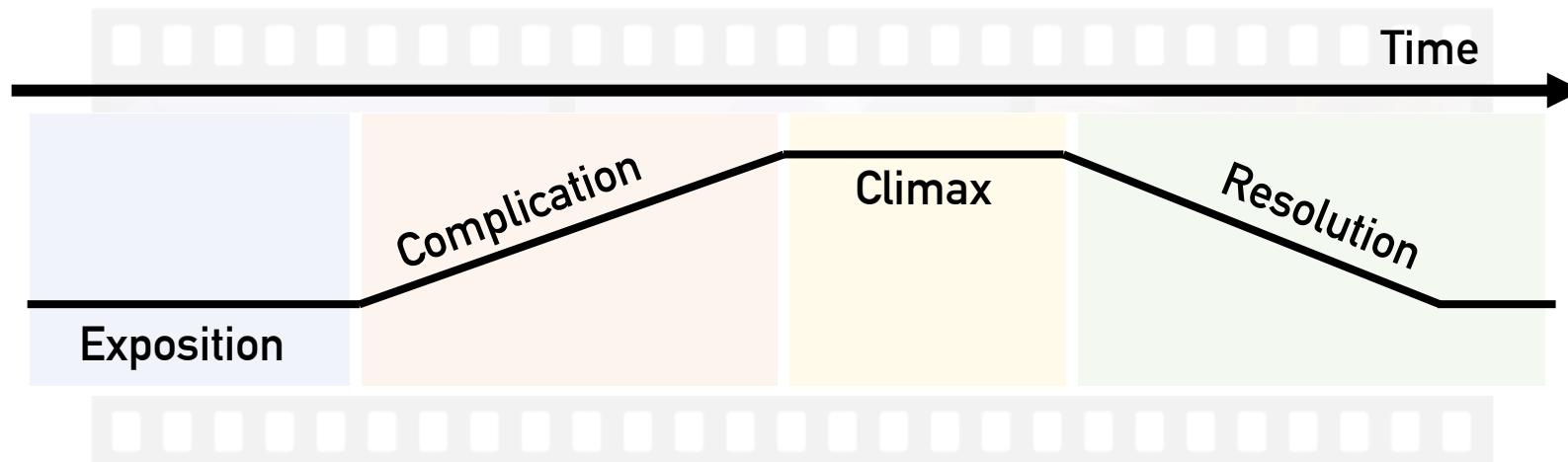
# Temporal Structure in Narrative



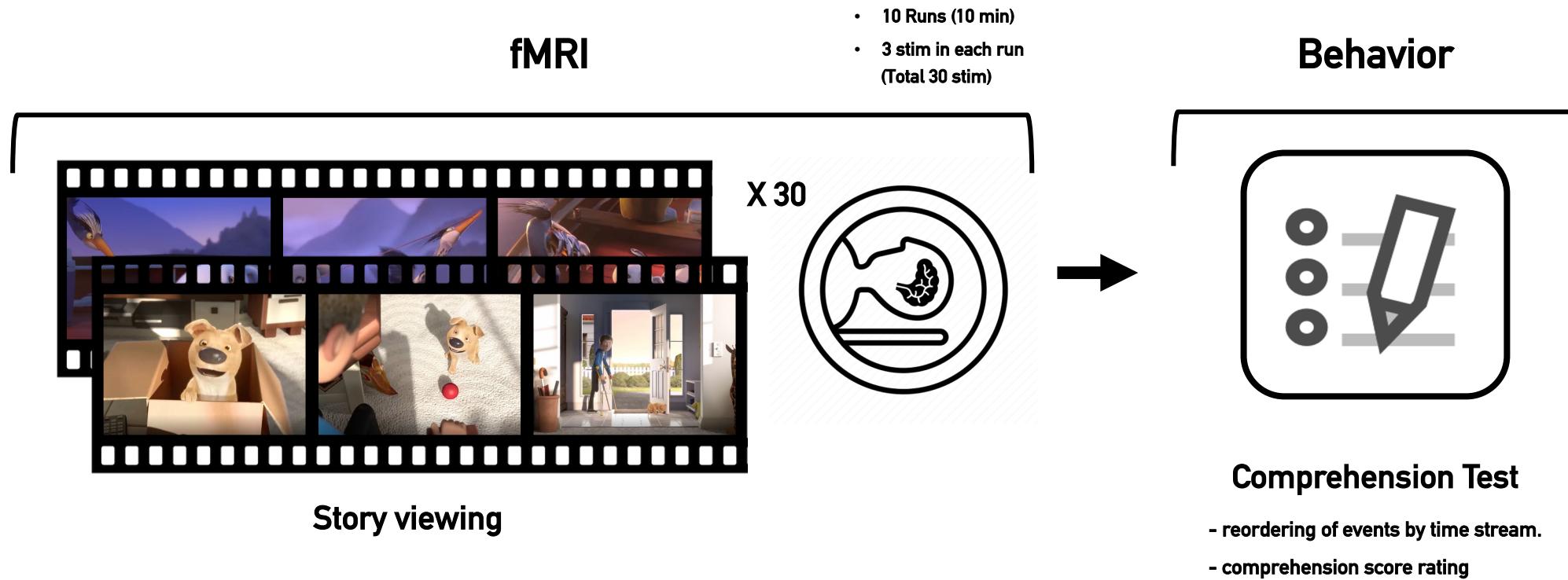
# Temporal Structure in Narrative



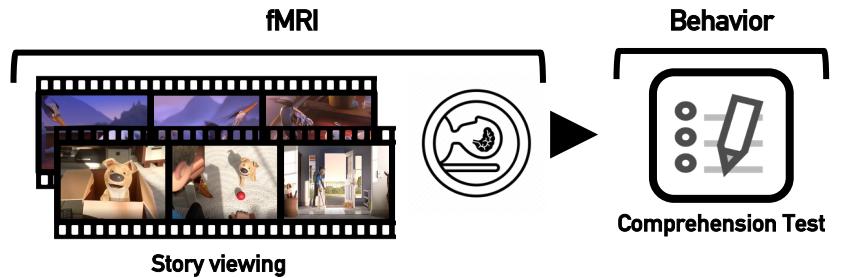
# Temporal Structure in Narrative



# Method

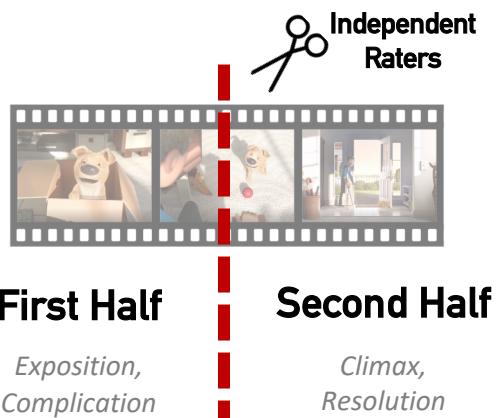


# Method

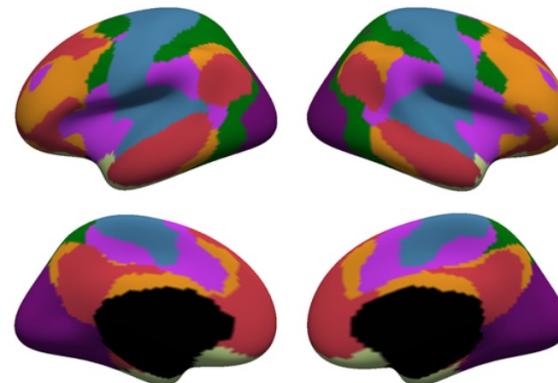


## Stimuli

- 30 Short Animation
- Duration 2~3 min
- Split time into two part by independent raters



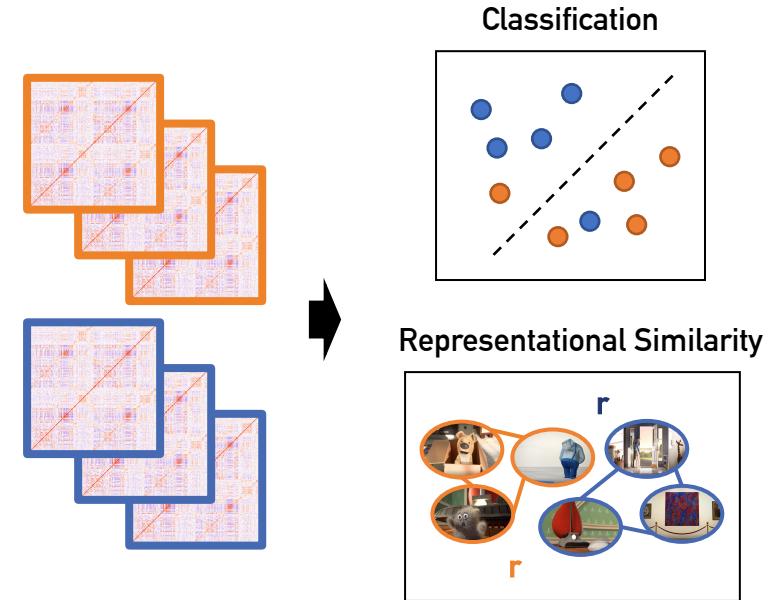
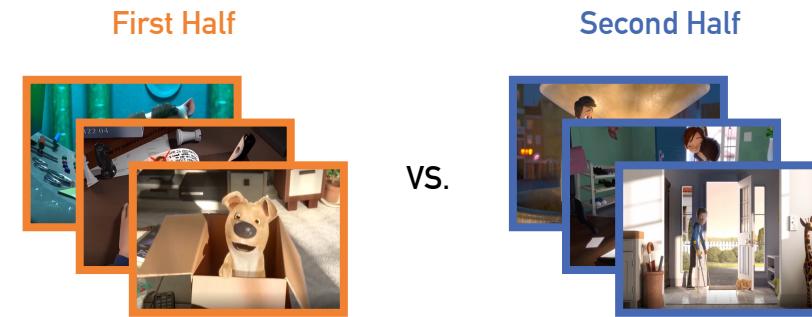
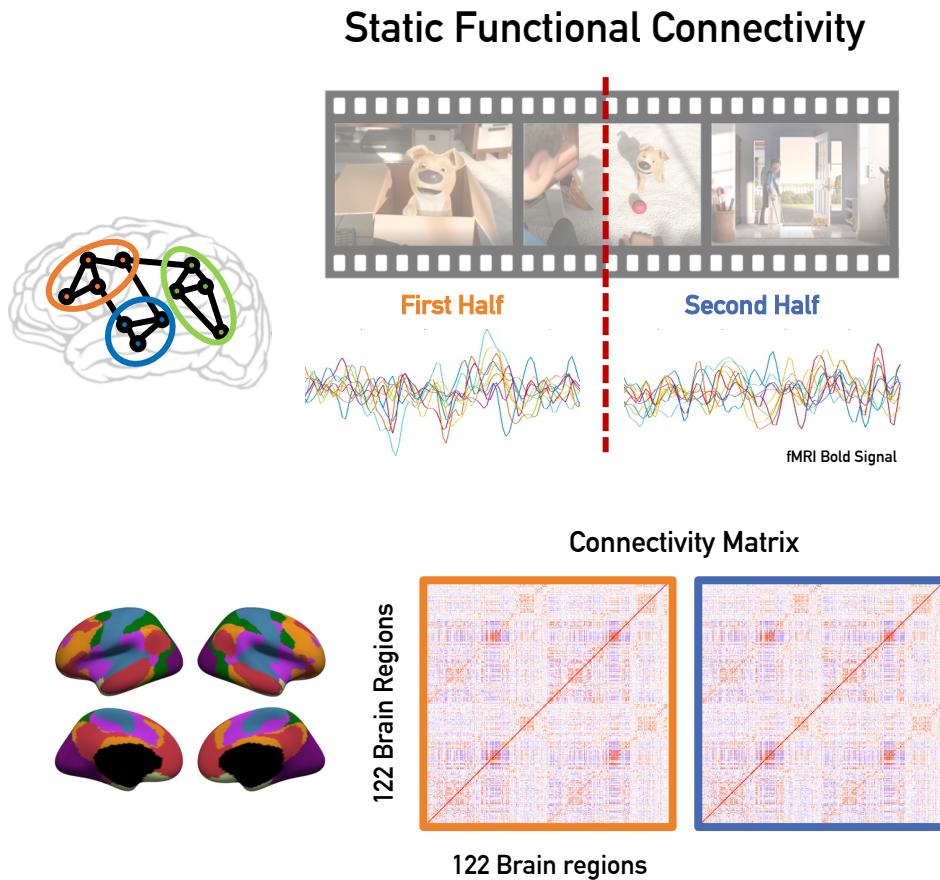
## Whole-Brain Parcellations



Yeo et al., 2011. J Neurophysiol

- Cortical functional parcellations (Yeo et al., 2011)
- 7 + 1 Networks
  - Vis, SM, FPN, VAN, DAN, DMN, Limbic + Subcortical
- 114 + 8 ROIs

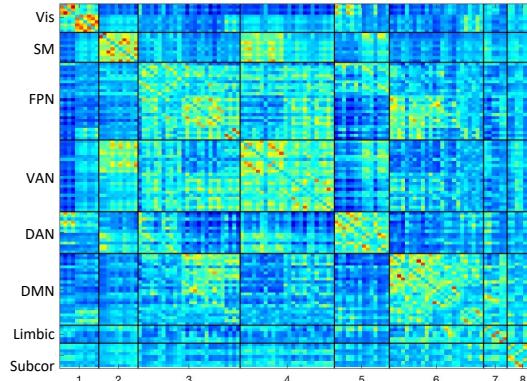
# Analysis



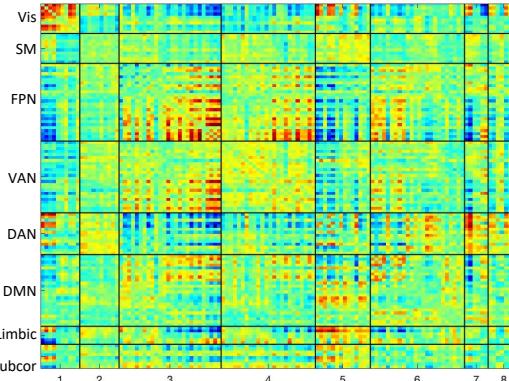
# FC pattern

N = 20

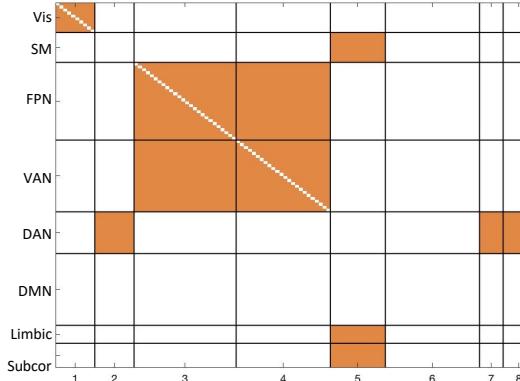
First Half



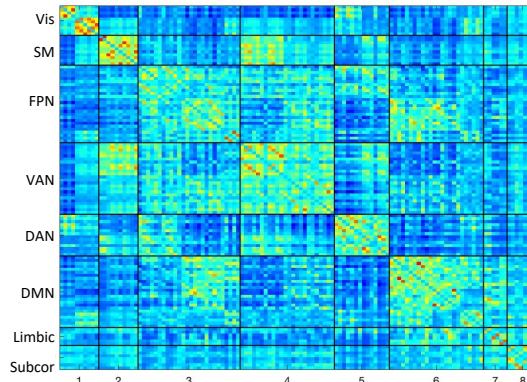
First - Second



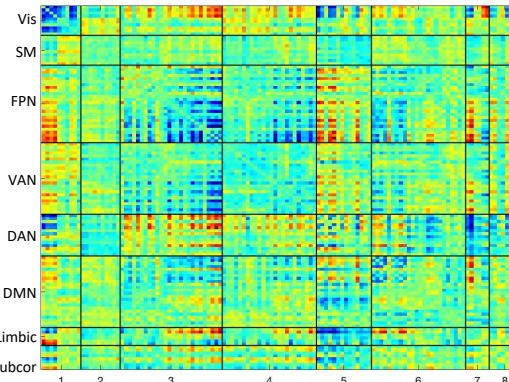
First - Second



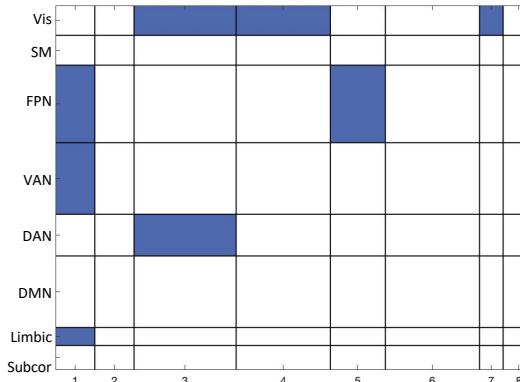
Second Half



Second - First



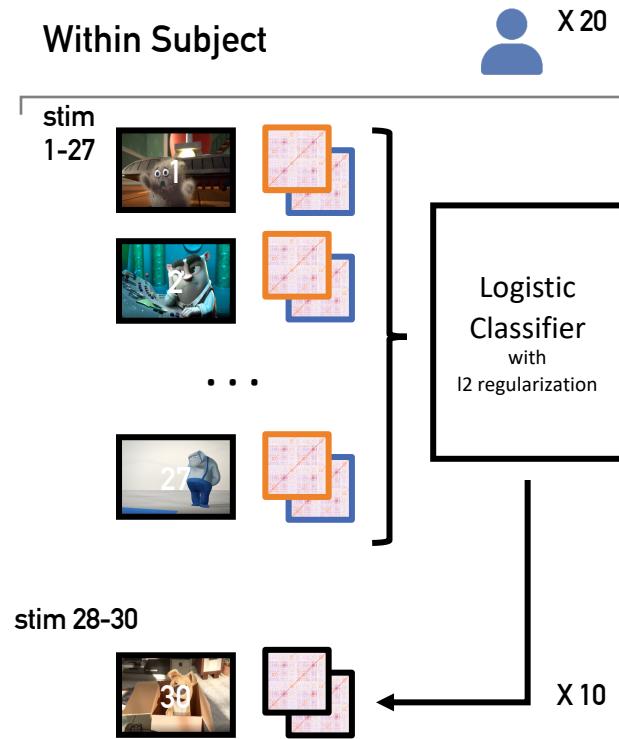
Second - First



p < .01

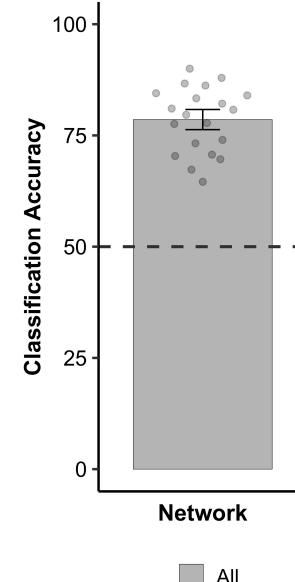
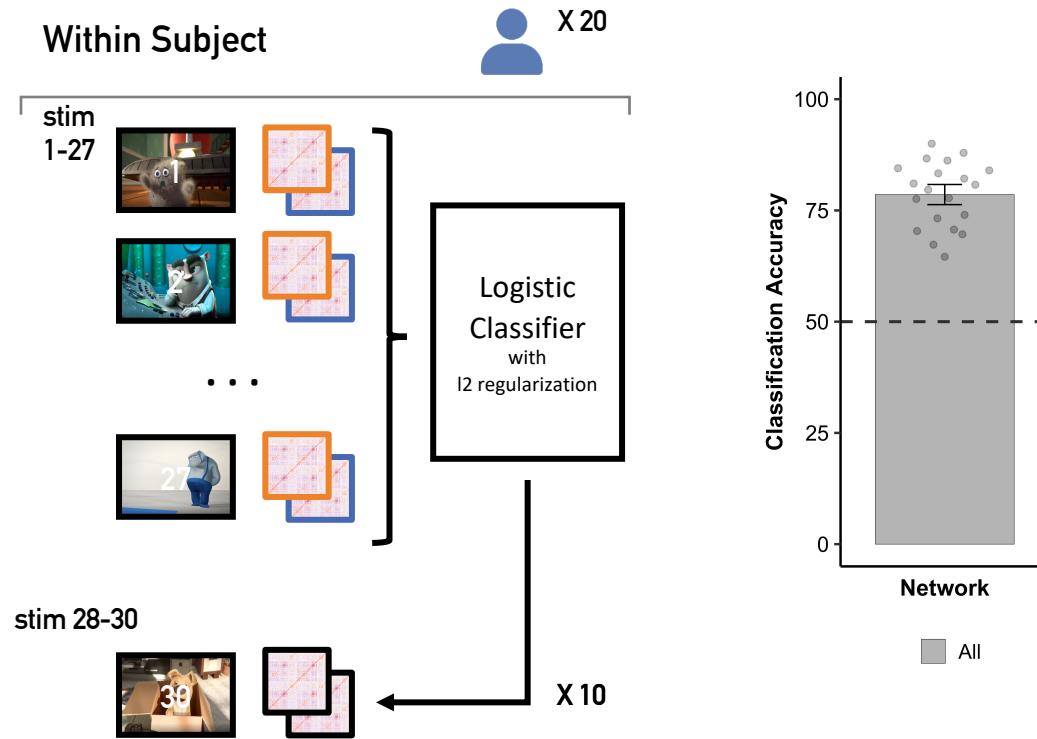
# Classification (Within)

N = 20



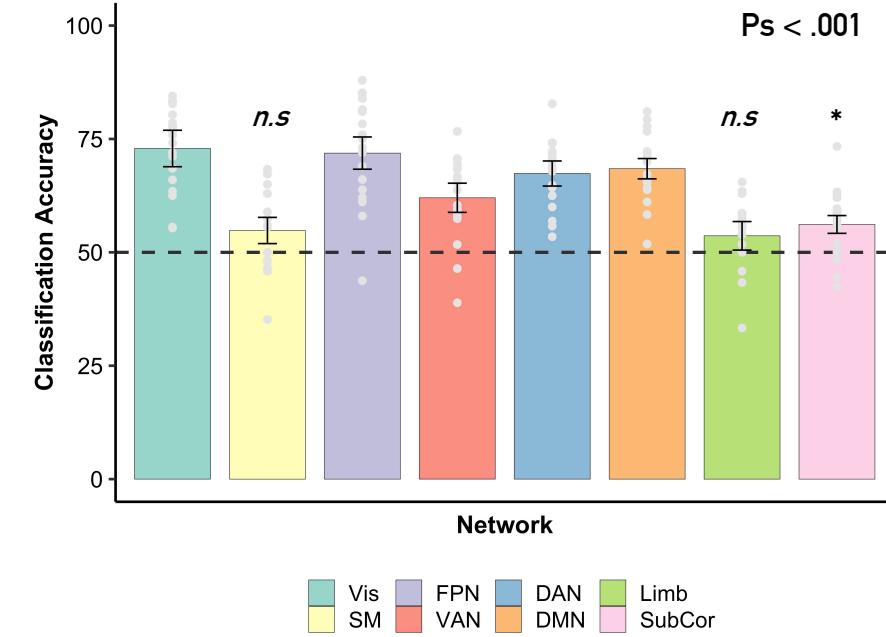
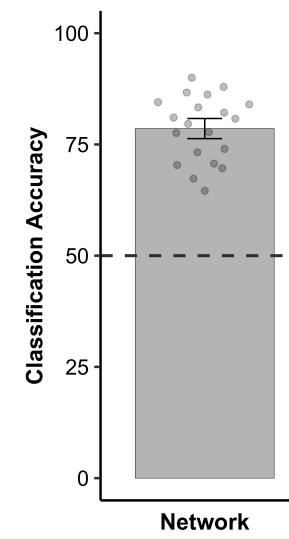
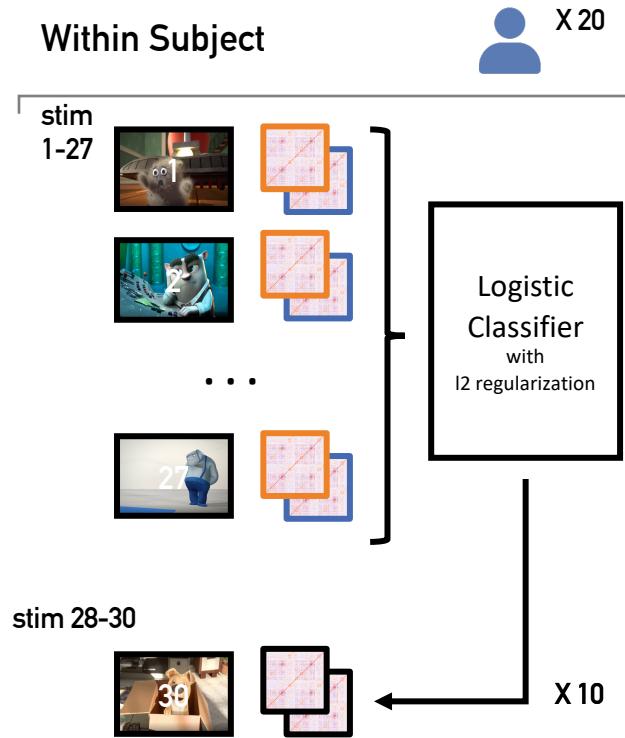
# Classification (Within)

N = 20



# Classification (Within)

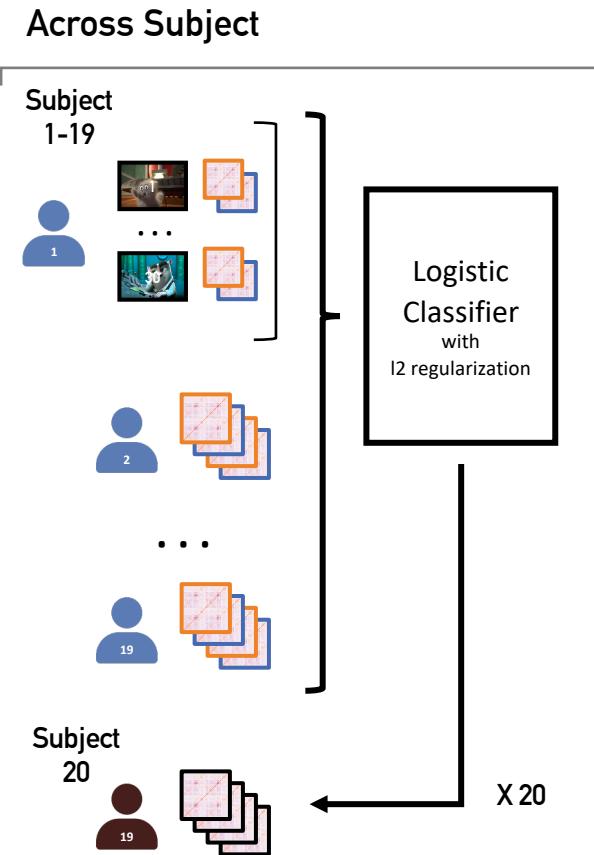
N = 20



Error bar : 95% CI

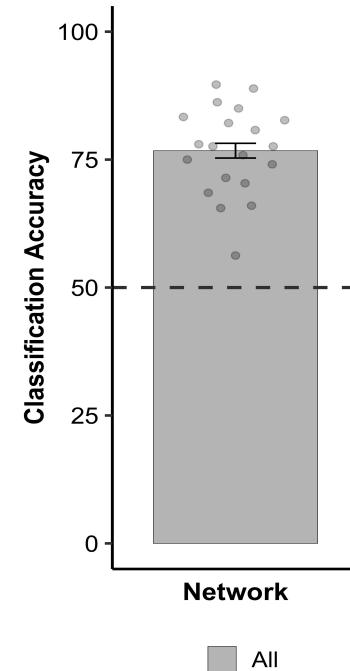
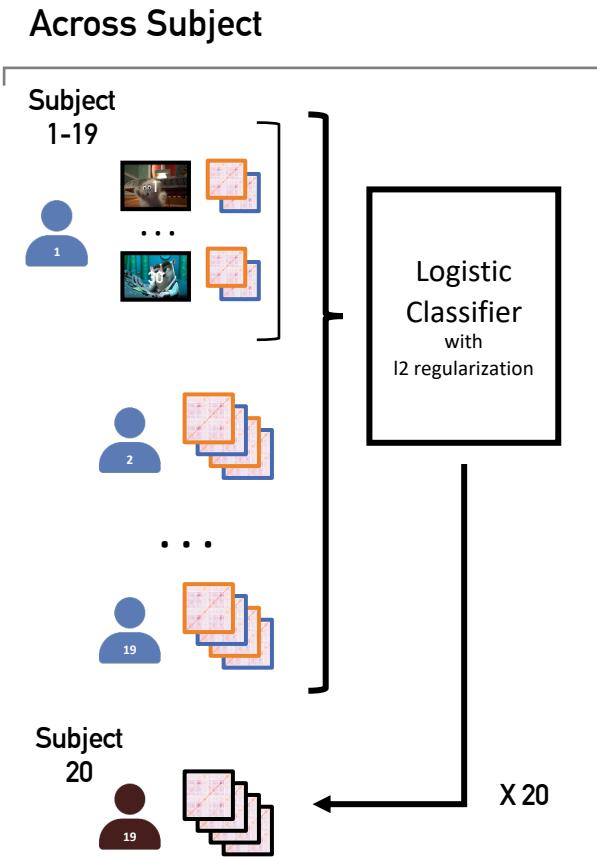
# Classification (Across)

N = 20



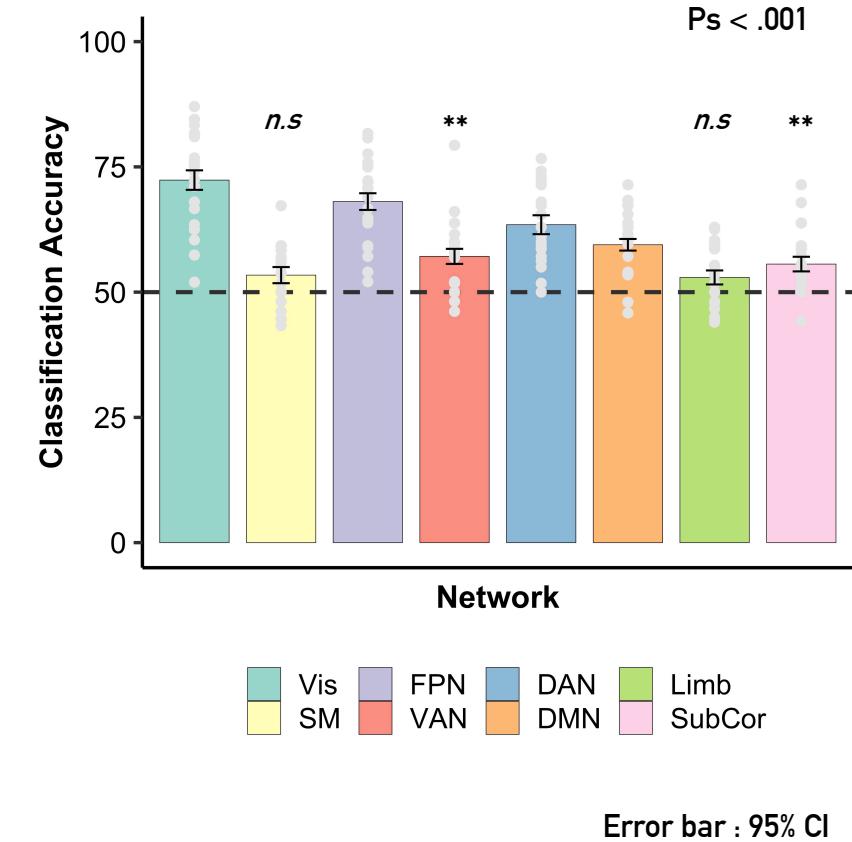
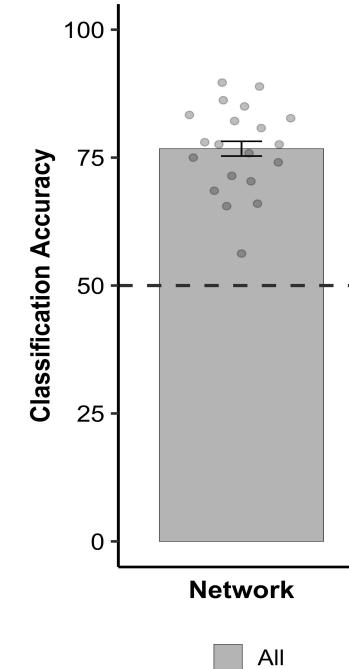
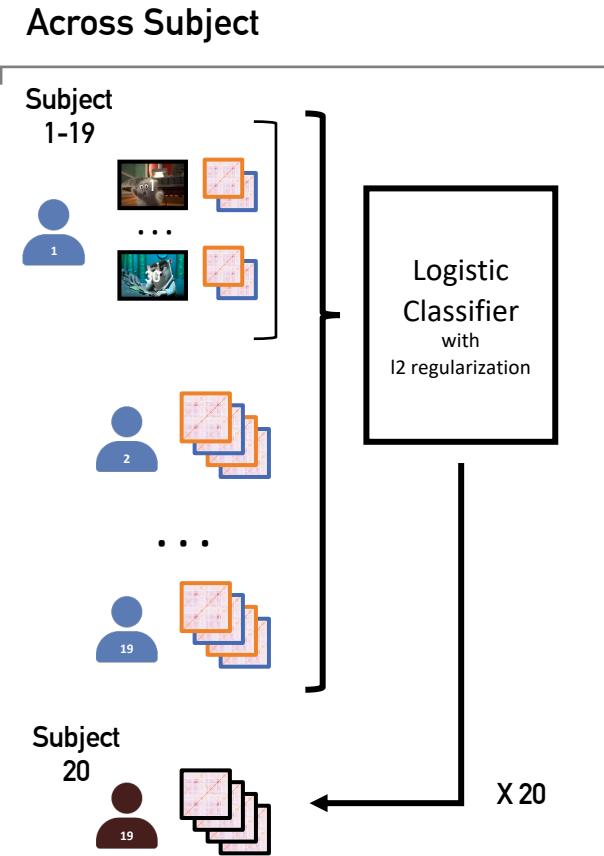
# Classification (Across)

N = 20



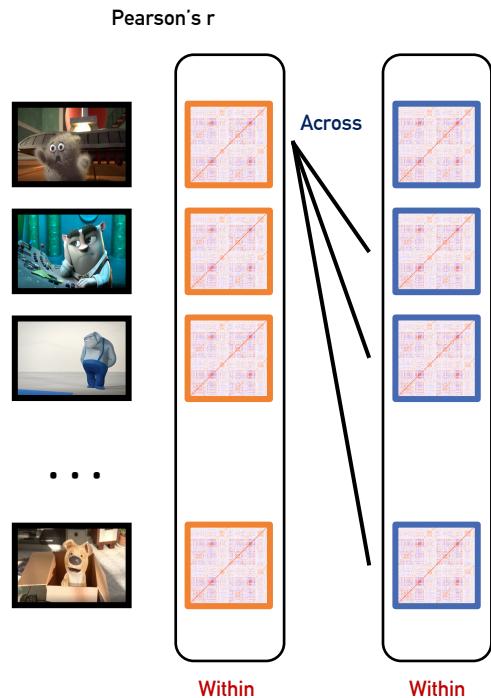
# Classification (Across)

N = 20



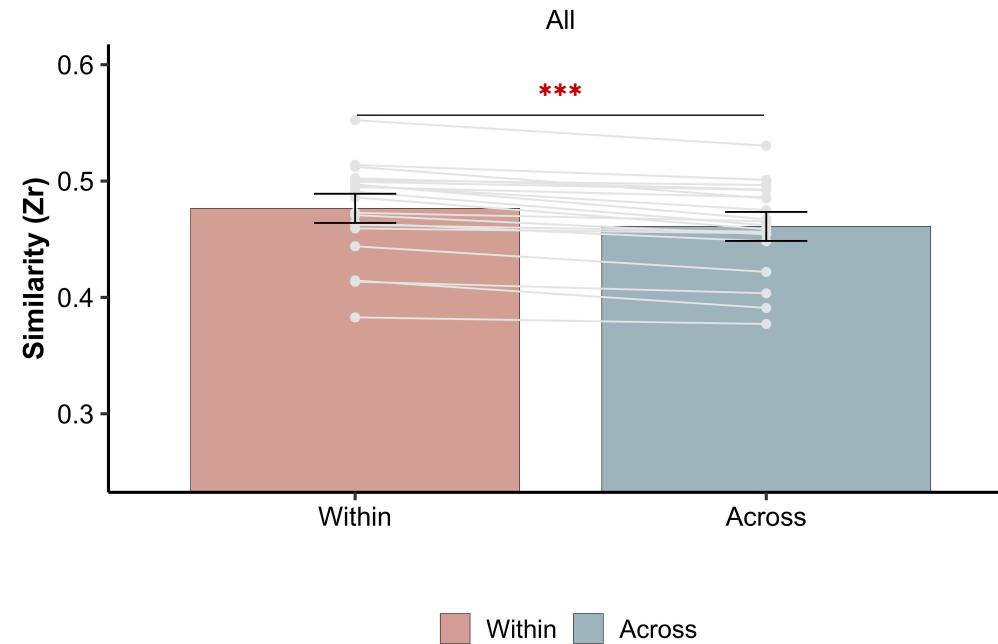
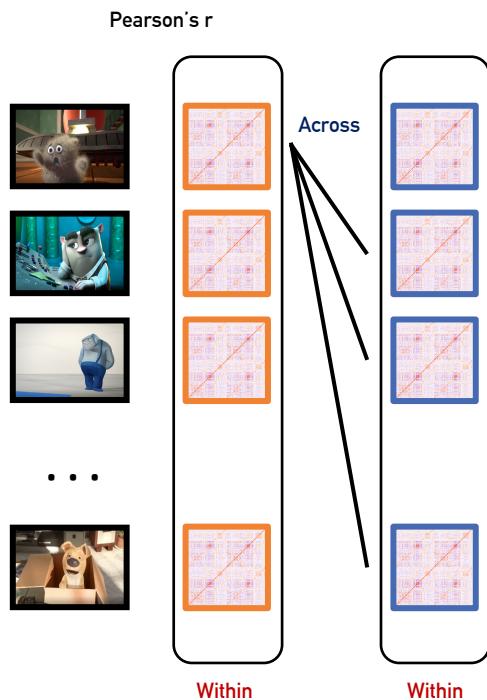
# Representational Similarity

N = 20



# Representational Similarity

N = 20



# Summary

