

Intersubject consistency of cortical EEG signal during movie viewing with positive and negative emotional content

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133 Group

Neurophysiological research of emotions during movie viewing

- Neuroscience
- Brain as a main source of information about emotions
- Important for:
 - Neuromarketing
 - Neurobiology of emotion
 - Neuroscience of film
- Previous study:
 - Neural reliability
 - Complexity of emotions
 - Films – naturalistic stimuli
 - Dmochowski study – breakthrough*

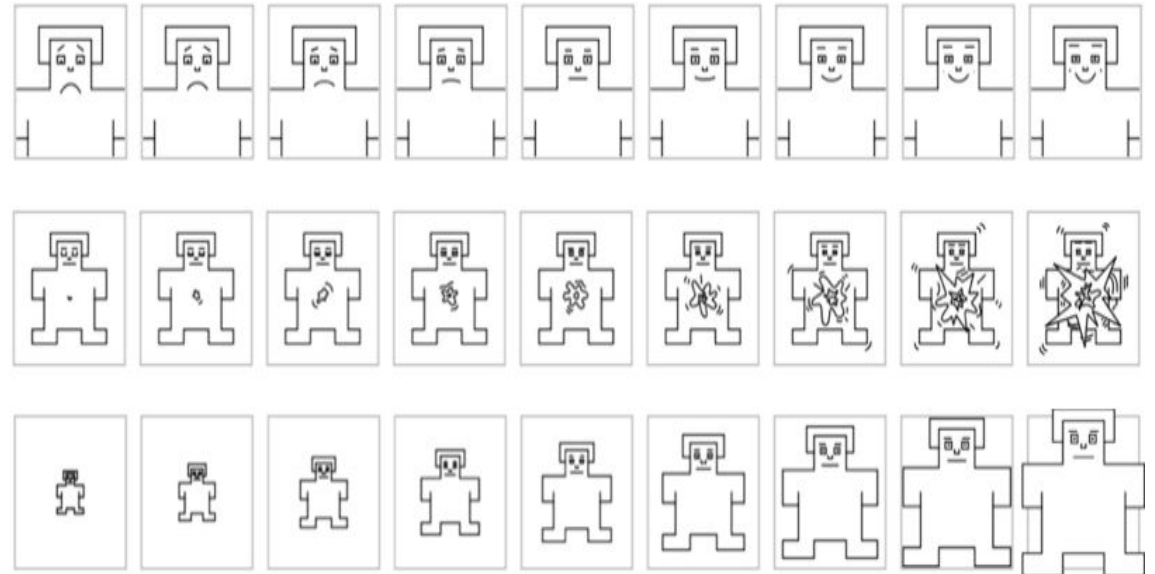
*Dmochowski, Jacek P., Matthew A. Bezdek, Brian P. Abelson, John S. Johnson, Eric H. Schumacher, and Lucas C. Parra. 2014. "Audience Preferences Are Predicted by Temporal Reliability of Neural Processing." *Nat Comm* 5 (July): 4567. doi:10.1038/ncomms5567.

The main goal of research

- Research questions:
 - How consistency is represented in our brain?
 - ISC – good marker of emotional state?
- Aims:
 - Identify Intersubject Correlation (ISC)
 - Show neural reliability of emotional states
- Practical purpose:
 - Develop a new method of tracking emotions

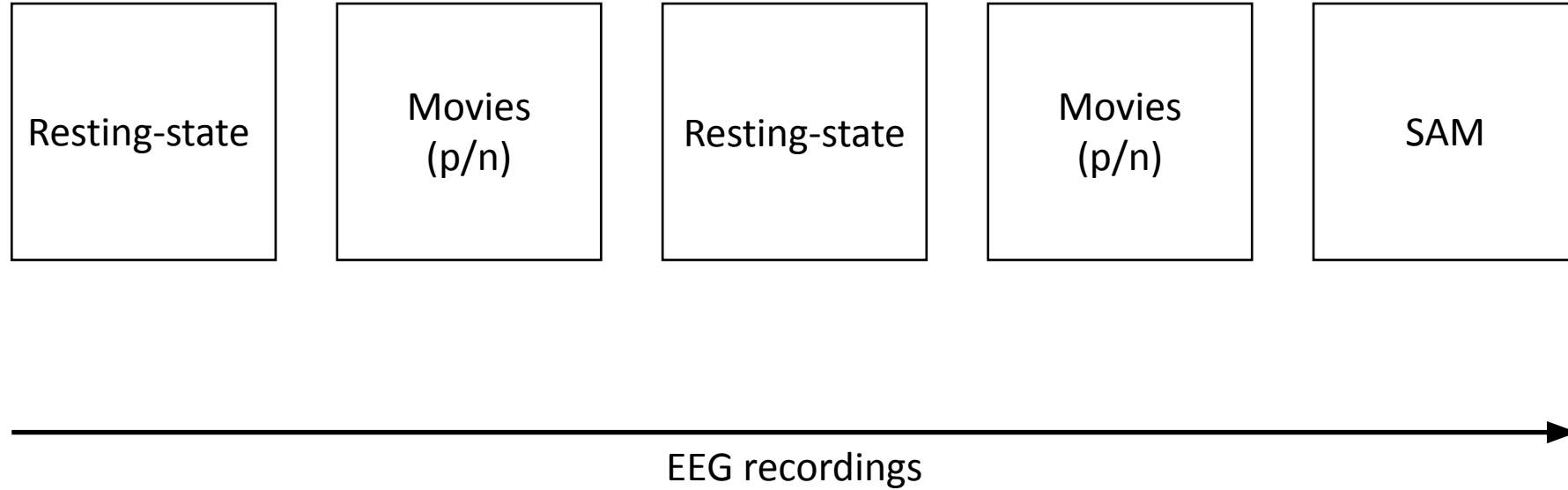
Methodology

- Methods
 - Electroencephalography (EEG)
 - Emotional Database (EMDB)
 - Self-Assessment manikin (SAM)
- Tools:
 - MATLAB software for analysis
 - sLORETA for source analysis
- Research specifications:
 - 20 subjects
 - All right handed
 - Without neural systems disease in past



Self-Assessment manikin (SAM)

Experimental Design



Expected results

- Correlation between EEG components in positive emotions
- Low level of neural reliability in negative emotions
- Questionnaire will show difference between positive and negative movies
- ISC – good marker of emotional state

