**ACCOUNTING FOR TASTE: TEMPORAL DYNAMICS OF DECISION-MAKING FOR ONESELF VS. OTHERS**

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**INTRODUCTION**

- We often must take into account the preferences of others
  - Preparing a meal for a child or buying a gift for a friend
- How do we construct representations of others’ preferences?
  - Especially when others differ from us?
- When does social cognition influence neural value signals?
  - Do our preferences emerge earlier?
  - Do we use the same neural system to assign value for others as for ourselves?

**METHODS**

- Food decisions for self and two partners
  - Different: Self-identified healthy eater
  - Similar: No dietary restrictions
- Decision task (6 runs) for:
  - Different partner
  - Self
- 600 trials (200 per recipient) in 10-trial blocks
- 128-channel EEG
- ERP – Event-related potentials
  - Data time-locked to stimulus onset
- Relative weighting of taste and health depends on recipient
  - Self: Greater weighting on taste
  - Different: Greater weighting on health
- RT significantly longer (~120 ms) for Similar partner (p = 10⁻⁴)
- Greater uncertainty about preferences?

**RESULTS**

**ERp RESULTS: STIMULUS VALUE**

- Prediction: Neural correlates of stimulus value
  - From ~490 ms after stimulus onset (Harris et al., 2011, 2013)
  - Localized to ventromedial prefrontal cortex (vmPFC)
- Similar neural regions involved in assigning values for others
- Social info represented relatively early in decision process
- Similar neural regions involved in assigning values for others
  - Even when they have very different preferences from our own

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**CONCLUSIONS**

**ERp RESULTS: SELF VS. OTHER**

- When does the brain differentiate choices for others?
- Prediction: Social representation before value signals
  - Theory of Mind regions: e.g., superior temporal sulcus (STS)
- Late value signal (700-850 ms) strongest for Self
  - May reflect sustained attention or arousal for own choices
  - Interaction of stimulus value and social cognition

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**ERp RESULTS: ATTRIBUTE CODING**

- Prediction: Differential neural weighting on taste and health
  - Self: Greater weighting on taste
  - Different: Greater weighting on health
  - During stimulus value computation window (Harris et al., 2013)

**VEr**

- Greater weighting on taste
  - Ventromedial prefrontal cortex
  - Late value signal (700-850 ms) largest for Self
  - Late value signal (700-850 ms) strongest for Self
  - May reflect sustained attention or arousal for own choices

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**Self/Others**

- How does social representation interact with stimulus value?
  - Late value signal (700-850 ms) strongest for Self
  - May reflect sustained attention or arousal for own choices
  - Interaction of stimulus value and social cognition

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**Data time-locked to stimulus onset
Subject-level linear regression:
\[
\beta_0 + \beta_1 \text{Stimulus Value} + \beta_2 \text{Self/Other} + \beta_3 \text{Stimulus Value \times Self/Other} + \epsilon
\]
Distributed source reconstruction in SPM8 (group inversion)