Using Brain and Behavior Metrics of Social Motivation to Predict Socially-Motivated Decision Making In Adolescents and Adults

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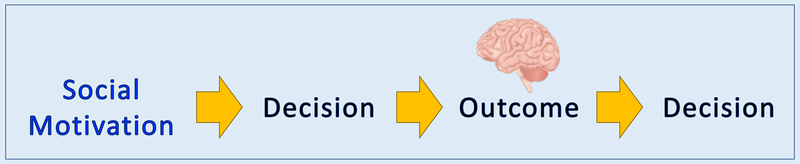
Background

- An implicit desire to connect with others, often termed social motivation, pushes people to seek and build relationships (Chevallier et al., 2012).
- Social motivation appears to naturally shift across development and may be particularly important to understand during adolescence when changes in social and reward brain networks occur (Altikulaç et al., 2019).
- Reward-related neural activity may help explain potential differences in socially-motivated decision-making.

Objective

Examine developmental differences in 1) social decision-making, 2) brain responses to social feedback, and 3) ability to predict subsequent behaviors using brain responses during feedback



Methods

Demographics	Youth	Adult
N	39	48
Age M (SD); Range	11.9 (1.3); 10-15	20.2 (3.1); 18-34
Sex	F: 17, M: 21, SD:1	F: 31, M: 15, SD:1
Race	Asian: 5%, Black: 31%, White: 54%, Multi-: 10%	Asian: 10%, Black: 17%, White: 65%, Multi-: 6%
Latine/Hispanic	Yes: 3%, No: 69%	Yes: 13%, No: 63%

Frontal Alpha Asymmetry

- Right - Left
- 8-10 Hz
- Approach/ Avoid

Brain Research Across Development Laboratory
PI: Dr. Caitlin Hudac
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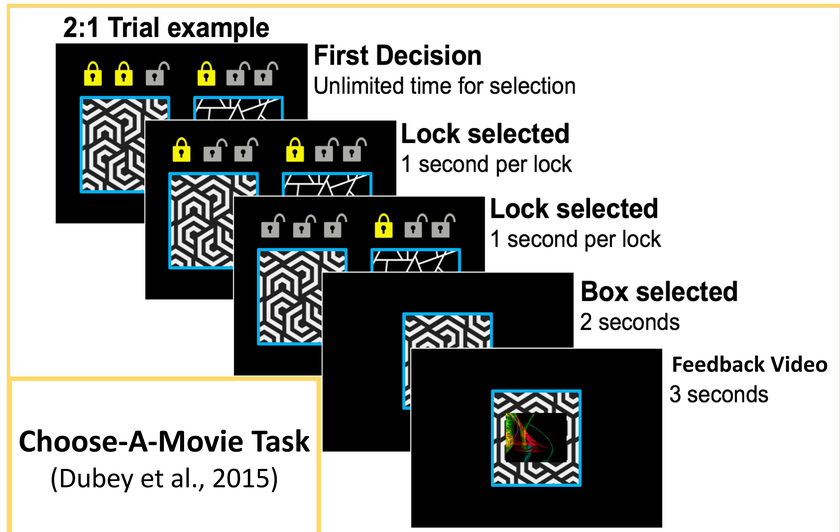
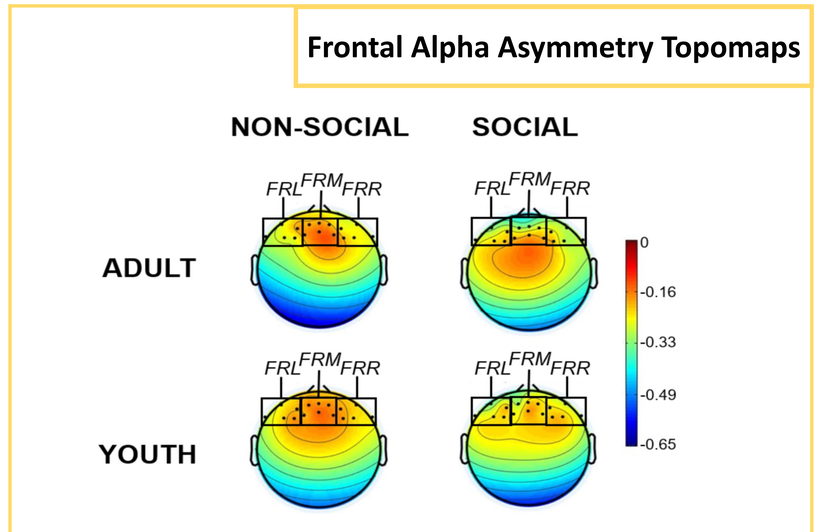
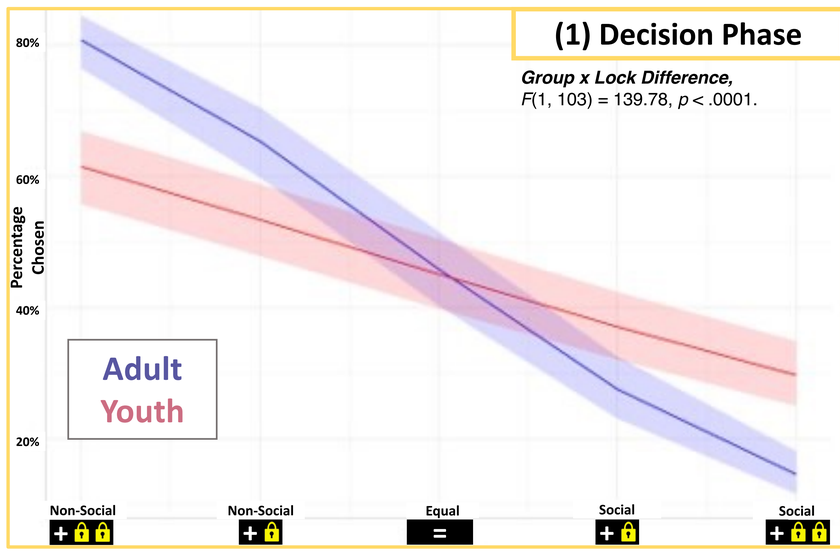
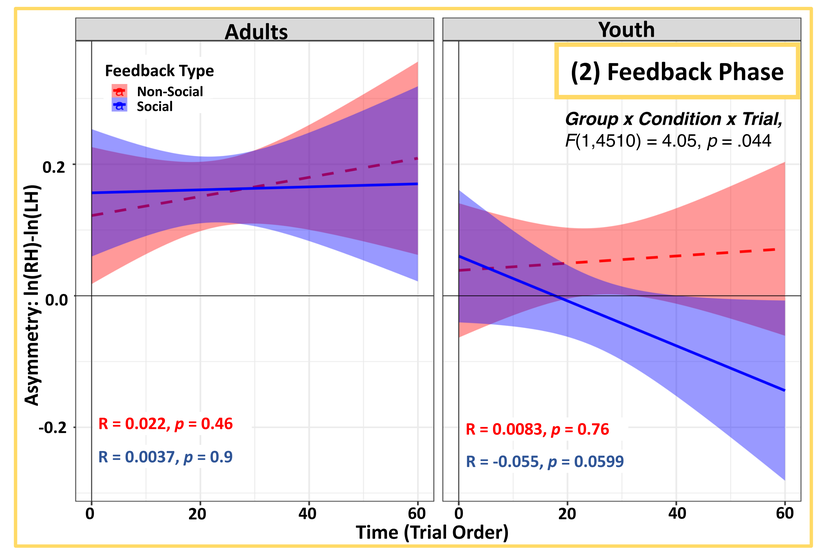
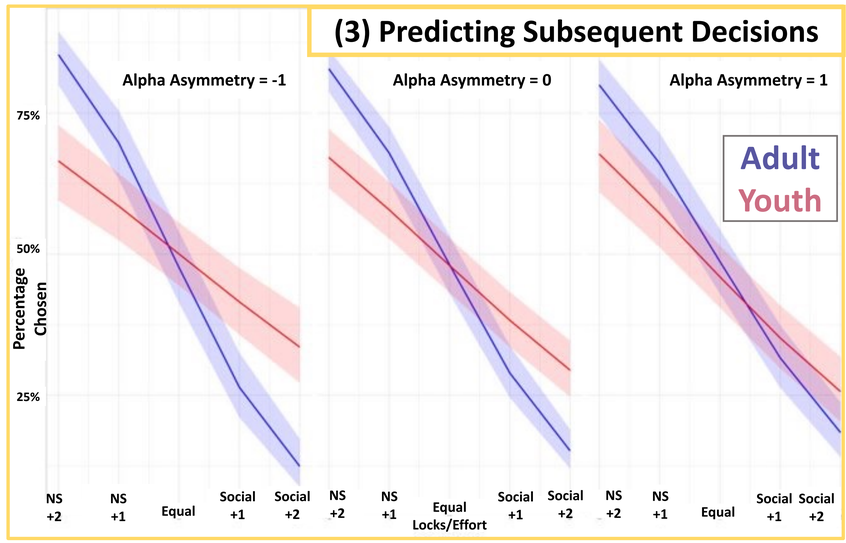








Young adolescents' frontal alpha symmetry modulated subsequent social decisions more than adults.



Lock Difference x Prior Asym: $F(1,103) = 6.88$, $p = .01$ **Adults:** $p = .031$; **Youth:** $p = .009$;

Discussion

- Previous Behavioral Studies:
  - High subjective ratings, no significant behavioral differences
  - Dubey et al., 2017: In 4-to-20-year-olds, social preference dipped at 11 years of age
- Sample Considerations: Puberty?
- Stimuli Considerations
  - Subjective preference
  - Ages in social videos