Investigating the Relationship Between Behavioral Inhibition and Responses to Emotional Stimuli in Infancy: an ERP Study

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Background:
- **BI** is a stable temperamental trait wherein people are hypervigilant/fearful of novelty
- Early correlate of anxiety (40% diagnosed)
- Shared brain regions associated with anxiety and behavioral inhibition including error monitoring, hyperactive amygdala, ventral attention network, disengagement networks
- utilizing ERP to understand responses to emotion in nonverbal populations → adult ERP components

Hypotheses and Aims:
- Question: do BI children have a different reaction to fear or negative emotional faces?
- Stronger N290 response to fearful faces will correlate with greater BI
- Better understanding of infant ERP components and the ‘average’ response to different stimuli (P400 and Nc included)

Data and Methods:
- Emotion Project dataset → 51 subjects
- ERP sampling in infancy and BI at age 3

Key Results:
- Role of outliers in the data; negative correlation of N290 amplitude and BI
- Results showed peak amplitudes to fear and angry on average → infant bias toward fear versus novelty
- Limitations of ERP w/r/t subcortical structures
- Data indicates adults with anxiety have difficulty disengaging from negative stimuli
- How will these children continue to develop? Will any be diagnosed with anxiety?

Discussion and Future Directions: