



Prenatal Neural Responding to Infant Emotional Cues and Postpartum Observed Sensitivity

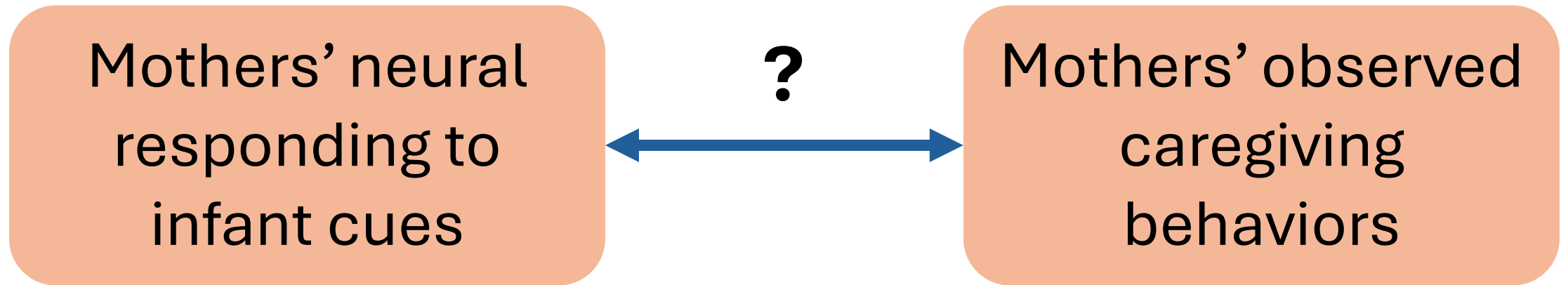
Natalia Grossi Ferreira, Madeline M.
Patrick, Ryann Harold, Gloria M.
Chang, & Dr. Ashley M. Groh

Significance of Neural Responding for Caregiving

- Mothers' processing of their infants' cues contributes to caregiving behaviors (Fuths et al., 2017; Leerkes et al., 2015)
- Event-related potentials (ERPs) are time-locked brain responses implicated in stimulus processing, and thus, are useful for examining processing of infant cues
 - The N170 – an ERP implicated in facial encoding – is larger for infant distress (v. happy, neutral) expressions, which is reflective of prioritized processing of infant distress, thought to support parenting behavior (Kuzava et al., 2019)



Current Study



Purpose: This study examined the longitudinal significance of expectant women's neural responding to infant emotional cues for sensitive parenting in the postpartum.

Participants & Procedure

Participants

- 63 primiparous expectant mothers (M age = 29.6 years; SD = 4.7)
- Sample primarily White (91.8%), middle SES (\$80,000/year) & educate (39.3% bachelor's degree)

Emotional Categorization Task & EEG

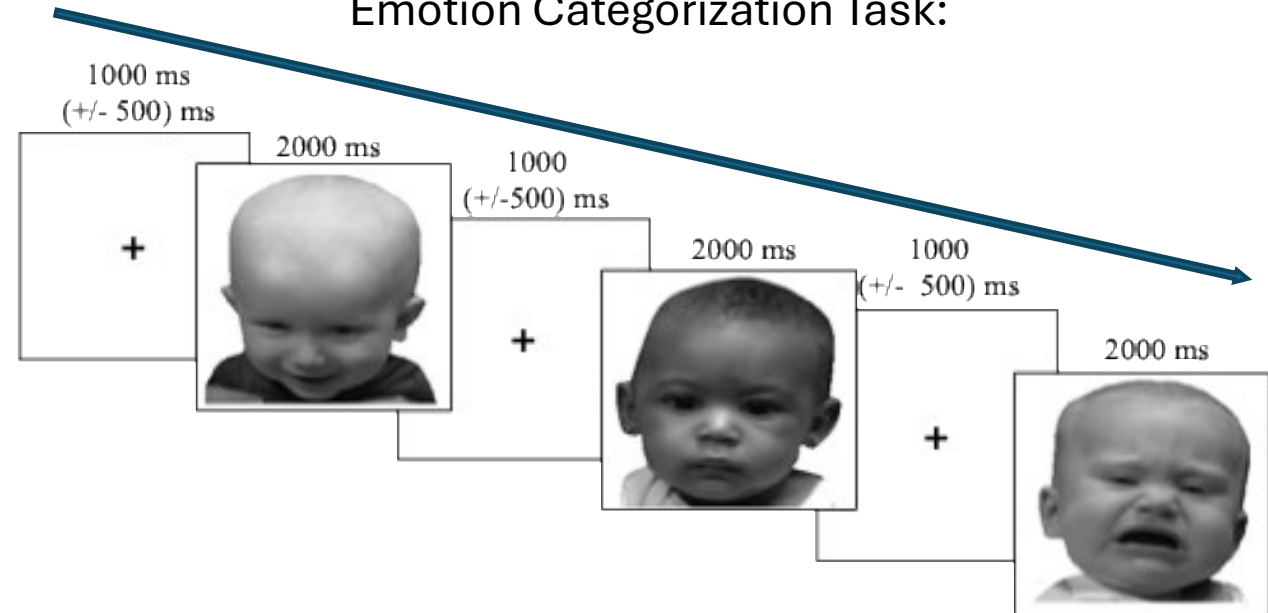
Recording

- Infant facial expressions (distress, happy, neutral) presented randomly
- Time-locked EEG activity to each image extracted for each emotion
- The N170 defined as average activity at temporal-parietal sites (P7, P8) 150-190 ms post stimulus

Parenting

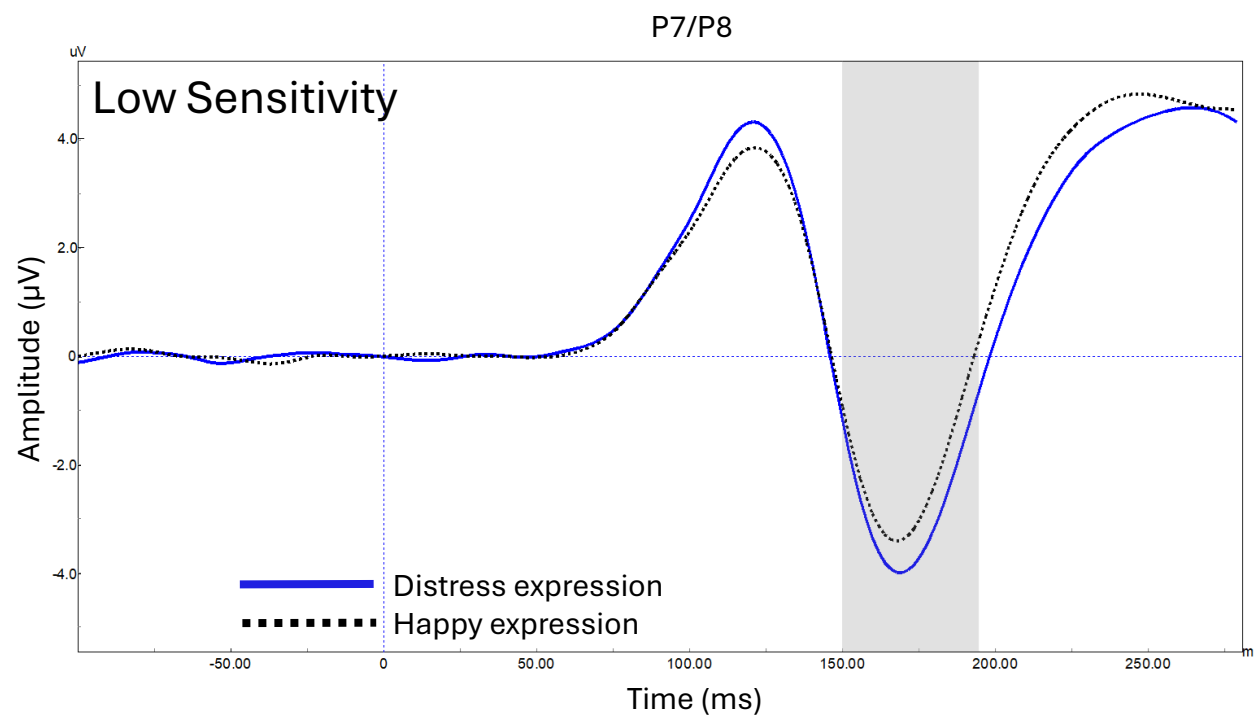
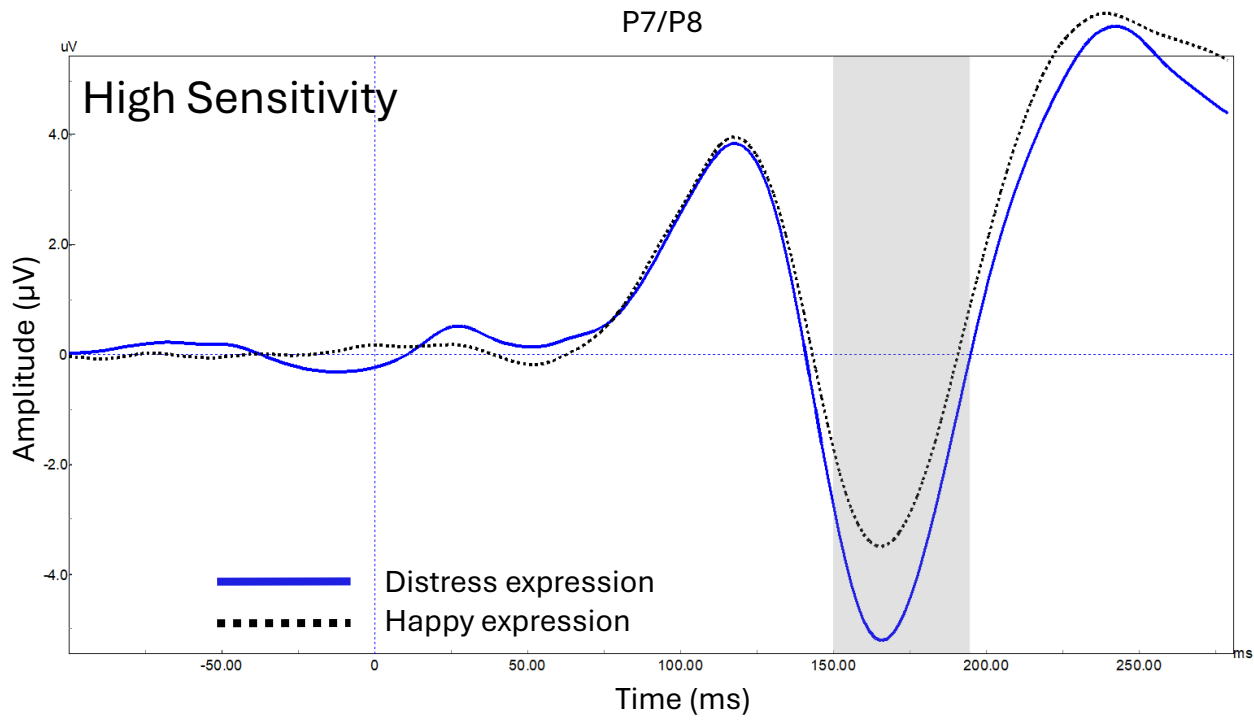
- Observed in the laboratory when infants were 4 months during a free play and toy play
- Sensitivity to distress: prompt & effective responding to infant distress
- Sensitivity to non-distress: awareness of needs, moods, interests, & capabilities of the infant

Emotion Categorization Task:



Expectant Mothers' N170 to Infant Emotions & Postpartum Observed Sensitivity

	Sensitivity to Distress	Sensitivity to Non-Distress
N170 to Distress v. Happy	0.34*	0.03



Conclusion

- Expectant mothers' heightened N170 amplitude to infant distress (v. happy) expressions was predictive of their more sensitive responding to their infant's distress postpartum
- Thus, even prior to infant birth, women's neural processing of infant emotional expressions holds significance for their sensitive parenting postpartum
- Interventions aimed at promoting mothers' awareness of infant emotional signals prior to the birth of their infant might enhance subsequent parenting outcomes



Acknowledgements

- Thank you to the mothers and infants who participated in this study, making this research possible
- Research was supported by the National Science Foundation (2017920)
- Questions? Email Ashley Groh, PhD at groha@missouri.edu



Scan for references:



Scan for lab website:

