

Baseline RSA and Physiological Synchrony Predicts Infant Distress in the Still Face Paradigm

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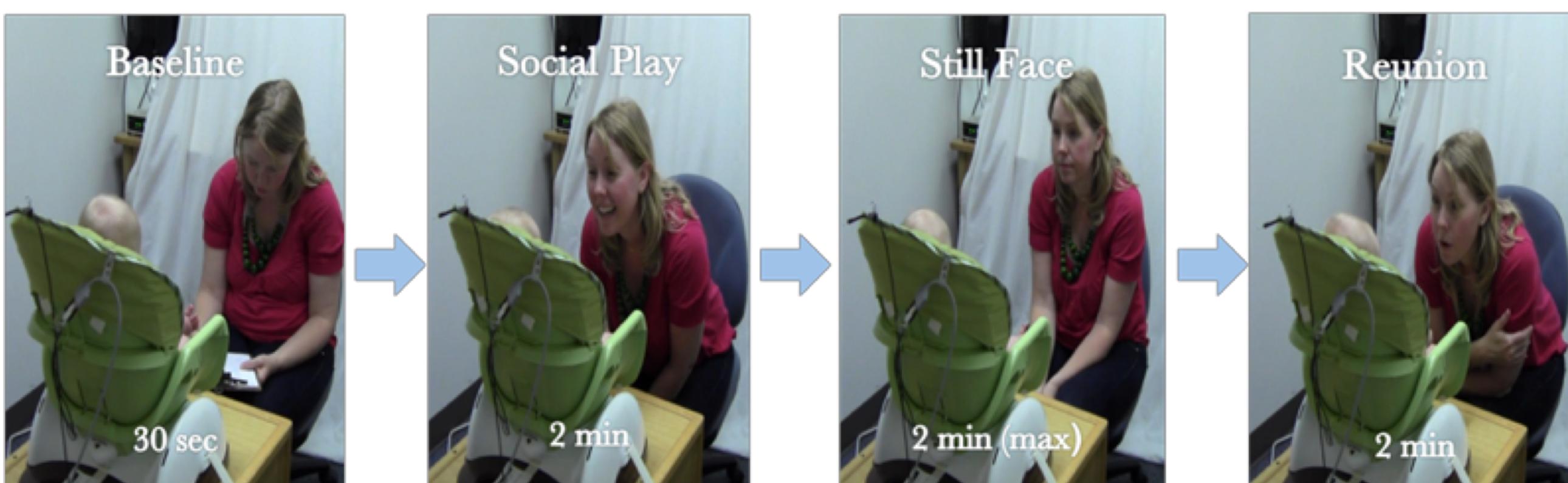
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Introduction

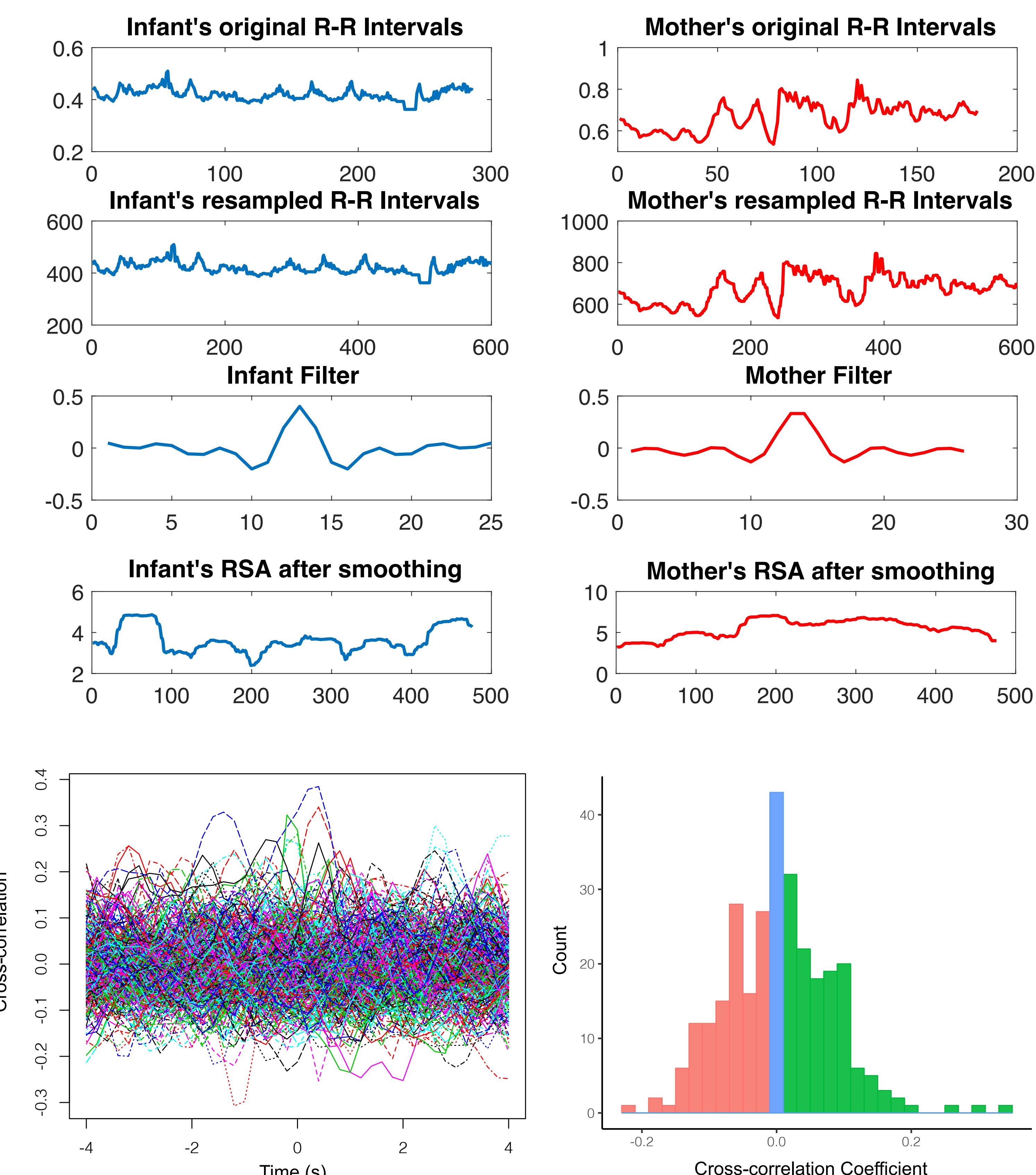
- Self-regulation includes the cognitive, emotional, and attentional processes that support adaptive and goal-directed behavior (Posner & Rothbart, 2000).
- Respiratory Sinus Arrhythmia (RSA) is an index of physiological regulation (Porges, 1991; Moore & Calkins, 2004).
- Caregivers create and maintain an environment that supports infants' bio-behavioral regulation (Cohn & Tronick, 1987).
- **Statement of the problem: How does physiological synchrony between infants and mothers modulate their reactivity and self-regulation during the still face paradigm?**

Method

- 77 infant-caregiver dyads (infant age: 4-6 months)
- Still Face paradigm (Tronick, 1978)
- Infant/caregiver ECGs recorded using three disposable electrodes and the Biopac MP150 system for amplifying the electrical signal.
- RSA was calculated from the IBIs (frequency bands of respiration).
- Micro-coding of infant distress (facial and vocal)



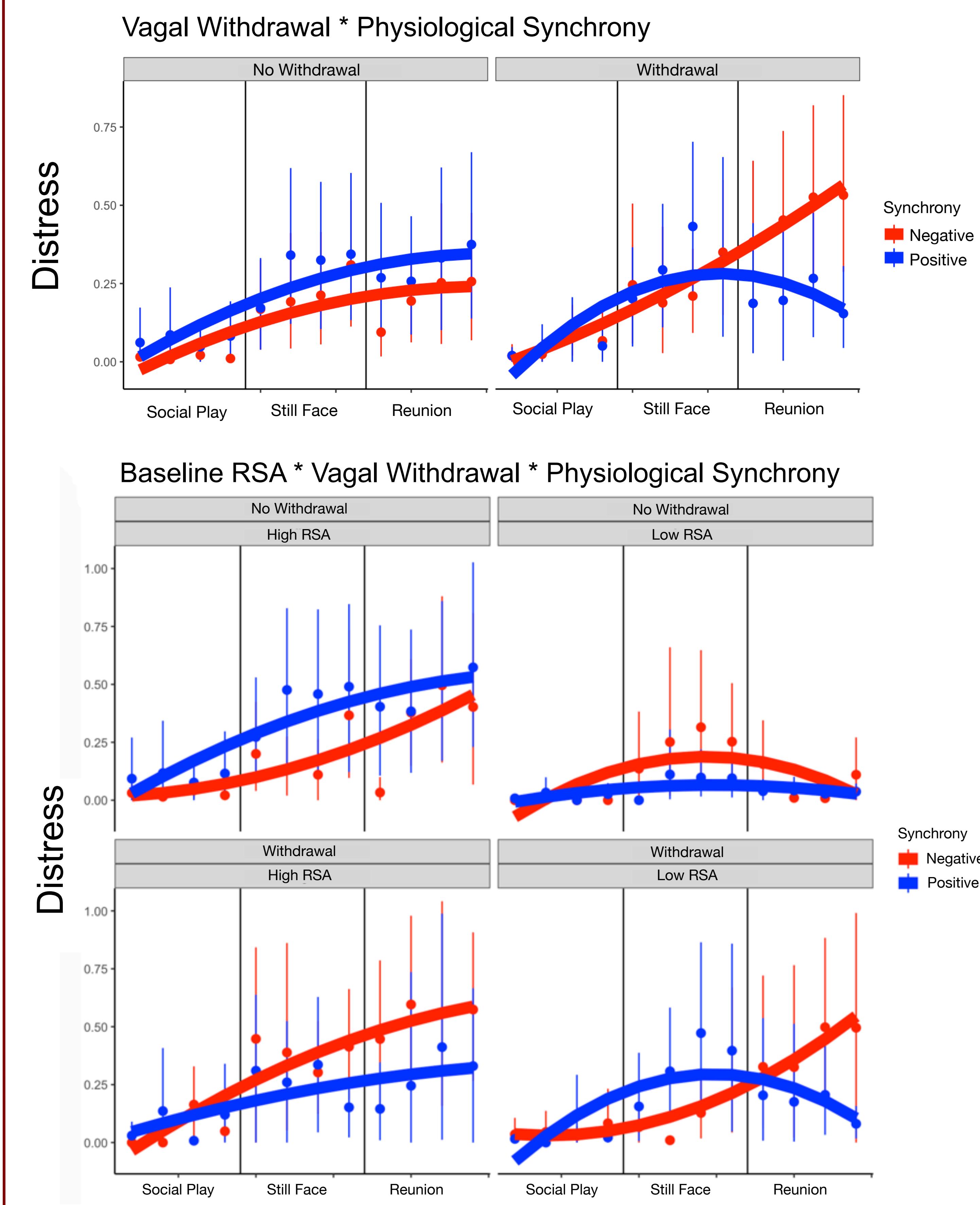
Estimation of Physiological Synchrony



Variables

- Physiological Synchrony (Negative/Positive): Co-regulation
- Vagal Withdrawal (No/Yes): Self-regulation [state variable]
- Infant Distress (every 30 seconds across all phases) [outcome variable]
- Baseline RSA group (Low/High): Reactivity [trait variable]

Results



Conclusions

1. Physiological synchrony impacts the relationship between reactivity and self-regulation.
2. Negative physiological synchrony leads to more distress for infants who show vagal withdrawal.
3. Infants in positive physiological synchrony with their mothers and who have low baseline RSA and vagal withdrawal display stereotypical distress pattern during the still face paradigm.

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