

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

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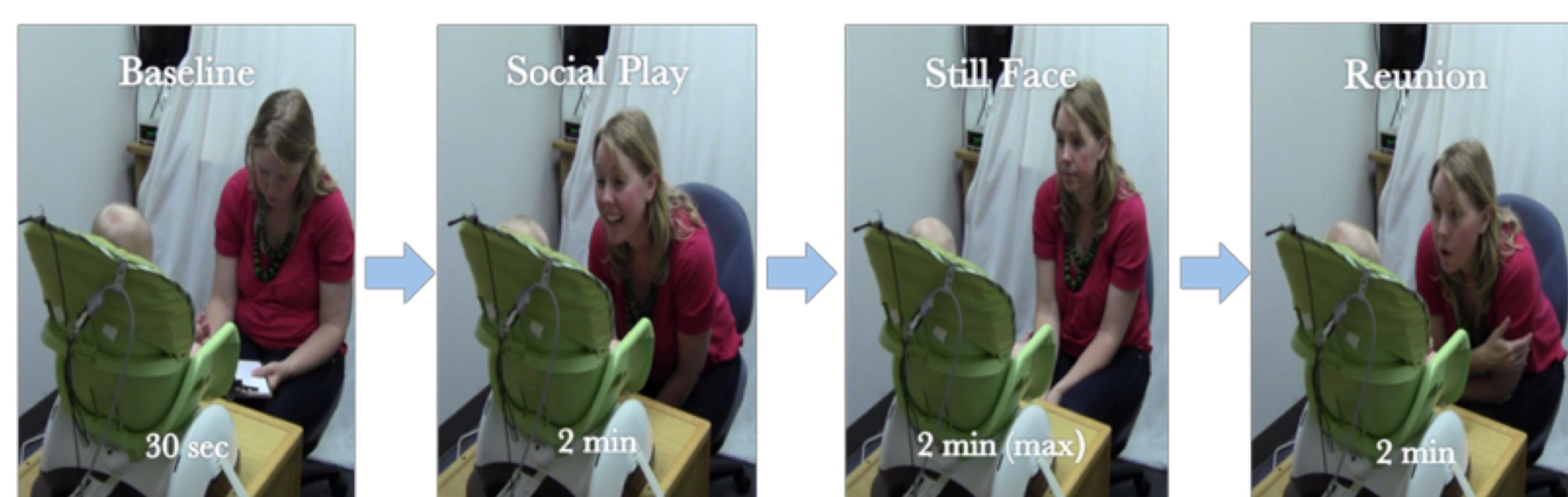
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Introduction

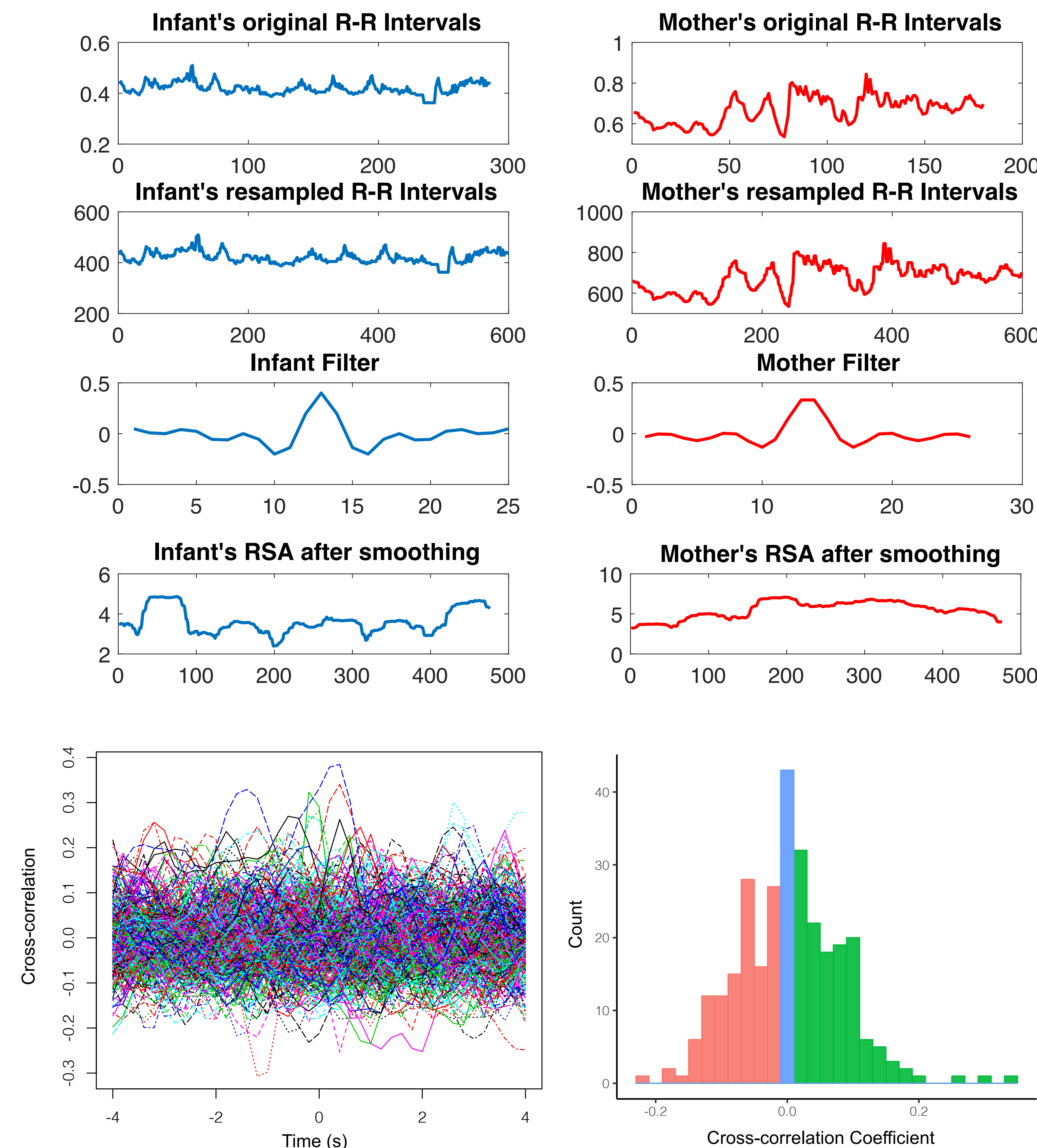
- Self-regulation includes the cognitive, emotional, and attentional processes that support adaptive and goal-directed behavior (Posner & Rothbart, 2000).
- Respiratory Sinus Arrhythmia (RSA) is an index of physiological regulation (Porges, 1991; Moore & Calkins, 2004).
- Caregivers create and maintain 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)



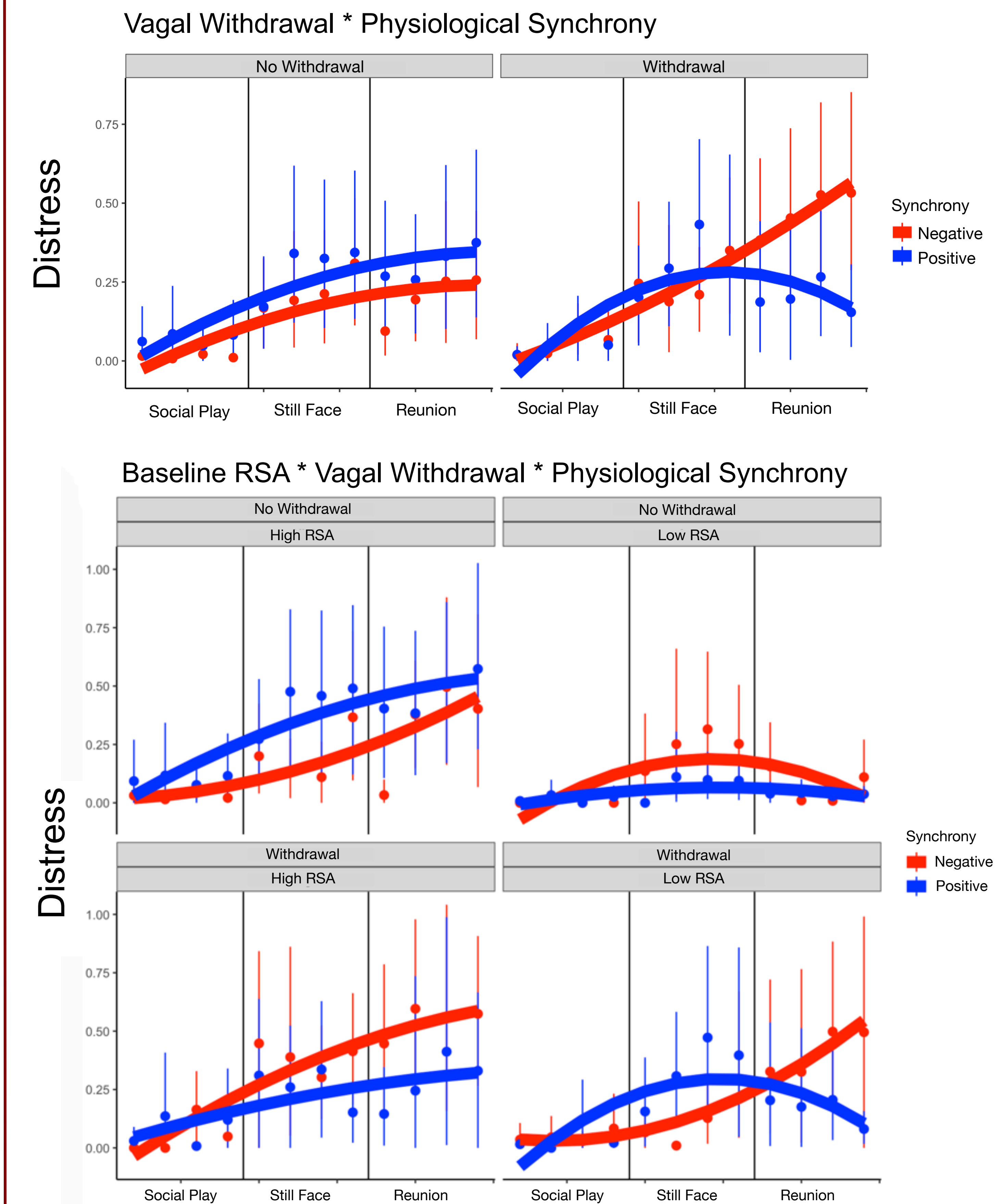
Estimation of Physiological Synchrony



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

- Physiological synchrony impacts the relationship between reactivity and self-regulation.
- Negative physiological synchrony leads to more distress for infants who show vagal withdrawal.
- 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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