



Associations Between Parent-Child Language Style Matching (LSM) and Parent Skin Conductance Response (SCR)

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Introduction

- **Coregulation:** reciprocal interactions which are crucial for children's healthy development
 - Links between coregulation and anxiety has led to anxiety interventions targeting parent-child relationships and motivates research on neurophysiological mechanisms underlying coregulation
- A novel and reliable index of coregulation is **Language Style Matching (LSM)** (Gonzales et al., 2010), a linguistic variable that provides insight into a dyad's history of behavioral matching and attunement (Rasmussen et al., 2017)
 - LSM linked to better dyad attachment security (Borelli et al., 2016), and emotion regulation (Rasmussen et al., 2017)
- Research suggests parent-child relationship quality may be undermined when parents have difficulty regulating in response to their child's distress due to ineffective and intrusive parenting (Mills-Koonce et al., 2009)
- However, links between parents' stress reactivity and LSM remain largely unknown
- **Aim:** Examine association between parents' stress reactivity (measured by skin conductance responses) and dyadic LSM

Methods

Sample

- Recruitment: children with elevated behavioral inhibition participating in larger intervention study
- Sample $N = 149$
 - Child Age = 3 - 5.5 ($M = 3.5$, $SD = 0.38$)
 - Parent Age = 28 - 58 ($M = 38.72$, $SD = 5.17$)

Measures

- **LSM:** Linguistic Inquiry and Word Count (LIWC; Pennebaker et al., 2022) during parent-child free play task
- **Parent Stress Reactivity:** Skin Conductance Responses (SCR) collected while parents watched their child complete a social stressor task

Researcher dressed as clown comes into room to talk to child

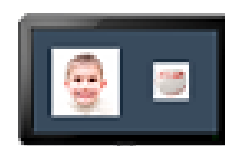
CLOWN



30-60 seconds

Kids 'meet' unfamiliar children via computer and learn about them

KIDS



60 seconds

Kids introduce themselves to these children they just 'met' online

INTRO



90 seconds

Tables & Figures

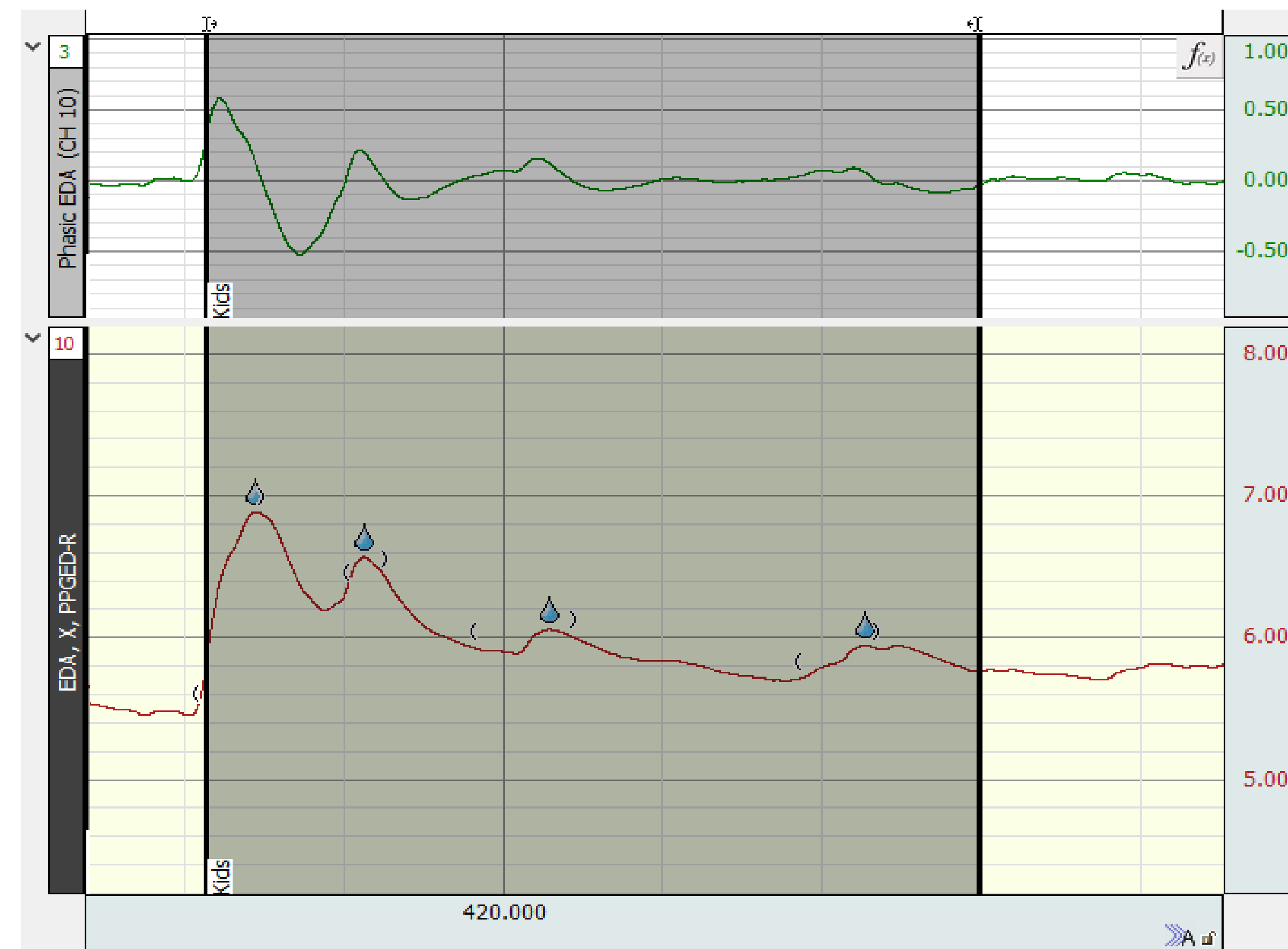


Figure 1. Phasic (top) and Tonic (bottom) electrodermal (EDA) waveforms during Kids Task. Water droplets on tonic waveform indicate SCR. SCR threshold level was 0.03 uS. Phasic EDA constructed with 0.05 Hz high pass filter

Table 1. Zero-order bivariate correlations and descriptive statistics

	1	2	3	4	5	6	7	8	9
1. Parent Age	--								
2. Parent Sex	-0.194*	--							
3. Parent Race	-0.058	0.057	--						
4. Parent Education	0.239**	-0.028	-0.124	--					
5. Parent Anxiety	-0.068	0.249***	0.164*	-0.106	--				
6. Clown SCR	-0.126	0.124	0.124	-0.074	-0.058	--			
7. Intro SCR	0.089	0.051	0.200*	0.050	-0.067	0.652***	--		
8. Kids SCR	0.087	-0.013	0.166	0.087	0.058	0.578***	0.616***	--	
9. LSM	0.080	0.031	0.062	-0.045	0.070	0.028	0.044	-0.116	--
Mean	38.745	0.854	2.429	7.720	4.564	4.017	2.733	2.059	0.772
SD	5.148	0.352	0.826	1.161	3.984	2.746	2.223	1.786	0.109

Note. Correlations calculated using maximum likelihood estimates to handle missing data. Child Sex (0 = Female, 1 = Male). Parent race (1 = Other, 2 = African American/Black, 3 = White). Parent Education ranged from 1= less than high school to 9 = Doctoral Degree/Equivalent.

Table 2. Multiple Regression between Parent SCR and LSM

Variables	B	SEB	t	p
Parent Age	0.003	0.002	1.431	0.152
Parent Sex	0.001	0.020	0.037	0.970
Parent Race	0.008	0.012	0.700	0.484
Parent Education	-0.003	0.009	-0.314	0.754
Parent Anxiety	0.003	0.003	0.834	0.404
Clown SCR	0.005	0.005	0.959	0.338
Intro SCR	0.006	0.008	0.767	0.443
Kids SCR	-0.019	0.007	-2.728	0.006

Table 2. Summary of multiple regression between parent SCR during Kids task and LSM

Parent SCR significantly predicted LSM only for the Kids task

Results

- Parent race significantly correlated to parent anxiety ($r = 0.164$, $p = 0.044$) and SCR for the Introduction task ($r = 0.200$, $p = 0.022$)
 - White parents were more anxious and had more skin conductance responses while watching their inhibited child introduce themselves to unfamiliar peers (Intro)
- Multiple Regression: **Parent SCR → Parent-Child LSM**
 - Parent SCR during Kids task negatively predicted Parent-Child LSM ($B = -0.019$, $p = 0.006$)
 - Parents with more skin conductance responses while watching their inhibited child meet unfamiliar peers related to less parent-child linguistic matching

Discussion

- Results suggest that parents' difficulties regulating in response to their child's social encounters may undermine dyadic coregulation
- Parents of inhibited children may have more stress responses anticipating their child's social interactions than during actual social interactions
- Future research should examine if interventions targeting parents' regulatory skills improve dyadic coregulation
- Future research should examine parents' stress reactivity using

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