



# Less Restrictive Parenting Protects Against Anxiety for Children with High Resting RSA

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## Introduction

- **Behavioral Inhibition (BI)**: Inborn bias to respond to unfamiliar situations with fear and withdrawal (Kagan et al., 1984)
  - BI is a temperamental risk factor for anxiety (Chronis-Tuscano et al., 2009)
- BI children experience restrictive and overprotective parenting behaviors due to parents viewing BI children as vulnerable (Rubin et al., 2009), further increasing risk for anxiety
- Variability in anxiety outcomes for BI children may be due to children's psychophysiological functioning moderating risk pathways (Calkins et al., 2013)
- **Resting Respiratory Sinus Arrhythmia (RSA)**: Index for parasympathetic (PNS) functioning and provides insight into children's regulatory resources (Wagner & Waller, 2020)
  - High resting RSA relates to better regulatory control (Beauchaine, 2001), suggesting adequate resources to adapt to environmental challenges

**Aim 1:** Examine restrictive parenting and children's anxiety association

**Aim 2:** Examine whether children's resting RSA moderates this association

## Methods

### Sample

- Recruitment: children with elevated BI participating in larger intervention study
- Sample:
  - $N = 151$
  - Age = 3 - 5.5 ( $M = 3.5$ ,  $SD = 0.38$ )

### Measures

- **Restrictive Parenting**: Child Rearing Practices Report (Rickel & Biasatti, 1982) – Parent Report
- **Anxiety**: Preschool Play Behavior Scale (Copland & Rubin, 1998) and School Anxiety Scale (Lyneham et al., 2008) – Teacher Report
- **RSA**: Children watched a relaxing Sesame Street music video while photoplethysmography (PPG) was collected

## Tables & Figures

**Table 1. Zero-order bivariate correlations and descriptive statistics**

	1	2	3	4	5	6	7	8	9
1. Cohort	--								
2. Child Sex	-0.027	--							
3. Child Age	0.053	-0.126	--						
4. Child Race	-0.104	-0.007	-0.007	--					
5. Parent Education	0.030	0.033	-0.060	-0.009	--				
6. Time in School	-0.070	-0.119	0.056	-0.014	-0.038	--			
7. Restrictive Parenting	-0.013	0.089	-0.038	<b>-0.205*</b>	<b>-0.260*</b>	-0.106	--		
8. Child Anxiety	0.252	0.140	0.134	0.128	-0.061	-0.231	0.033	--	
9. Child RSA	0.027	-0.007	-0.074	0.053	0.044	0.128	-0.214	0.098	--
Mean	6.609	0.510	52.95	1.510	7.709	-2.219	2.950	7.570	6.352
SD	135.54	0.50	5.68	0.50	1.160	2.366	0.622	0.927	0.797

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

**Table 2. Hierarchical regression table**

Variables	Step 1				Step 2			
	<i>B</i>	<i>SEB</i>	<i>t</i>	<i>p</i>	<i>B</i>	<i>SEB</i>	<i>t</i>	<i>p</i>
Cohort	0.052	0.040	1.284	0.199	0.069	0.040	1.714	0.087
Child Sex	0.319	0.260	1.228	0.220	0.381	0.248	1.534	0.125
Child Age	0.025	0.023	1.110	0.267	0.028	0.022	1.311	0.190
Child Race	0.178	0.264	0.676	0.499	0.275	0.271	1.017	0.309
Parent Education	-0.040	0.091	-0.440	0.660	0.0140	0.101	0.101	0.919
Time in School	-0.072	0.069	-1.046	0.296	-0.060	0.068	-0.882	0.378
Restrictive Parenting	0.121	0.164	0.739	0.460	-3.512	1.280	-2.744	0.006
Child RSA	0.061	0.176	0.347	0.729	-1.697	0.592	-2.866	0.004
Interaction					<b>0.582</b>	<b>0.204</b>	<b>2.856</b>	<b>0.004</b>

## Children's RSA moderates Restrictive Parenting on Anxiety

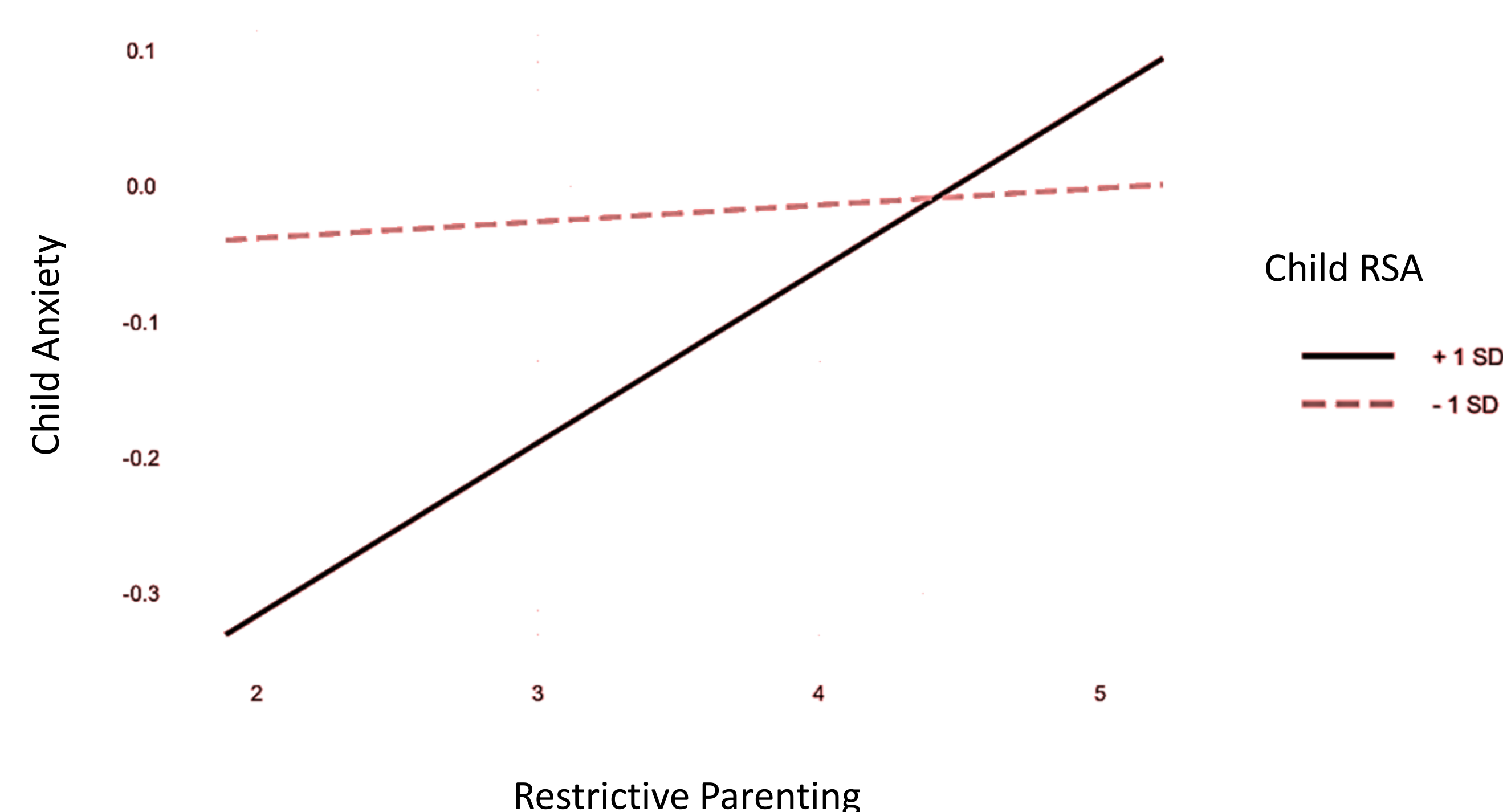


Figure 1. Interaction of restrictive parenting and child RSA on child anxiety. Simple slope analysis showed that for only children with high RSA (+1SD), less restrictive parenting related to less anxiety

## Results

- Restrictive parenting significantly correlated with child race ( $r = -0.205$ ,  $p = 0.013$ )
  - White children associated with less restrictive parenting compared to non-white children
- Restrictive parenting significantly correlated with parent education ( $r = -0.260$ ,  $p = 0.020$ )
  - Parents with higher educational attainment associated with less restrictive parenting behavior
- **Aim 1: Restrictive Parenting → Child Anxiety**
  - Restrictive Parenting did not significantly predict child anxiety (n.s.)
- **Aim 2: Restrictive Parenting x Child RSA → Child Anxiety**
  - The interaction of restrictive parenting and child RSA significantly predicted child anxiety ( $B = 0.582$ ,  $p = 0.004$ )
  - For children with high resting RSA (+1SD), low levels of restrictive parenting related to less anxiety

## Discussion

### Conclusion

- Results suggest that PNS functioning moderates the influence of restrictive parenting on children's anxiety in the context of elevated BI

### Limitations

- Current study examined resting RSA, which doesn't account for an individual's ability to regulate dynamically across experiences

### Future Direction

- Examine whether children with high RSA benefit from reducing restricting parenting interventions more than children with low RSA
- Examine whether indices of physiology regulation (e.g., SNS, PNS, HPA) moderates treatment efficacy and child outcomes