

The Moderating Effects of Parent and Child Anxiety on the Association between Physiological Regulation and Parental Accommodation

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Research links parental accommodation (PA) to poor outcomes for children with anxiety disorders (Kagan et al., 2016). PA refers to the adjustments parents make to help children avoid or relieve distress in fear-provoking situations (Lebowitz et al., 2013). The transactional nature of PA has been shown to exacerbate child anxiety symptom severity (Lebowitz et al., 2013) and worsen treatment outcomes as both parent and child factors contribute to the maintenance of child anxiety (Thompson-Hollands et al., 2014). Thus, a nuanced understanding of how parent and child attributes interact to predict PA may inform efforts to prevent or reduce PA.

Respiratory sinus arrhythmia (RSA) is a physiological marker of parasympathetic regulation (Porges, 2007). Change in RSA (Δ RSA) in response to stressors indexes the ability to physiologically respond to the environment, with greater change indicating better regulation. Child RSA has been linked to overprotective parenting (Kennedy et al., 2004), but researchers have yet to link child RSA to PA.

We expected greater Δ RSA to relate to less PA, as children who exhibit physiological flexibility in response to stressors may be better regulated in anxiety-provoking situations, requiring less PA. This link may be moderated by parent and child social anxiety (SA) such that it is particularly strong and negative at high parent and/or child SA.

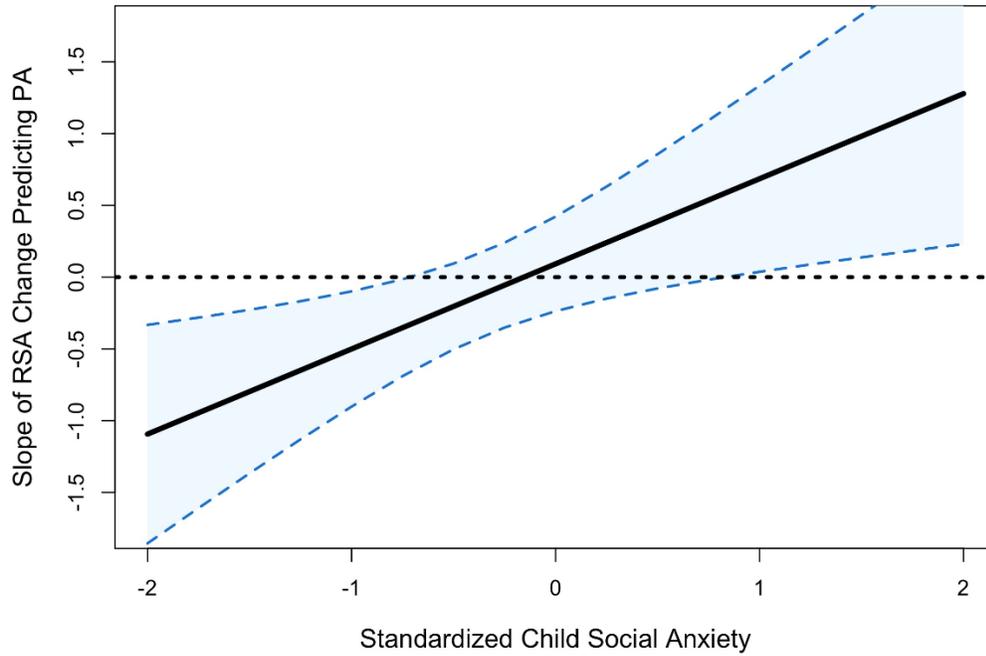
Participants were 151 children with high behavioral inhibition (BI; 49% male, $M_{age} = 53$ months) and their parents (14% male) enrolled in an ongoing NIMH-funded trial examining two interventions for preschoolers with elevated BI. PA was reported using the Family Accommodation Scale-Anxiety (Lebowitz et al., 2013). RSA data were obtained while the child viewed age-appropriate videos to establish baseline RSA; experienced an unexpected social interaction with an adult; and were filmed introducing themselves to unfamiliar peers. Data were recorded at 2000 Hz using a Biopac Nomadix PPG-ED wireless transmitter/receiver, then edited with IBI VizEdit (Barstead, 2018). RSA values were calculated for each condition in CardioBatch (Brain-Body Center, 2007). Δ RSA was calculated as mean RSA during social

stressors subtracted from mean baseline RSA. Continuous clinician severity ratings for current parent and child SA were assigned using the Anxiety Disorders Interview Schedule for DSM5-Lifetime and the ADIS-Parent versions (Ginsburg et al., 2015).

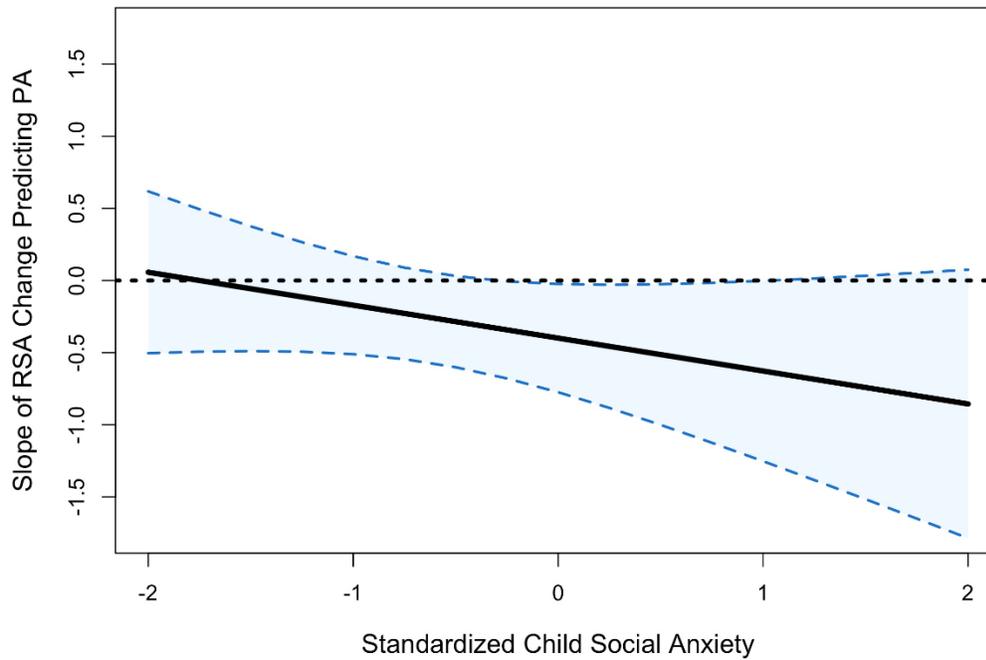
A significant three-way interaction of Δ RSA, parent SA, and child SA predicted PA ($B = 0.222, p = .001$). Δ RSA was positively related to PA at high levels of parent and child SA ($B = 0.685, p = .038$). Δ RSA was negatively related to PA at low parent/high child SA ($B = -0.627, p = .042$) and high parent/low child SA ($B = -0.501, p = .014$).

Parents generally accommodated less when children flexibly responded to their environment, as indexed by RSA. When both parent and child had high SA, more child physiological flexibility was related to more PA. Perhaps PA is particularly rewarding when an anxious parent sees an anxious child recover quickly after being accommodated in a stressful situation. While children's flexibility and regulation seems generally adaptive, in some cases it may exacerbate maladaptive patterns and place children at higher risk of poor outcomes.

RSA Change x Child Anxiety Interaction at High Parent Social Anxiety (+1 SD)



RSA Change x Child Anxiety Interaction at Low Parent Social Anxiety (-1 SD)



*Graph may look slightly different than the simple slopes calculations because calculations were conducted using robust Huber-White standard errors while the graph uses uncorrected standard errors.

References

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