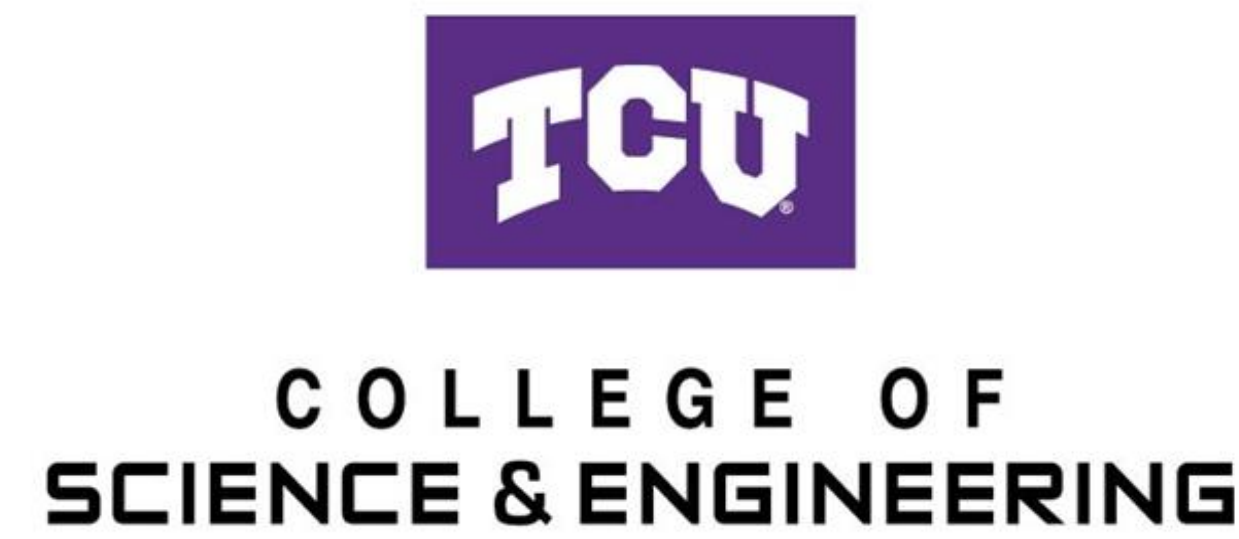


Parenting Behaviors and Depressive Symptoms in Autistic Adolescents: The Moderating Role of RSA Reactivity



Bubb, M.¹, Blakeney, B.¹, Heidenreich, A.¹, Kouros, C.², Ekas, N.¹
Texas Christian University¹, Southern Methodist University²

Introduction

- Autism spectrum disorder (ASD) is a neurodevelopmental disorder that is characterized by restricted and repetitive patterns of behaviors, interests, and activities and differences in reciprocal social communication abilities (APA, 2013; CDC, 2023).
- Autistic children are more prone to depressive symptoms when compared to non-autistic children (Muscatello et al., 2021).
- Studies have found that a high RSA reactivity (RSA-R) predicted an increase in externalizing behaviors when moderated by high negative parenting and predicted a decrease in externalizing behaviors when moderated by lower negative parenting (Baker et al., 2019); however, there is a lack of research examining this relationship with internalizing behaviors.
- McRae et al. (2018) found that warm parenting behaviors were negatively associated with internalizing behaviors in autistic children, however, this association has yet to be examined in autistic adolescents.
- The current study aimed to examine whether RSA reactivity moderates the relationship between parenting behaviors for both mothers and fathers and depressive symptoms in autistic adolescents.

Method

Procedure

- Participants included 117 autistic adolescents aged 10 to 17 years old.
- Adolescents and both of their parents participated in an in-person lab study at TCU.
- Adolescents completed questionnaires which assessed parenting behaviors, RSA reactivity, and child depressive symptoms.
- RSA-R was measured while adolescents watched a video of their parents engaging in a conflict discussion.

Measures

- Parental Bonding Instrument–Revised (PBI, Kendler, 1996).
- Respiratory sinus arrhythmia (RSA) is a type of heart rate variability that reflects natural fluctuations in heart rate during breathing (Cacioppo et al., 2007).
- Child Depression Inventory (CDI, Kovacs, 1981).

Results

- Several moderation analyses were conducted to examine the effect of parenting behaviors (mothers and fathers separately) on adolescent depressive symptoms as a function of adolescent RSA reactivity, while controlling for RSA baseline.

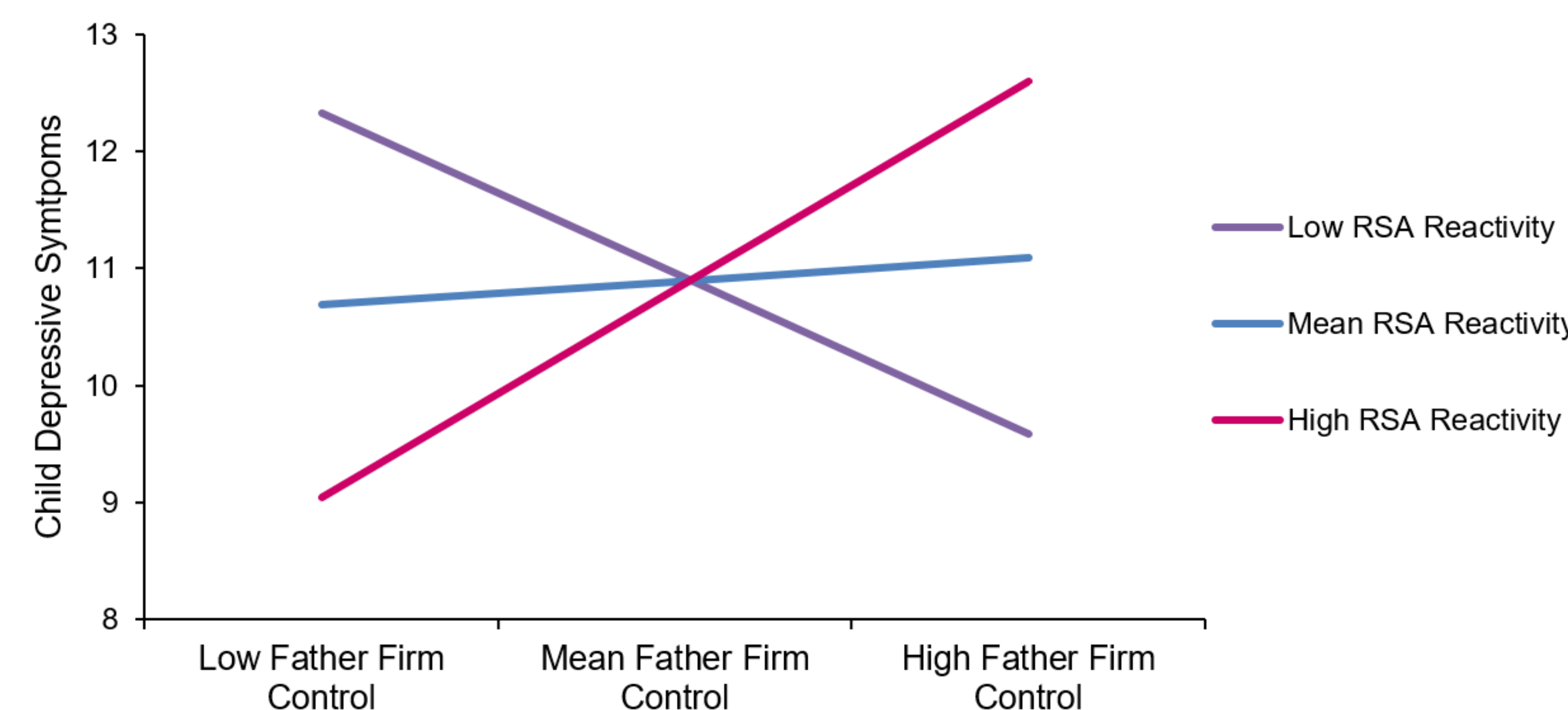
Mother Parenting Behaviors

- For mothers, results indicated that there was a significant main effect for mother warmth on adolescent depressive symptoms, $b = -.63$ ($SE = .29$), $t = -2.22$, $p = .029$; however, all other moderation analyses for mother parenting behaviors were non-significant ($ps > .05$).

Father Parenting Behaviors

- For fathers, the results indicated non-significant main effects for father firm control, $b = .07$ ($SE = .26$), $t = .28$, $p = .78$, and adolescent RSA reactivity, $b = -.12$ ($SE = 1.34$), $t = -.09$, $p = .93$; however, these main effects were qualified by a significant interaction between father firm control and adolescent RSA reactivity, $b = 1.01$ ($SE = .42$), $t = 2.40$, $p = .018$.
- Simple slope analyses revealed that at low, $b = -.51$ ($SE = .38$), $t = -1.34$, $p = .18$, and mean, $b = .07$ ($SE = .26$), $t = .28$, $p = .78$, levels of adolescent RSA reactivity, there was no association between father firm control and adolescent depressive symptoms, however, at high adolescent RSA reactivity, $b = .65$ ($SE = .34$), $t = 1.94$, $p = .055$, such that higher father firm control resulted in higher adolescent depressive symptoms.
- All other moderations for father parenting behaviors were non-significant ($ps > .05$).

RSA Reactivity Moderates the Association Between Father Firm Control and Adolescent Depressive Symptoms



Discussion

- Since mother warmth was negatively associated with adolescent depressive symptoms, mother's warm parenting behaviors could be used as an intervention to decrease internalizing behaviors for autistic adolescents.
- The analyses revealed an association between father firm control and adolescent depressive symptoms at high levels of adolescent RSA reactivity.
- High levels of RSA reactivity reflect increased PNS activity and have been shown to predict increased observed dysregulation in autistic children (Baker et al., 2022). These results could suggest that autistic individuals with high levels of RSA reactivity are more easily dysregulated in the presence of high dad firm control, leading to an increase in internalizing behaviors such as depressive symptoms.
- Future interventions should focus on promoting positive father parenting behaviors, especially in fathers of autistic adolescents with physiological dysregulation.
- Given the gap in the literature examining the role of fathers on internalizing behaviors of autistic adolescents, it is crucial for research to evaluate how father parenting behavior impacts mental health outcomes in autistic children and adolescents.
- Given that autistic individuals are at a higher risk for increased internalizing behaviors (Hudson et al., 2019), future research should further examine the moderating role of physiological data in relation to internalizing symptoms in autistic individuals. A better understanding of physiological data in autistic children and adolescents will allow for more effective interventions.

References

- Baker, J. K., Fenning, R. M., Erath, S. A., Baucum, B. R., Messinger, D. S., Moffitt, J., Kaeppler, A., & Bailey, A. (2019). Respiratory sinus arrhythmia, parenting, and externalizing behavior in children with autism spectrum disorder. *Autism*, 24(1), 109–120. <https://doi.org/10.1177/1362361319848525>
- Baker, J. K., Fenning, R. M., Erath, S. A., & Fabian, S. (2022). Parasympathetic withdrawal indexes risk for emotion dysregulation in children with autism spectrum disorder. *Autism Research*, 15(11), 2064–2068. <https://doi.org/10.1002/aur.2814>
- Clauser, P., Ding, Y., Chen, E. C., Cho, S. J., Wang, C., & Hwang, J. (2021). Parenting styles, parenting stress, and behavioral outcomes in children with autism. *School Psychology International*, 42(1), 33–56. <https://doi.org/10.1177/0143034320971675>
- Fang, Z., Lachman, J. M., Qiao, D., & Barlow, J. (2024). How are parental mental health and parenting practices associated with externalizing behaviors among young children with autism in China? A cross-sectional study and indirect effect analysis. *Family Process*, 63(2), 932–946. <https://doi.org/10.1111/famp.12940>
- Hudson, C. C., Hall, L., & Harkness, K. L. (2019). Prevalence of depressive disorders in individuals with autism spectrum disorder: A meta-analysis. *Journal of Abnormal Child Psychology*, 47(1), 165–175. <https://doi.org/10.1007/s10802-018-0402-1>
- McRae, E. M., Stoppelbein, L., O'Kelley, S. E., Fite, P., & Greening, L. (2018). Predicting internalizing and externalizing symptoms in children with ASD: Evaluation of a contextual model of parental factors. *Journal of Autism and Developmental Disorders*, 48(4), 1261–1271. <https://doi.org/10.1007/s10803-017-3368-x>
- Moffitt, J. M., Baker, J. K., Fenning, R. M., Erath, S. A., Messinger, D. S., Zeedyk, S. M., Paez, S. A., & Seel, S. (2021). Parental socialization of emotion and psychophysiological arousal patterns in children with autism spectrum disorder. *Research on Child and Adolescent Psychopathology*, 49(3), 401–412. <https://doi.org/10.1007/s10802-020-00745-1>
- Muscatello, R. A., Andujar, J., Taylor, J. L., & Corbett, B. A. (2021). Exploring key physiological system profiles at rest and the association with depressive symptoms in autism spectrum disorder. *Journal of Autism and Developmental Disorders*, 51(1), 15–29. <https://doi.org/10.1007/s10803-020-04516-1>