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MATERAL SENSITIVITY AS A PREDICTOR OF INFANTS' PHYSIOLOGICAL REACTIVITY ONE YEAR LATER

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This study explores the relationship between maternal sensitivity and physiological reactivity in children across time. Maternal sensitivity is the appropriate response of a caregiver to their child's needs, while physiological reactivity describes the body's response to external stressors (Ainsworth, Blehar, Waters, & Wall, 2015; Fraley, Roisman, Booth-LaForce, & Owen, 2013). Physiological reactivity in this case is measured by respiratory sinus arrhythmia (RSA), a measure of parasympathetic nervous system activity (Groh & Narayan, 2019). Previous studies have found a relationship between parental sensitivity and RSA reactivity during the Still Face Paradigm; however, the temporal aspect of this relationship has yet to be explored (Jones-Mason et. al, 2018). In this study, it was expected that maternal sensitivity would be associated with reduced physiological reactivity to stress, or lower RSA reactivity, one year later. In other words, a negative association between the two variables was hypothesized. This relationship is plausible based on research indicating that maternal sensitivity is associated with greater infant physiological regulation (Moore, et al., 2009).

Women were recruited during pregnancy for this study beginning in October 2018 through University of Utah associated clinics, flyers, brochures, and social media posts (see Lin, et al., 2019). They then had the opportunity to continue through the study with visits at successive time points: a prenatal visit, a birth visit, a visit when the child was 7 months old, and a visit when the child was 18 months old.

Data coded for maternal sensitivity was collected at 7 months of age during the Still Face Paradigm (SFP) (Tronick, Als, Adamson, Wise, & Brazelton, 1978). Episodes of this procedure were scored based on 9 aspects of the mother's behavior: warm, accepting, responsive, non-demanding, non-intrusive touch, non-intrusive speech, non-remote, much effort, and bright affect. These were coded or reverse coded when appropriate. Maternal sensitivity was assessed during the play episode, and combined sensitivity during both reunion episodes.

One year later, data showing physiological reactivity was collected at 18 months of age during the Strange Situation Procedure (SSP) (Ainsworth, Blehar, Waters, & Wall, 2015). This physiological data was coded for heart rate variability, producing a both a heart rate and RSA score for each infant during each episode of the procedure. The RSA reactivity variable was created by subtracting RSA during the baseline from RSA during the reunion episodes. This demonstrated whether children were able to return to baseline physiological functioning when reunited with their caregiver. This variable was used to measure physiological reactivity.

As hypothesized, there was a significant association between sensitivity during the play episode of the SFP and RSA reactivity during the SSP. This was supported by exploratory analyses showing a significant association between maternal sensitivity during the play episode and infant heart rate during the strange situation. These results increased confidence in the validity of the findings. Effects were specific to sensitivity during play, as associations with sensitivity during reunion episodes were not significant for either physiological outcome.

Establishing the existence of the relationship between these two variables is an important first step toward understanding the lasting impact that sensitive caregiving may have on child

outcomes. This study closely examines the relationship across a one year time span, but the theoretical implications could be expanded to examine the impact that maternal sensitivity has child physiological reactivity across the lifespan. Developing a greater knowledge of this relationship could help to contextualize child outcomes associated with insensitive parenting.